Sound Producer Pro

User's Manual

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Orchid Technology has been a leading manufacturer of hardware and peripherals for personal computers since its incorporation in 1982, and is noted for introducing new standards to the personal computer industry:

1982 **PCnet**: the first personal computer Local Area Network.

1984 **PCturbo**: the first Accelerator board for PC compatible computers.

1985 **ECCELL**: the first PC Multifunction board with error correction.

1987 **RamQuest 50/60**: the first EMS (Expanded Memory Specification) product for the IBM PS/2 computers.

1990 **ProDesigner II**: the first Super VGA graphics adapter to support 1024 x 768 graphics in 256 colors on interlaced *and* non-interlaced monitors.

1991 **Fahrenheit 1280°:** first to ship a Windows accelerator, based on S3's 86C911 chip.

1992 **Fahrenheit VA:** first to ship a Windows accelerator with voice annotation built-in.

With the introduction of Windows 3.1, and Orchid's experience and success in graphics, it is a natural transition to move into the multimedia arena. The combination of our video and audio boards will add the ultimate power to your PC—fast, crystal-clear color graphics and stereo sound! *Introducing* the Orchid Sound Producer Pro™, a high-performance stereo sound board for 286, 386, and 486 personal computers. It features a 20-voice Stereo FM Music Synthesizer. Sound Producer Pro also supports *four* sound standards—AdLib, Sound Blaster Pro II, Disney Sound Source, and Covox Speech Thing.

Thank you for purchasing the Sound Producer Pro. Care has been taken to ensure that it will provide you with years of trouble-free operation. We believe you will be pleased with your purchase.

ORCHID

Before You Begin

This manual will familiarize you with the features, installation and use of the Sound Producer Pro. There are several symbols and conventions used throughout this manual which will help to draw your attention to a feature or to focus on important information:

When you see the Magnifying Glass it means the text is referring to something you should take a closer look at before proceeding further.

FILENAMES All MS / PC DOS filenames and DOS commands will be emphasized by this type style.

Common Names

BBS Bulletin Board System

DAC Digital / Analog Converter

MIDI Musical Instrument Digital Interface

PC Refers to the family of IBM PC, PC / XT or PC / AT compatible computers

TSR Terminate and Stay-Resident

VGA Video Graphics Array

INTRODUCTION

The Sound Producer Pro™ is the ultimate high performance stereo sound board. It is designed to provide the highest quality of sound and maximum level of software compatibility for your personal computer.

Sound Producer Pro supports four different types of sound standards—AdLib, Sound Blaster Pro II, Disney Sound Source, and Covox Speech Thing. It also complies with Microsoft Windows Multimedia Extension Level 1. This flexibility allows Sound Producer Pro to be compatible with many software programs, such as business presentations, education, games, and multimedia in both DOS and Windows environments.

Sound Producer Pro features a 20-voice Stereo FM Music Synthesizer, producing high quality and realistic music. It also has a Stereo Digital / Analog Mixer that allows you to mix all the audio sources for playback operation and for recording.

To round out support for Multimedia, the Sound Producer Pro includes a built-in AT-Bus CD-ROM drive interface, an optional SCSI CD-ROM drive interface, a MIDI interface built into the game port, and a built-in 4-watt amplifier.

Better reproduction of the original sound can be achieved through Digitized Audio Playback and Digitized Audio Recording operations. Sound Producer Pro allows digitized sounds to be reproduced and recorded at a sampling rate of 4KHz to 44.1KHz (mono), or 4KHz to 22.05KHz (stereo).

Sound Producer Pro also comes with several utility and application programs, and a sound driver for Windows 3.1—all for your enjoyment.

About This Manual

This manual presumes that you are already familiar with your IBM PC-compatible computer. While the Sound Producer Pro has been designed to be easy to install, we recommend that you refer to your computer's reference manual when terminology or installation steps are unfamiliar to you.

This manual has been organized to help you set up and install the Sound Producer Pro as quickly as possible. Each section is divided into short, easy to follow steps, to help you understand the installation and function of the Sound Producer Pro.

Chapter 1: Installing the Sound Producer Pro

Whether you are a beginner or an experienced user, this chapter will give you important information on proper installation, and instructions on how to connect the microphone and speakers to the Sound Producer Pro.

Chapter 2: Installation and DOS Software

You will be given the information needed to install the sound driver, software utilities, DOS applications, and configure hardware settings. This chapter will also cover use of the diagnostics program to ensure that your sound board is working properly.

Chapter 3: Windows Software

This chapter will provide instructions in using the Windows software applications included with Sound Producer Pro.

Appendix A and B: Technical Help and Information

If you are experiencing installation difficulties or require troubleshooting information, Appendix A will give you checkpoints to look at to ensure that your Sound Producer Pro is operating properly. Appendix B will provide you with information on the Sound Producer Pro technical specifications and features.

Chapter

1

INSTALLING THE SOUND PRODUCER PRO

The Sound Producer Pro was designed to be easy to use and easy to install. There are three fundamental steps to the installation:

Step 1: Preparing your Computer

You will need to take the cover off your computer and select an empty 16-bit expansion slot for the Sound Producer Pro.

STATIC!

Before handling the P9000/VLB, be sure to guard against electrostatic discharge. Do not wear clothing that causes static (such as wool sweaters). In most cases, touching the power supply housing before handling the board will discharge static electricity, or you may want to buy a Ground strap from your local computer store.

Step 2: Preparing your Sound Producer Pro

The Sound Producer Pro can be installed using the preset jumper settings. The jumpers are used to configure the Virtual Parallel Port, Speaker Amplification, Internal Speaker, and the SCSI Interrupt and Address Selectors. If you need to change the default settings, see Table 1.1 for the jumper settings.

Step 3: Installing your Sound Producer Pro

Sound Producer Pro allows for connection of various external devices, such as the microphone and speakers included, a CD player, CD-ROM, and a joystick. See Figure 1.1 for connection locations.

Once your computer cover has been removed and the PC Speaker connected, gently push the card down into the expansion slot. After the card is securely seated, replace the cover. The Sound Producer Pro is now installed and ready to operate.

After the installation is complete, the Sound Producer Pro Diagnostics Program should be run to ensure that the card is installed and working properly (see Chapter 2 for more information).

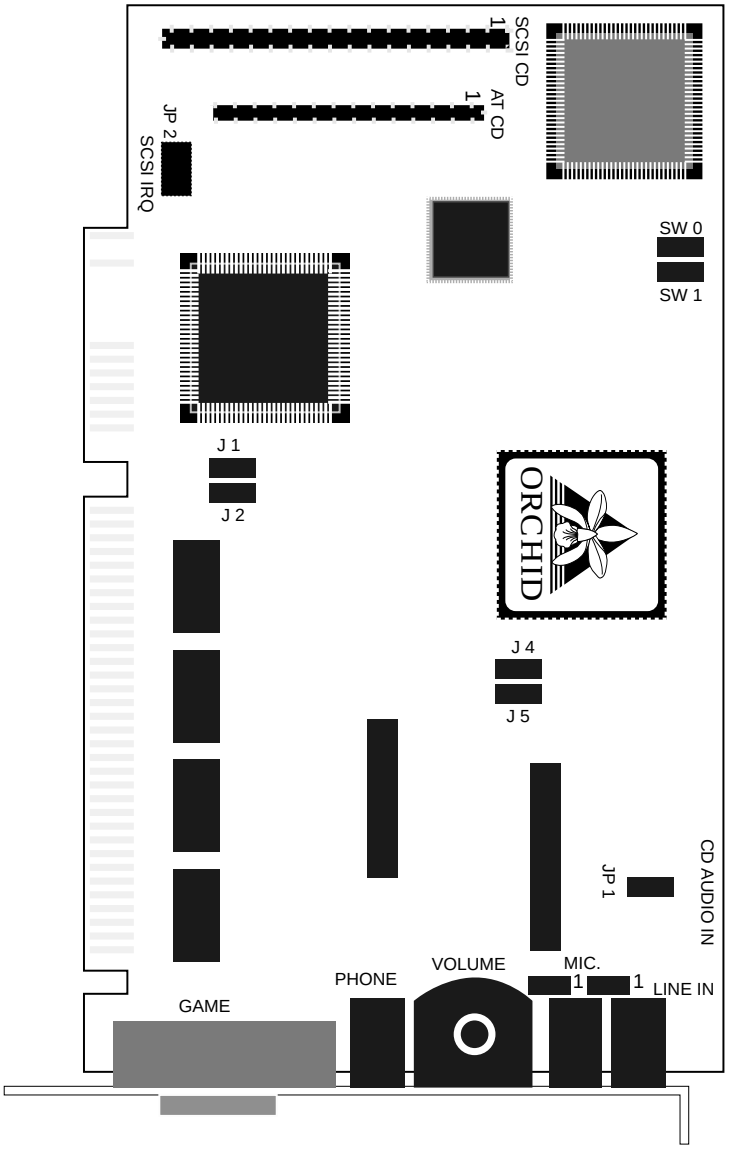


Figure 1.1: Sound Producer Pro Jumper and Connector Locations

Summary of Jumper Settings

The following table lists all of the jumpers used on the Sound Producer Pro. For the locations of the jumpers, see Figure 1.1.

Jumper	Setting	Default	Function
Jumpers J1 & J2	Connect 1 & 2 Disconnect 1 & 2	✔	Virtual Parallel Port Selector
Jumper J4	See information on page 13		Internal Speaker Connection
Jumper J5	Connect 1 & 2 Disconnect 1 & 2	 ✔	Speaker Amplification - High Speaker Amplification - Low
Jumper JP1	See information on page 13		Connection for CD-ROM
Jumper JP2	Connect IRQ 12		Interrupt Channels for SCSI Communications
Jumpers SW0 & SW1	See table on page 14		I/O Port address selection for SCSI CD-ROM Interface
MIC Jumpers	Connect 1 & 2 Connect 2 & 3	✔	MIC BIAS Jumpers *(do not change default)*

Table 1.1: Jumper Settings

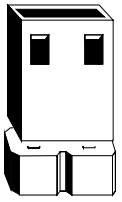
Step 1: Preparing Your Computer

1. Make sure the power to your computer is turned off and that all of the necessary power cords and cables are disconnected from the computer.
2. Remove the screws that secure the computer chassis cover and slide the cover off (be sure to keep the screws in a safe place).
3. Select a 16-bit expansion slot for the Sound Producer Pro.

Step 2: Preparing Your Sound Producer Pro

Jumper Settings

There are several jumper blocks used in the configuration of the Sound Producer Pro. The jumpers are located at positions J1, J2, J4, J5, JP1, JP2, SW0, and SW1. The next few pages will explain the use and proper settings of each jumper. See Table 1.1 for the jumper settings.



Jumper blocks are configured by positioning a jumper connector over two pins on the jumper block. This creates a closed circuit across the two pins.

Figure 1.2: Jumper Connector

Jumpers J1 and J2: Virtual Parallel Port Selector

Jumpers J1 and J2 are used to create a virtual parallel port on your PC. To take advantage of the Disney Sound Source standard, your PC must have a parallel port configured at one of the following addresses: 3BCH, 378H, or 278H. If your PC does not have a physical parallel port, configure both jumpers J1 and J2 for a virtual parallel port.

Connect Pins 1 and 2 on both J1 and J2 to activate the Virtual Parallel Port.

This is the default setting.

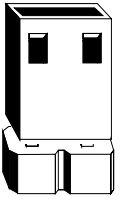


Figure 1.3: Jumper J1 and J2 (pins 1 and 2 connected)

If no sound is received after installation, the four-pin plug may be connected backwards. Turn the connector in the opposite direction.

Jumper J4: Internal Speaker Connector

Jumper J4 redirects the audio signals from your PC's internal speakers, out to the external speakers connected to your PC. This allows for better sound quality and control of the volume level. See the section on Installing your Sound Producer Pro for detailed information.

Jumper J5: Speaker Amplification

Jumper J5 will increase or decrease the amplification signal from the internal speaker connection on your PC's motherboard. This will ensure a more balanced sound from your PC.

Pins 1 and 2 disconnected. This is the default setting for a Low Amplification Signal. To achieve a High Amplification Signal, connect Pins 1 and 2.

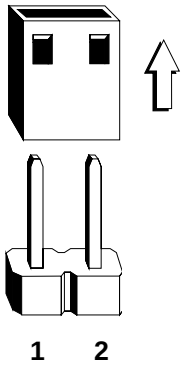


Figure 1.4: Jumper J5 (pins 1 and 2 disconnected)

Jumper JP1: CD-Audio In

The CD-Audio In is a four-pin connector used for connection of your CD-ROM drive to the Sound Producer Pro.

Jumper JP2: SCSI Interrupt Selector

Configure jumpers JP2, SW0, and SW1 only if the optional SCSI Interface is in use.

The SCSI CD-ROM interface on the Sound Producer Pro requires an interrupt channel for SCSI communications. Jumper JP2 allows for easy selection of the available interrupt channels. The interrupt channels available are: IRQ4, IRQ11, IRQ12, and IRQ15.

Pin 12 connected. This setting enables IRQ12.

This is the default setting.

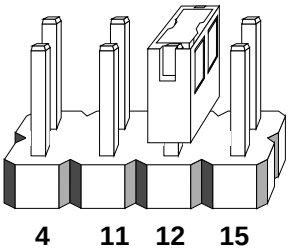


Figure 1.5: Jumper JP2 (IRQ12 connected)

Jumpers SW0, SW1: SCSI Address Selector

The SCSI CD-ROM interface on the Sound Producer Pro requires use of your PC's I/O port addresses to transfer CD-ROM data. The selectable addresses are CA00H, C800H, CE00H, and DE00H. If you encounter a conflict with another device, select another available address. The following table lists the base address settings and jumper configurations.

Jumper SW0	Jumper SW1	Setting
Open	Open	Base Address CA00H *
Open	Close	Base Address C800H
Close	Open	Base Address CE00H
Close	Close	Base Address DE00H

Table 1.2: I/O Port Address Settings

** Default setting.*

Step 3 : Installing Your Sound Producer Pro

Once you have checked your Sound Producer Pro jumper settings, you are ready to install the Sound Producer Pro, the microphone, and the speakers included.

1. Select an empty 16-bit expansion slot for the Sound Producer Pro.
2. Remove the rear slot cover bracket if it is present (keep the screw for future use).

If you do not want tones from the PC speaker to be redirected to the external speakers, skip steps 3 through 5.

3. Locate the built-in speaker connector on your motherboard and disconnect the four-pin connector.
4. Using the two connector wire cable included, connect one end of the wire cable (a four-pin plug) to the built-in speaker connector on the motherboard.
5. Connect the remaining end of the wire cable (a two-pin plug) to jumper J4 on the Sound Producer Pro.
6. Carefully hold the Sound Producer Pro by its top edges and lower it into its expansion slot. Ensure that the Sound Producer Pro seats firmly into the slot, and that it aligns properly with the computer's backplane.
7. Secure the Sound Producer Pro in place by fastening its metal bracket to the computer backplane (use the screw you removed in # 2).
8. Replace the cover of the computer along with the previously removed cables and power cords.

9. Connect the microphone connector to the MIC jack on the metal bracket (see Figure 1.6). Mount the microphone on your monitor or on your keyboard.

10. Using the cable attached to the external speakers, connect the single connector end to the SPK jack on the metal bracket (see Figure 1.6). This will automatically disable the built-in PC speaker.

Enhanced voice quality can be obtained by using external speaker(s).

Sound Producer Pro Installation is complete.

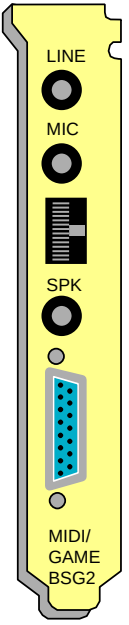


Figure 1.6: Sound Producer Pro Metal Bracket

Chapter

2

INSTALLATION AND DOS SOFTWARE

Sound Producer Pro comes with a sound driver for your software applications, as well as many DOS and Windows software applications for your enjoyment. Software utilities are also included to provide easy configuration of the hardware settings, external devices, and to verify installation of Sound Producer Pro.

See the instructions for SINSTALL.EXE on the following page to automatically install the Sound Producer Pro software. The DOS software applications included are the following:

CD Player	**Mixer**
Monologue	**Sound Master**
SoundScript	**Sound Tracks**

In addition, Sound Producer Pro supports a large library of DOS software that is compatible with the AdLib, Sound Blaster Pro II, Disney Sound Source, and Covox Speech Thing sound standards.

Before You Begin

If you wish to make a backup copy of your original diskettes, use the DOS DISKCOPY utility command.

It is recommended that you install the Sound Producer Pro software on your hard drive. The software is in a compressed format, and will be automatically decompressed during installation.

The instructions that follow assume you are using a floppy drive, designated as Drive A:, and a hard drive, designated as drive C:. Please substitute the correct drive letter if your computer is configured differently.

Using SINSTALL.EXE

SINSTALL.EXE is an easy-to-use menu driven installation program, that allows you to automatically install the Sound Producer Pro software to your hard disk drive. Insert the Sound Producer Pro Diskette #1 into drive A: and type the following:

A:\SINSTALL Enter ↵

You will be prompted to enter the drive letter where you want the software to be installed. The installation program will create the C:\PRODUCER directory and several subdirectories.

From the Sound Producer Pro Software and Driver Installation Program screen, press any key, and the following menu will appear:

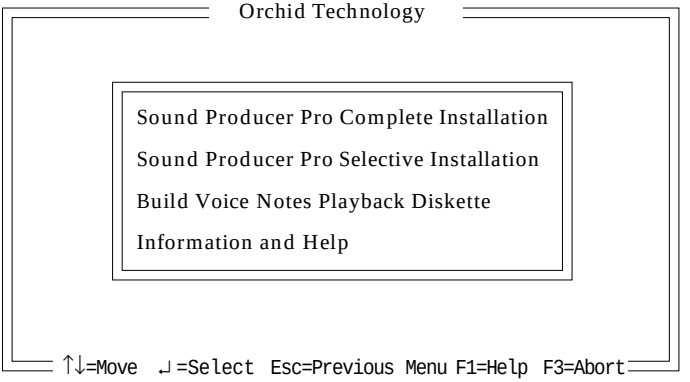


Figure 2.1: SINSTALL Main Menu Screen

The Complete Installation will copy over the Windows and DOS software applications. The Selective Installation will allow the choice of DOS or Windows software applications. From the Main Menu, select your installation choice by using the <↑ ↓> arrow keys and press <ENTER>. Proceed through the installation as prompted by the SINSTALL.EXE program.

DOS Software Installation

Once you select the DOS Application Installation, the SINSTALL program copies automatically to your hard drive: the software configuration utilities, the Mixer, CD Player, SoundScript, Sound Master, Monologue, and Sound Tracks applications. This chapter provides detailed information on running the configuration utilities and the DOS applications.

Microsoft Windows Software Installation

Once you select the Microsoft Windows Installation, the SINSTALL program copies automatically to your hard drive: the Sound Producer Pro sound driver, Voice Notes, Jukebox, WinDAT, and Mixer applications.

The sound driver is automatically activated, and a "Sound Producer Pro" window is automatically created in Windows. Follow the instructions below:

1. Start the Microsoft Windows application.
2. When Windows opens you will see a Sound Producer Pro window on the desktop. Inside the window you will see icons for the software applications installed from the SINSTALL program.
3. Move the Orchid Voice Notes icon to the Startup Group window, and restart Windows. The Voice Notes icon will always appear on the desktop.
4. To start any of the applications, double-click on the icon. For detailed information on running each application, see Chapter 3.

Build Voice Notes Playback Diskette

This option creates a diskette with a Playback only version of Voice Notes—a Windows sound driver that does not require a sound card. An automatic installer is also included on the diskette.

You can provide this diskette to your associates so that they can play Voice Notes embedded in documents you send them. The sound driver will be installed only if there is no sound hardware already installed that can play the PCM (Pulse Code Modulation) format sound.

Changing the Address Settings Under Windows

The Windows address settings must match the address settings configured in SPCONFIG. See the section "Configuring Sound Producer Pro."

The SINSTALL program will automatically configure the drivers, and assign the Interrupt, Port, and DMA default address settings. If you need to change any of the settings due to address conflicts, follow the steps below:

1. From the Control Panel window, double-click on the Drivers icon.
2. From the Drivers window, click on the Add option. A list of drivers will appear.
3. Double-click on the "Sound Producer Pro WAVE & MIDI" driver. The "Driver Exits" window will appear and prompt you to select New or Current driver. Click on Current.
4. The Sound Producer Setup window will appear. Make your changes and click on OK. When the System Setting Change window appears, click on the "Restart Now" option.

Running the Sound Producer Pro Diagnostics

The Setup Environment option must be run for first time installation, and every time a change is made in the address settings.

The diagnostic program must be run to ensure that your Sound Producer Pro is installed and configured correctly. Change to the C:\PRODUCER\UTILITY directory and type the following:

```
C:\SPSETUP  Enter ↵
```

The screen in Figure 2.2 will appear. Press <ENTER> to begin or <ESC> to quit. The diagnostic program will first run a detection test on the Sound Producer Pro. Then it will check the hardware configuration settings and display the information.

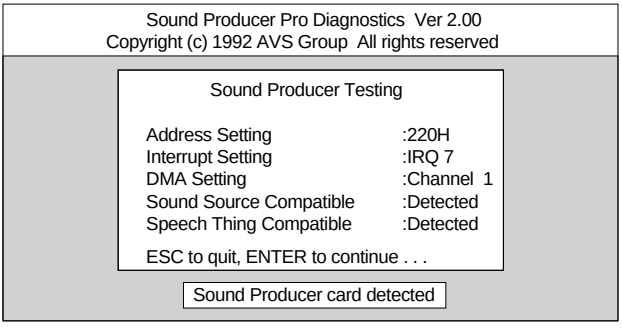


Figure 2.2: Diagnostics Main Menu

Press <ENTER> to run the test programs. The screen in Figure 2.3 will appear. The diagnostic program will run detection tests on the sound standards supported.

The Setup Environment option will allow you to set the environment settings for Sound Producer Pro. This option must be run after running the test options (see the section "Set Environment for Sound Producer Pro").

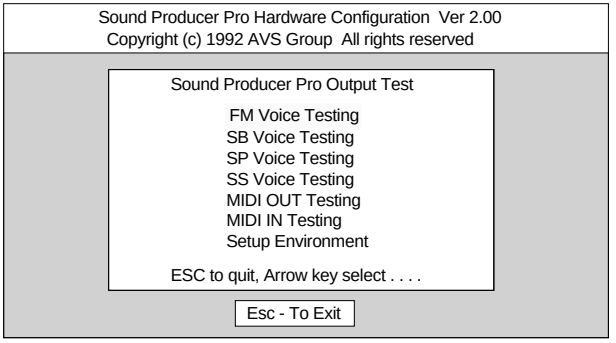


Figure 2.3: Sound Producer Pro Test Screen

For each testing selection (except Setup Environment), music or voice output will be heard.

FM Voice Testing	Hardware test for AdLib feature
SB Voice Testing	Hardware test for Sound Blaster Pro II feature
SP Voice Testing	Hardware test for Covox Speech Thing feature
SS Voice Testing	Hardware test for Disney Sound Source feature
MIDI OUT Testing	Hardware test for the MIDI output
MIDI IN Testing	Hardware test for the MIDI input
Setup Environment	Sets the address settings in the AUTOEXEC.BAT file

The "MIDI IN Testing" and "MIDI OUT Testing" options can only be used if you have a MIDI adapter attached to Sound Producer Pro.

Use the <↑> <↓> arrow keys to make your selections and press <ENTER>. Proceed through the tests as prompted by the Sound Producer Pro diagnostic program. After completing the sound tests, run the Setup Environment option.

Set Environment for Sound Producer Pro

Make sure you have enough environment space by including or increasing the /E parameter in the SHELL statement. Refer to your DOS manual for more information.

The Setup Environment option will automatically setup an environment string in your AUTOEXEC.BAT file. Some software applications search for an environment string before executing to avoid an address conflict. This environment string will specify the I/O address, the Interrupt, and the DMA Channel settings of the Sound Producer Pro. You will see an environment string similar to the following:

```
SET Blaster=A220 I7 D1 T4
```

To run Setup Environment, change to the C:\PRODUCER\UTILITY directory and type the following:

C:\SPSETUP Enter ↵

The Setup Environment option must be run for first time installation, and every time a change is made in the address settings.

From the Sound Producer Testing screen, press <ENTER> to continue and the following screen will appear:

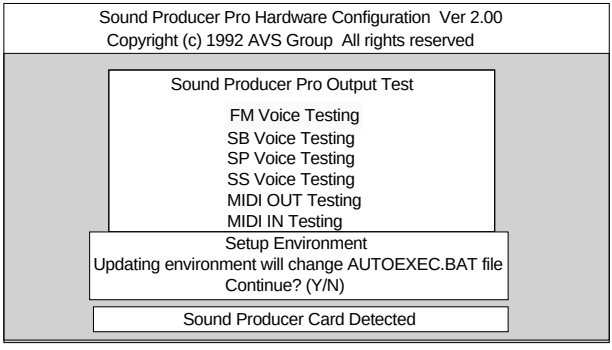


Figure 2.4: Sound Producer Pro Test Screen

Highlight the Setup Environment option and press <ENTER>. You will be prompted to press the <Y> key to update your AUTOEXEC.BAT file, or the <N> key to exit the program. Continue with the update of your AUTOEXEC.BAT file by pressing <Y> and then <ENTER>. Your system will automatically reboot to invoke the changes.

■ Configuring Sound Producer Pro

Run the Hardware Configuration Setup program only if you want to change any of the default hardware address settings. The hardware settings are software configured and include I/O Address, Interrupt Channel, DMA Channel, Game Port setting, CD ROM setting, and CD-ROM Address.

If you change the address settings using SPCONFIG , you must change the address settings in Windows. Refer to the section "Changing the Address Settings Under Windows."

To run the Sound Producer Pro Hardware Configuration program, change to the C:\PRODUCER\UTILITY directory and type the following:

C:\SPCONFIG Enter ↵

The Hardware Configuration Setup screen will appear and display the current address settings of Sound Producer Pro. Use the arrow keys to make your selection(s).

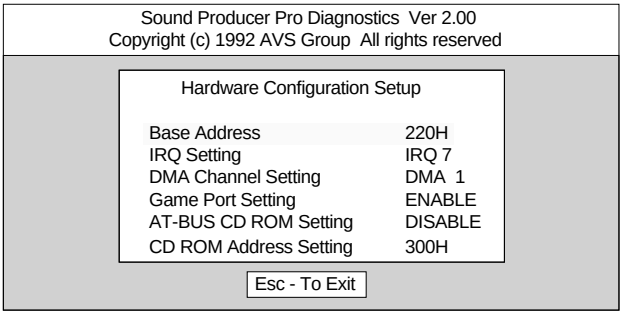


Figure 2.5: Hardware Configuration Setup Main Menu

Setting the I/O Base Address

The Sound Producer Pro needs to use a range of your PC's I/O addresses (base address starting at 220 Hex or 240 Hex) for data and command transfers. From the Hardware Configuration Setup menu, highlight the Base Address option and press the <ENTER> key.

The address 220H is commonly used for a BUS mouse. If you are using a BUS mouse, change the Sound Producer Pro I/O address to 240 Hex.

Each time you make a change in the Hardware Configuration Setup, run the Set Environment for Sound Producer Pro option, to update the environment string in your AUTOEXEC.BAT file.

The default base address (220H) is noted by an asterisk (*). If you encounter a conflict with another device in your system, select another base address selection.

Use the <↑> and <↓> arrow keys to select the desired base address and press <ENTER>. The new I/O base address will be displayed in the Hardware Configuration Setup menu.

Setting the Interrupt Channel

An interrupt channel is needed for DMA transfers. Configure Sound Producer Pro by selecting the IRQ Setting option from the Hardware Configuration Setup menu.

From the Hardware Configuration Setup menu, highlight the IRQ Setting option and press the <ENTER> key. The default interrupt channel (IRQ7) is noted by an asterisk (*). If you encounter a conflict with another device in your system, select another IRQ Setting selection. The other options available are IRQ2, IRQ5, and IRQ10.

Use the <↑> and <↓> arrow keys to select the desired IRQ Setting and press <ENTER>. The new selection will be displayed in the Hardware Configuration Setup menu.

Setting the DMA Channel

The Sound Producer Pro uses a DMA Channel for block data transfers. Configure Sound Producer Pro for a DMA Channel address by selecting the DMA Channel Setting option from the Hardware Configuration Setup menu. From the menu, highlight the DMA Channel Setting option and press the <ENTER> key.

The default interrupt channel (DMA Channel 1) is noted by an asterisk (*). If you encounter a conflict with another device in your system, select another DMA Channel selection.

Use the <↑> and <↓> arrow keys to select the desired setting and press <ENTER>. The new selection will be displayed in the Hardware Configuration Setup menu.

Some Software programs may not support DMA Channel 0 or DMA Channel 3. If you encounter problems running your software, you may want to use the default selection.

Enabling/Disabling the Game Port Interface

The Game I/O Port on the Sound Producer Pro is identical to the standard PC Game Control Adapter. You can connect any analog joystick with a 15-pin D-Sub connector to this port. The Game Port interface must be enabled before you can use it.

From the Hardware Configuration Setup menu, highlight the Game Port Setting option and press the <ENTER> key. The default Game Port Setting is noted by an asterisk (*). If your PC has a game port already, you must remove it or disable the game port on Sound Producer Pro.

Use the <↑> and <↓> arrow keys to select the desired setting and press <ENTER>. The new selection will be displayed in the Hardware Configuration Setup menu.

Enabling/Disabling the CD-ROM Interface

Sound Producer Pro features an AT-bus CD-ROM connector that will allow you to connect an internal or external CD-ROM drive. The CD-ROM drive must be enabled before you can use it.

From the Hardware Configuration Setup menu, highlight the AT-BUS CD-ROM Setting option and press the <ENTER> key.

The default AT-BUS CD-ROM Setting is noted by an asterisk (*). If your PC has a CD-ROM drive attached, you must select the Enable option in order to operate the drive.

Use the <↑> and <↓> arrow keys to select the desired setting and press <ENTER>. The new selection will be displayed in the Hardware Configuration Setup menu.

Setting the CD-ROM Interface Address

The CD-ROM Interface on the Sound Producer Pro utilizes a range of your PC's I/O port addresses for the transfer of CD-ROM data. The AT-BUS CD ROM Setting option must be enabled before you can configure the CD-ROM Interface address.

From the Hardware Configuration Setup menu, highlight the CD ROM Address Setting option and press the <ENTER> key. The default CD-ROM Address Setting is noted by an asterisk (*). If you encounter a conflict with another device in your system, select another CD-ROM Address selection.

After making changes to the Sound Producer Pro Hardware Configuration program, you must reboot your system for the new changes to take effect.

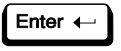
Use the <↑> and <↓> arrow keys to select the desired setting and press <ENTER>. The new selection will be displayed in the Hardware Configuration Setup menu.

■ Sound Standards Configuration

All of the supported sound standards are built into the Sound Producer Pro. However, you can disable the Disney Sound Source and Covox Speech Thing features.

You have the option of enabling or disabling the Disney Sound Source and Covox Speech Thing features on Sound Producer Pro.

To execute this option, change to the C:\PRODUCER\UTILITY directory and type the following:

C:\SPCOX / x 

Where x =

ON Enable the Disney Sound Source and Covox Speech Thing features *(default)*

OFF Disable the Disney Sound Source and Covox Speech Thing features

To utilize the Disney Sound Source standard, you must have a parallel port configured at one of the following addresses: 3BCH, 378H, or 278H. If your PC does not have a parallel port, you may configure Jumpers J1 and J2 for a virtual parallel port. Refer to the Jumper Settings section in Chapter 1.

The Covox Speech Thing standard requires the use of an I/O address on your PC. The addresses are 378H, 3BCH, 278H, 22FH, or 38CH.

DOS Applications

■ Using Sound Tracks

The Sound Tracks program will play all your favorite songs. You can play from the list of 14 songs included, or you can add your own.

Sound Tracks is a TSR (Terminate and Stay-Resident) program that runs in the DOS environment. Before using the Sound Tracks program, you must first load it into memory. Change to the C:\PRODUCER directory and type the following:

```
C:\SONG
```

Enter ↵

Once the program is successfully loaded into memory, the following message will be displayed:

```
"Sound Tracks TSR is now loaded"
```

To run Sound Tracks, press the <ALT> and </> keys simultaneously and the following menu will appear:

Additional songs (.CMF files) are available and can be downloaded from the Orchid BBS.

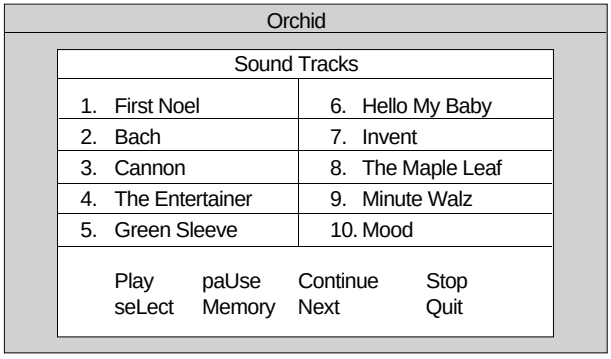


Figure 2.6: Sound Tracks Main Menu

To exit Sound Tracks, press the <Q> or <ESC> keys. You can remove Sound Tracks from memory by typing "SONG/Q" and pressing <ENTER>. Once you turn off the Sound Tracks program, it will remain in memory.

You can turn it on again by pressing the <Alt> and </> keys simultaneously. If you encounter a conflict using Song with other TSR programs, you can use either of the following DOS programs to run Sound Tracks from the DOS prompt:

PLAYCGA	Runs Sound Tracks in CGA mode
PLAYVGA	Runs Sound Tracks in VGA mode
SPLAY	Runs Sound Tracks in VGA (1024 x768 resolution) mode

The PLAYCGA, PLAYVGA, AND SPLAY files are available only on the Orchid BBS.

The following options are available from the Sound Tracks Main Menu.

Selecting a Song List

Use the <←> or <→> arrow keys to change the song list screens.

Playing Songs

To play a song from the song list, select the number beside the song and press the Play <P> key.

To include any number of songs in the selection list, select the song number, and press the Load <L> key (e.g., 6L, 8L, etc.). These songs will be stored into memory. You can play them at any time by pressing the Memory <M> key and play them back one after the other. To advance to the next song in the Memory list, you must press the <N> key.

Other options from the menu include the following:

Pause - press the <U> key
Resume - press the <C> key
Stop - Press the <S> key
Next - Press the <N> key

Adding Songs

Using a DOS text editor program, you can add a .CMF file to the playback selection list by editing the SONG.LST file. To add a new song to the list follow the steps below:

1. Copy your .CMF file to the C:\PRODUCER\STRACKS directory.

2. Using an ASCII text editor, open the SONG.LST file.

3. Move to the end of the file and type in the file description (e.g., YourSong 1992).

4. On the next line, type in the .CMF file name (e.g., YourSong). Save and exit the text editor. Press the <ALT> and </> keys simultaneously to re-enter Sound Tracks and play the song(s) you added.

Additional Information

Because Song is a TSR program, it can conflict with other application programs. If you encounter any conflicts while running Sound Tracks, please note the following:

- Do not remove the Sound Tracks program from memory by using the DOS Shell of an application program. Sound Tracks may not be completely removed from memory. To remove the Sound Tracks program from memory, you should exit completely from your application program.

- If you encounter conflicts with other TSR programs, remove one TSR program at a time to determine where the conflict exists.

■ Using CD Player

The CD Player program allows you to play audio CD's under software control. The SINSTALL program will automatically place the following command in your CONFIG.SYS file:

```
Device=C:\PRODUCER\UTILITY\SPCDU.SYS /D:MSCD000
```

SINSTALL will also place the following command in your AUTOEXEC.BAT file:

```
C:\PRODUCER\DRIVERS\MSCDEX.EXE /D:MSCD000
```

Refer to the section "Using MSCDEX.EXE" for option parameters and descriptions for the MSCDEX.EXE driver.

Using an ASCII text editor, you can manually insert or modify these commands. If you are using a CD-ROM drive, it must be connected before running CD Player. To execute CD Player, change to the C:\PRODUCER\UTILITY directory and type the following:

C:\CDPLAY Enter ↵

The following screen will appear:

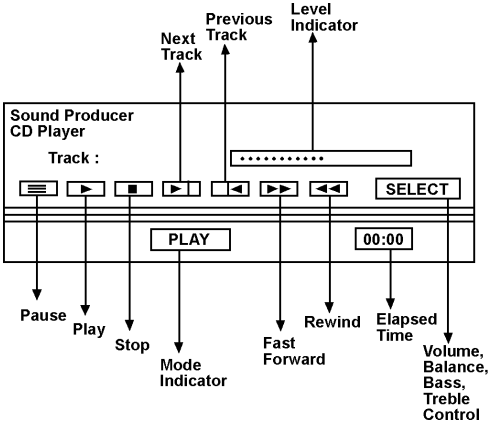


Figure 2.7: CD Player Screen

Use the <←> or <→> arrow keys to highlight any of the CD-ROM operations, and press <ENTER>.

Mode Indicator

The Mode Indicator will display the selected operation and highlight the control button.

Pause/Continue

This selection pauses the playback of the current track. When the control button is selected again, the current track will resume playing.

Play

This selection will start the playback operation of the CD-ROM drive. If playback is already selected, highlight the control button to restart playback of the current track.

Stop

Select the Stop control button to stop playing the current track.

Next Track

Selection of this operation will begin playing the next track. Once the compact disc's last track is reached, the CD-ROM drive will begin playing the first track.

Previous Track

Once the compact disc's first track is reached, the CD-ROM drive will begin playing the last track.

Fast Forward

You can forward the playback operation in 16 second intervals. If the CD-ROM is playing the last track, Fast Forward will be bypassed.

Rewind

You can rewind in 16 second intervals. If the CD-ROM is playing the first track, Rewind will be by-passed.

Volume, Balance, Bass, and Treble Control Modes

These selections allow you to adjust the Volume, Balance, Bass, and Treble controls of your CD Player's sound. Once you have selected a control mode, use the <↑>key to access the Level Indicator panel. From the Level Indicator panel, use the <←> or <→> keys to adjust the level preferred for that control mode.

To exit from the CD Player program, press the <ESC> key. The CD Player screen will close and return you to the DOS prompt.

Additional Features

Exiting the CD Player program will not affect the current operation of the CD-ROM drive. If your CD-ROM drive is playing when you exit, the CD-ROM drive will continue to play the disc until the last track. To resume control of the CD-ROM drive, re-run the CD Player program.

The Sound Producer Pro also has a SCSI CD-ROM drive interface connector. This connector allows you to connect any SCSI CD-ROM drive that can play audio CDs. To take advantage of this feature, you must purchase the optional SCSI CD-ROM chip.

Using MSCDEX.EXE

MSCDEX.EXE is the Microsoft CD-ROM Extension file driver. The SINSTALL program will automatically place this driver in your AUTOEXEC.BAT file. The following syntax is used:

C:\PRODUCER\DRIVERS\MSCDEX.EXE /D:de-name [M/:n][/E][/V][/L:dr-ltr]

The parameters are defined as follows:

Parameter	Description
/D:de-name	This parameter specifies the CD-ROM device name. This name *must* be identical to the device name used in the CONFIG.SYS statement.
M/:n	This parameter specifies the number of sector buffers used to cache the path table of a CD-ROM disc. Each drive should have a minimum of 4 to 5 buffers. The larger the buffer, the less your PC has to read directly from the CD-ROM drive.
/E	This parameter is used to specify expanded memory.
/V	This parameter displays memory usage when starting your PC.
/L:dr-ltr	This parameter is used to assign a drive letter to the first CD-ROM drive.

■ Using Sound Master

The Sound Master program allows to you record, play, edit, and enhance your recordings. Using the built-in editor, you can edit sound files of any length with the extensions of .VOC, .WAV, and .SND.

To run the Sound Master program, change to the C:\PRODUCER directory and type the following:

C:\SPMASTER Enter ↵

The following screen will appear:

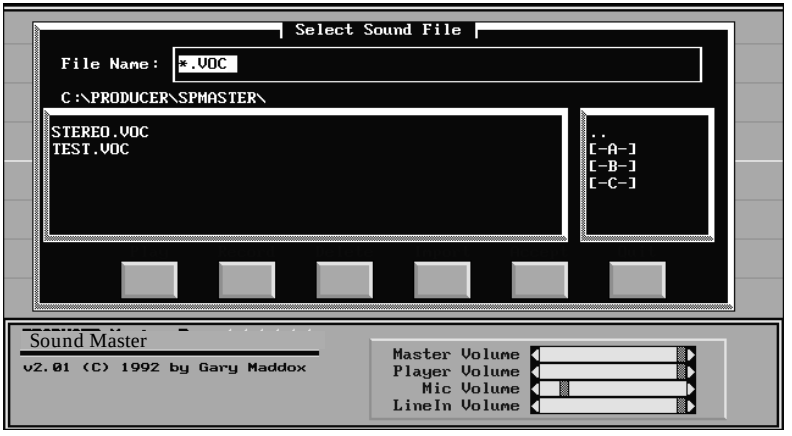


Figure 2.8: Select Sound File Menu

Highlight the desired option by pressing the <TAB> or <Shift> + <TAB> keys. The options available are Play, Record, Delete, Import, and Accept. To select an option, use the <←> and <→>, or <↑> and <↓> keys, and press <ENTER>.

Use the keys above to select a sound file to play. The name of the selected sound file will appear in the File Name input box. If you want to select sound files that are located in a different directory, specify the drive and directory in the File Name input box.

Play

You can listen to a sound file of any length. While playing the sound file, the Playback dialogue box will appear and display information such as, file length, sampling rate, compression rate, and file type. You can stop playing the sound file at any time by pressing the <ESC> key or clicking the right button of the mouse.

If you specify a filename to record that already exists, it will be overwritten.

Record

Record will allow you to create a new sound file. Type in the file name and press the <TAB> or <ENTER> key. This will give you access to the Sample Rate box to select the sampling rate for recording. Selecting a higher sampling rate will produce better sound quality.

Delete

You can easily delete any of the sound files in the File List box. A confirmation box will prompt you to confirm the deletion of the selected file.

Selecting a higher sampling rate will increase the amount of storage space required for the sound file.

Importing a Sound File

Using the import option, you can import the .WAV, .SND, .VOC, .NTI and .8SV sound formats. These file formats are defined in Table 2.1.

Import File Formats	
.WAV	Microsoft multimedia file format.
.SND	Raw wave data files with no header information.
.NTI	Amiga sample files used by the Tetra Compositor.
.8SV	Amiga IFF sound files (for import only). You cannot save a sound file in Amiga IFF format.
.VOC	Voice sound file format. Files with this extension can be saved in the .WAV, .SND or .NTI formats.

Table 2.1: Import File Formats

To start the import process, press the <TAB> key or the left mouse button. After the process has completed, the imported sound file is displayed as a wave form in the Edit Screen. For more information on editing, refer to the section "Editing Sound Files."

Accept

You can enhance or modify the sound files that you have recorded or imported. Accept displays your sound file as a wave form and then brings up the Edit Screen. From the Edit Screen you will see the available editing functions. For more information on editing refer to the section on Editing Sound Files.

QUIT

Quit will exit Sound Master and return you to the DOS prompt.

Editing Sound Files

Select either the Accept or Import option from the Select Sound File dialogue box to display the Editing Screen. The Editing Screen will display the sound file in a wave form against a grid. The Editing Screen window also will display the following information for the selected sound file:

- The name of the sound file being edited
- The size of the sound file
- The current sample rate of the sound file
- The total playing time of the sound file

A new sound file is created the first time you select Edit. You will be prompted to name the new file when select Exit.

To select an editing process, press <TAB> to highlight your choice and press the <ENTER> key. The following options are available:

Play

Playing a sound file in edit mode will display a pulsing line across the screen. This line will show the current playback status of the sound file.

Scope

Selecting the Scope button will give you a graphic display of the audio input. You can play music from the connected audio device, and you can speak into the microphone to see the recorded sound waves. Exit at any time by pressing any key on your keyboard.

Echo

You can add echo to your sound file to give it the highest degree of sound. Echo also can add special effects to your sound file. There are two parameters to configure for Echo:

Delay Millisecond	Sets the amount of delay before the echo starts
Delay Volume	The volume mixture of the echo and the original sound

New

Use the New option to select a new sound file to edit. A Save Work File dialogue box will appear and prompt you to save your current sound file. Type in the filename and press the <ENTER> key. Next, select the file format of your choice.

Reverse

Reverses the playback of a sound file.

Insert

The sound file for insertion should not be packed, contain any silence compression, or be a multi-block file. This will result in an unusable file.

Insert will add another sound file into the current sound file being edited. From this menu you can select the sound file for insertion or record a new sound file to be inserted. Select a sound file and press the <ENTER> key. Use the mouse to select the point in the original sound file to add the new sound file. If the sampling rate of the new inserted sound file is different from the file being edited, the sample rate will adjust accordingly.

More

More offers an additional set of editing processes. The options are on the following page.

Fast

Fast will sample a sound file without altering the pitch. A sound file originally sampled at 8KHz and played back at 16KHz will increase the pitch, and play the file back in half the time. Fast will re-sample a sound file and cut the size of the file in half. The file will play back at twice the speed without affecting the pitch. The Fast option modifies the time range without affecting the frequency range.

Slow

The Slow selection will re-sample a sound file and play it back at one-half the speed without altering the pitch. The original sound file will increase by twice the size.

Rate

Rate will "down" sample a sound file created with a high sampling rate, to a lower sampling rate. Rate can also "up" sample a sound file, with no gain in the resolution.

Pitch

This selection alters the pitch value within a sound file. Altering the pitch value will affect the playback time of the sound file.

Volume

Entering a value greater than 100 will result in an increase in volume, even if you selected decrease.

Volume will increase or decrease the amplitude of sound files. Increasing the volume with values of 10-50 will only have a slight effect on the sound file, but increasing with values of 50-200 will have a more noticeable effect.

Decreasing the volume with values of 1-99 will decrease the volume of a sound file by the percentage of the number entered. For example, entering "50" will produce a sound file 50% as loud as the original file.

Mixer

Mixer blends two sound files into a single sample. You can select a sound file to be mixed or record a new sound file for mixing. A Volume Mix parameter controls how loud the mix will be.

The mixed-in sample can be a number between 1 and 100, but 50 to 60 is a recommended mixing level. If the sampling rate of the two sound files are different, Mixer will not adjust the sampling rates.

More

More will display the original set of editing options from the first Edit Screen.

Pack/UnPack

Pack will compress your recorded sound files to save storage space on your hard disk. There are three ratios of compression available—2:1, 3:1 and 4:1. With a 2:1 compression, the Pack function will save every two bytes of sound data in your original recording as one byte.

Using higher compression ratios like 3:1 or 4:1 may result in a loss of sound quality.

You also can play back a packed sound file without unpacking it. In Edit mode, the packed sound file will display the UnPack button for playback mode.

Fade

Causes the beginning and ending of a sound file to fade in or fade out in volume. When selecting the amount of time, both the fade in and fade out time cannot exceed 1/2 of the total playback time of the sound file.

Exit

To exit Edit mode, press <ESC>. You will be prompted to save your current sound file. Type in the filename and press <ENTER>. You can save your current sound file in .VOC, .WAV, .SND, or .NTI file formats.

Editing a Sound Segment

From the Edit Screen, you have the option to edit a portion or segment of the sound file. From this menu, the following selections are available:

Play

You can play back a selected sound segment.

Tools

Tools provides different processes to manipulate a selected sound segment.

Loop

Loop repeats the segment up to a maximum of 10 times.

Mute

Mute replaces the segment with silence bytes. It is useful for removing noises without affecting the playback time.

Reverse

Reverse the sound segment and plays it backwards.

Pitch

Changes the pitch of the sound segment. It will also affect the playback time.

Echo

This selection adds an echo or delay effect to the sound segment. The parameters are the same as the Echo process for whole sound files.

Volume

Volume will increase or decrease the amplitude of sound files. The parameters are the same as the Volume process for whole files.

Cut

Cut permanently removes the selected segment of the sound file. The Cut operation cannot be reversed.

Zoom

Zoom enlarges the selected sound segment to allow you to edit with better accuracy. You can select a new segment from within the currently zoomed segment, and repeat the process until the resolution reaches a ratio of 1:1. The resolution is displayed in the lower right corner of the screen.

UnZoom

UnZoom process reverses the Zoom process. It reverts the sound segment back to its previous size.

Mute

Mute replaces the selected sound segment with silence.

Save

You can save the selected sound segment as a new sound file. You will be prompted to enter the filename of the new sound file.

Move

You can move the selected sound segment to another location within the same sound file.

■ Using Monologue

Monologue is a realistic text-to-speech synthesizer program that adds speech to your text-based DOS applications, such as Lotus 1-2-3 (Rel 2.2), Microsoft Word, WordPerfect, and WordStar. When you highlight a row, column, paragraph or file, Monologue will read the text and generate voice output.

Monologue is immediately available while you are using other application programs, by use of a Hot-Key. You can configure Monologue's speech and display parameters to your preference. Monologue will also allow you to save your own pronunciation of words and abbreviations. These configurations are saved in a configuration file and are implemented every time you run Monologue.

Alternately, Monologue can be unloaded from memory by typing the UNLOAD command at the DOS prompt.

To load Monologue into memory, change to the C:\PRODUCER\MONOLOG directory and type the following:

C:\MONO Enter ↵

The Monologue Start-up screen will appear.

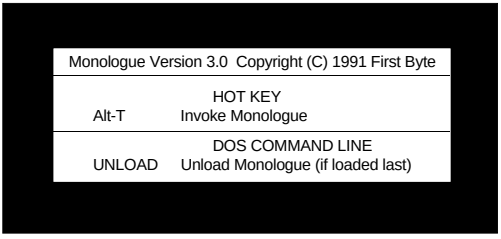


Figure 2.9: Monologue Start-up Screen

This screen displays the Hot Key sequence used to activate the Monologue software *(default Hot Key is <ALT> + <T>).* To redefine the Hot Key sequence used to invoke Monologue, see the section on Reconfiguring Operating Parameters.

Configuring Monologue

The Monologue software configuration *must* match the Sound Producer Pro settings. Monologue has a default configuration of I/O Port Address 220H and Interrupt Channel 7. If you need to modify the settings, change to the C:\PRODUCER\MONOLOG directory and type the following:

C:\INSTALL Enter ↵

Press the <F2> key and the following screen will appear:

Figure 2.10: Monologue Configuration Screen

From the configuration window, select the Sound Producer Pro option. Press the <ENTER> or <O> key to access the Sound Producer Pro Settings window. Use the appropriate keys to make your selection.

Once you have made your changes, press the <O>key to exit to the Monologue Installation screen. Then press <F9> to exit to DOS.

Modes of Operation

Searching, Selecting and Speaking are Monologue's three modes of operation. Some keys on your keyboard have specific functions depending on Monologue's mode.

Searching Mode

When Monologue is started with the "Hot Key" sequence, it comes up in Searching Mode. In this mode, the cursor can be moved around the screen without marking any text. The speech and display parameters also can be modified while in Searching Mode.

Selecting Mode

Monologue switches from Searching Mode to Selecting Mode by pressing the <ENTER> key. In Selecting Mode, movement of the cursor is reflected by reverse video. This mode is used to select the text to be spoken by Monologue. The speech and display parameters cannot be modified in this mode.

Speaking Mode

Monologue switches from Selecting Mode to Speaking Mode by pressing the <ENTER> key again. In this mode, all the text highlighted by the reverse video cursor will be spoken by Monologue. Once the selected text has spoken, Monologue will switch back to Searching Mode.

Control Keys

Monologue can be activated by using the default Hot Key sequence (<ALT> and <T>). A reverse-video cursor will appear at the center of your screen. A status line at the bottom of the screen will display the various speech configuration parameters.

Monologue allows you to customize different aspects of the speech such as volume, speed, and pitch, by using the function keys on the keyboard. See the following infomation on the special use of the keyboard function keys in Monologue's operational modes. Note that each function key can be used for more than one mode.

You can use the function keys to change the speech configuration settings, but you must re-run the CONFIG.SYS program to make the changes permanent.

ENTER

Searching Mode: Marks the beginning screen position for text selection and changes Monologue from Searching Mode to Selecting Mode.

Selecting Mode: Will mark the ending screen position for text selection and change Monologue from Selecting Mode to Speaking Mode. The highlighted text will speak.

ESC

Searching Mode: Turns off Monologue and returns you to your application. Monologue will remain inactive in the memory until reactivated with the Hot Key.

Selecting Mode: Exits to Searching Mode and leaves the marked text in the speech buffer.

Speaking Mode: Exits to Selecting Mode at the end of the current speech block. Leaves unspoken text in the speech buffer. To resume speech output, press the <ENTER> key twice.

ALT + **F2**

Searching Mode: Toggles the Status Line between reverse video and normal video. Monologue uses a color set to distinguish the Status Line from the background screen.
Selecting Mode: Same as Searching Mode.

F3

Searching Mode: Increases the Speech Volume by "1" for each time the <F> key is pressed. The range of volume is 0 (silent) to 9 (loudest). *(The default is 5).*

Selecting Mode: Same as Searching Mode.

Monologue can be unloaded from memory at any time by typing UNLOAD at the DOS prompt.

ALT + **F3**

Searching Mode: Decreases the Speech Volume by "1" for each time the <ALT> and <F3> keys are pressed simultaneously.

Selecting Mode: Same as Searching Mode.

F4

Searching Mode: Increases the Speech Speed by "1" for each time the <F3> key is pressed. The range of speed settings are 0 (slowest) to 9 (fastest). *(The default is 5).*

Selecting Mode: Same as Searching Mode.

ALT + **F4**

Searching Mode: Decreases the Speech Speed by "1" for each time the <ALT> and <F4> keys are pressed simultaneously.

Selecting Mode: Same as Searching Mode.

F5

Searching Mode: Increases the Speech Pitch by "1" for each time the <F5> key is pressed. The range of speed settings are 0 (low frequency) to 9 (high frequency). *(The default is 5).*

Selecting Mode: Same as Searching Mode.

ALT + **F5**

Searching Mode: Decreases the Speech Pitch by "1" for each time the <ALT> and <F5> keys are pressed simultaneously.

Selecting Mode: Same as Searching Mode.

F8

Searching Mode: Toggles the Text Parsing mode between Spreadsheet and Text modes. When a block of text is marked on the screen and sent for conversion to speech, Monologue will determine how and where to divide the text. In Text mode, the text is normally divided by sentence boundaries. In Spreadsheet mode, it is divided by a screen line. *(Default is Text mode).*

Interruption of speech can occur only at the end of a speech segment.

Selecting Mode: Not available.

F9

Searching Mode: The entire contents of the screen are sent for immediate speech output.

Selecting Mode: Not available.

ALT + **F9**

Searching Mode: Resets Monologue's default parameters.

Selecting Mode: Same as Searching Mode.

F10

Searching Mode: Toggles the "Testing 1,2,3" message. When "ON" is selected, you will be able to set the speech parameters of your choice.

Selecting Mode: Same as Searching Mode.

Reconfiguring Operating Parameters

Monologue allows you to reconfigure the basic operating parameters as well as the default speech configuration parameters for the volume, speed and pitch.

To reconfigure the parameters, change to the C:\PRODUCER\MONOLOG directory and type the following:

C:\CONFIG Enter ↵

The Monologue Setup Program main menu will appear.

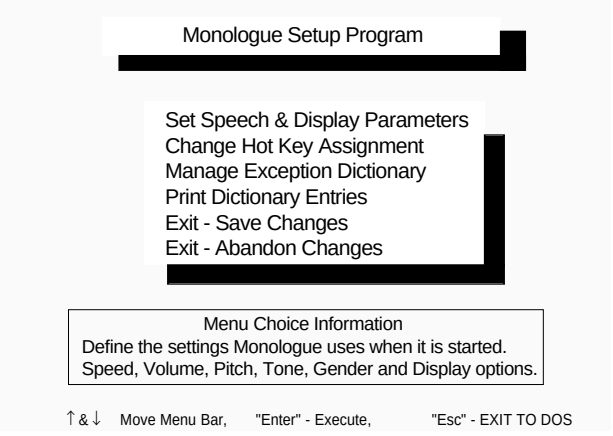


Figure 2.11: Setup Program Screen

Configuration changes made to display and speech parameters while Monologue is active, will not take effect immediately. You must unload and reload Monologue for the changes to take effect.

The configuration parameters are displayed with their default settings. You can change these settings by using the <TAB> key to move to the selection to be changed.

From this screen, you may change the settings for the Volume, Speed, Pitch, Status Line (on/off), Help Screen (on/off), Screen Mode (monochrome/color), and Parsing Mode (text/spreadsheet). Save your new configuration parameters by selecting the Save (Exit Action) option.

Changing the Hot Key

The Monologue Setup Program menu allows you redefine the Hot Key sequence used to invoke Monologue. To select a new sequence, press the keyboard key you want to use in conjunction with the <ALT> key. Your new selection will be displayed on the screen. Save your new configuration parameters by selecting the Save option.

Customizing the Dictionary

This option allows you to customize the Exception Dictionary. From this menu, enter the proper word and the "misspelled" word to the dictionary.

Use only lower case letters. The exact match of the word will be pronounced. Monologue will pronounce the "misspelled" word for your approval. Continue these steps until you are satisfied with the pronunciation. Exit to the main menu by pressing <ENTER> or <ESC> from a blank line.

Mouse Support for Monologue

Any Microsoft-compatible mouse can be used to adjust any of the parameters which control the functions of Monologue. The left mouse button is used for most of the supported functions. The right mouse button is used only in conjunction with the left mouse button to invoke the <ESC> key. If you are a left-handed user and have reversed the settings of the mouse buttons, Monologue will correctly interpret the change in the left-right adjustment.

Additional Information

- Monologue requires exclusive use of the system timer to assure a steady flow of speech. Therefore, it may not function properly with programs that access the timer, such as DESQview (in Multi-Tasking mode) and PC-MOS/386. You may receive an "out of memory" error.
- Monologue will not allow use of a communications program while speech is taking place.

■ Using Mixer for DOS

Sound Producer Pro comes with two mixer utilities for use in DOS. These utilities control the volume of stereo audio sources, such as Stereo CD-Audio, Stereo DAC, Stereo Line-in, Stereo FM, Stereo Microphone, Disney Sound Source, and Covox Speech Thing, during digitized audio playback.

Mixer Parameters configured in either DOS or Windows will override the other.

Using the SPMIXTSR.EXE mixer utility, you can mix the input sources and control their individual recording levels. The SPMIXER.EXE utility controls the audio mixer on Sound Producer Pro (see Table 2.2).

Once the volumes of the audio sources have been adjusted, they are mixed and controlled by the main volume control. The Sound Producer Pro mixer utilities allow you to have full control of the main volume control, including the balance, bass and treble output.

To load SPMIXTSR.EXE in memory, change to the C:\PRODUCER\UTILITY directory and type the following:

```
C:\SPMIXTSR
```

Enter ↵

If the program was successfully loaded into memory, the following messages will be displayed:

```
"Sound Producer PRO Mixer TSR is now loaded"
     "Press <ALT> + <D> to activate TSR"
"Type SPMIXTSR -Q  to remove TSR from memory"
```

Once the SPMIXTSR.EXE program has been loaded into memory, start the program by pressing the <ALT> and <D> keys simultaneously. The menu in Figure 2.12 will appear.

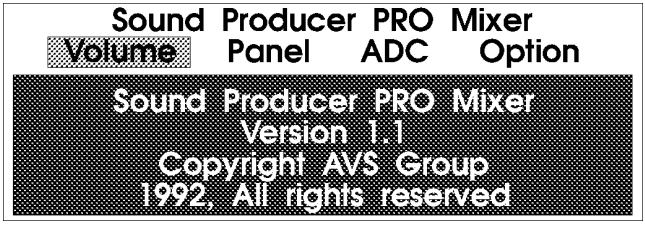


Figure 2.12: Mixer Control Menu

Highlight the desired option by using the <←> and <→> arrow keys, and press <ENTER>. The options available are: Volume, Panel, ADC, and Option. You also can select the options by pressing the highlighted letter (e.g., "V" for Volume).

Volume

The Volume option of the Mixer control panel controls the volume of the individual audio sources during playback operation. There are several options available under the Volume menu. To select each option use the <↑> and <↓> arrow keys. To adjust the volume level for each option use the <←> and <→> arrow keys. The <HOME> key will reset the volume level and allow you to reconfigure again.

The following options are available from the Volume option menu:

Mic

Mic controls the stereo volume for the Microphone Input in 8-step intervals.

CD

The CD selection controls the stereo volume for the CD-Audio in 16-step intervals.

FM

The FM selection controls the stereo volume for the FM Music Synthesizer in 16-step intervals.

Line in

The Line in selection controls the stereo volume for external audio equipment in 16-step intervals.

Voice

The Voice selection is the stereo volume control for the DACs (Digital-Analog Converters) in 16-step intervals.

COVOX

The COVOX selection is the volume control for the "Disney Sound Source" and "Covox Speech Thing" features in 16-step intervals.

Panel

The Panel option controls the master volume, balance, bass, and treble of the Sound Producer Pro. There are several options available under the Volume menu. To select each option use the <↑> and <↓> arrow keys. To make adjustments for each option, use the <←> and <→> arrow keys. The <HOME> key will reset the default levels and allow you to reconfigure. The following options are available from the Panel option menu:

Volume

The Volume selection is used to control the master volume in 16-step intervals.

Balance

The Balance selection controls the left and right channel balancing in 16-step intervals.

Bass

The Bass selection controls the amount of boost and cut in volume (lower frequencies).

ADC

The ADC option provides utilities to control the digitized audio recording. There are two options available under the ADC menu. To select each option use the <↑> and <↓> arrow keys. To make adjustments for each option, use the <←> and <→> arrow keys. The <Home> key will reset the default levels and allow you to reconfigure. The following options are available from the ADC option menu:

ADC Input Select

This selection allows you to choose the type of audio input source to be used during digitized audio recording. The recording input sources include the CD Audio, Line in, or Microphone. The recording level will be preset.

ADC Mix

ADC Mix will enable or disable the recording mixer. If the ADC Mix is turned ON, the recording input source will be a combination of the Microphone, CD Audio, and Line in. The recording level of each input source can be individually controlled from the Volume option in the Mixer control panel, before mixing and recording. If the ADC Mix is turned OFF, the recording input source will be the selection from the ADC Input Select option.

Option

Option allows you to configure additional options for audio control. There are several selections available under the Option menu. To make each selection use the <↑> and <↓> arrow keys. To make adjustments for each selection, use the <←> and <→> arrow keys. The <HOME> key will reset the default levels and allow you to reconfigure.

The following selections are available from the Option menu:

Card Reset

Resets all of the mixer volume control levels to their default settings.

Stereo/Mono

Configures the digitized audio output for mono or stereo mode.

Store

This selection will store the individual volume settings of the mixer in the EEPROM. Storing the settings in the EEPROM will enable you to start up with your selected settings.

Select Step

This selection will configure your volume resolution for 8-step or 16-step intervals, to enable full compatibility with older software that requires 8-step volume settings.

Configuring Mixer for DOS

The SPMIXER.EXE program is a DOS-based program used to control the audio mixer on Sound Producer Pro. You can configure your mixer at any time from the DOS prompt, or you can run the SPMIXER.EXE program from within the AUTOEXEC.BAT file.

To configure the SPMIXER.EXE program, change to the C:\PRODUCER\UTILITY directory and type:

`C:\SPMIXER -OPTION : <VALUE>`

See the table below for the DOS command-line Options and Values (left and right).

Option	Value (L,R)	Setting
VM	0..7	MIC volume setting
VC	0..15, 0..15	CD volume setting
VF	0..15, 0..15	FM volume setting
VL	0..15, 0..15	Line in volume setting
VV	0..15, 0..15	Voice volume setting
VO	0..15	Master volume setting
PV	0..15, 0..15	Balance volume setting
PB	0..15, 0..15	Bass volume setting
PA	0..15	Treble volume setting
PT	0..15	Covox volume setting
AI	M,C,L	Recording Input source (MIC, CD, Line in)
AM	N - On F - Off	Recording Mixer On / Off
MR	-	Resets Mixer Volume settings
MS	-	Stores Mixer Volume settings
MT	N - Stereo F - Mono	Specifies Mixer mode
ME	16 - 16 step 8 - 8 step	Volume Resolution setting

Table 2.2: Options & Values

Using SoundScript

SoundScript is an exciting, easy-to-use multimedia authoring language that combines sound and animation. Using a script, you can integrate graphic animation files in the .FLI format with the sound capabilities of Sound Producer Pro. The .FLI file format is an industry-standard for PC-based animation. SoundScript is excellent for use in creating business presentations, which results in impressive graphics combined with superb sound.

To play back files with the extension (.FLI) you must have a VGA monitor .

SoundScript allows you to synchronize animation with several types of sound events, such as playback of MIDI (.MID) files, digital audio (.WAV or .VOC) files, and an audio CD. It also controls the Sound Producer Pro mixer parameters.

Creating a script file for SoundScript is easily accomplished by using a standard ASCII text editor, such as EDLIN in DOS or EDIT in DOS 5.0. SoundScript supports standard programming commands such as GOTO, WAIT, and LOOP. DOS commands are also executable from within a script.

Creating a Script

The following sample script file illustrates some capabilities of SoundScript. The MIDIJUKE.SCR sample script file changes SoundScript into a "jukebox" which plays the sample MIDI files included with Sound Producer Pro. While playing, the MIDI files are accompanied by animation and sound effects. This script file can be used as a starting point to modify and play any MIDI or digital audio file.

Before creating your own script, see the section "Guidelines for Creating and Running a Script."

Type the sample script file in Figure 2.13 into your ASCII text editor and print it out. This will allow you to follow along as the script runs.

```
mix master 127          ;set master volume to full
mix synth 115           ;set synth volume to nearly full
mix pcm 127             ;set digital audio volume to full

:start                  ;script returns to this point to restart
stop mid                ;stop playback of the MIDI file
run cls                 ;clear the screen with the DOS CLS command

play scratch.wav        ;play the "record scratch" sound
play jukebox.fli        ;play the jukebox animation

run echo                Now Playing:    ACTION3.MID
run echo                Press [ESC] to quit
run echo                Any other key to go to the next file
wait 300                ;wait 3 seconds
stop wav                ;stop the "record scratch" sound

play                    :\songs\action3.mid ;play the MIDI file
wait mid                ;don't proceed until the MIDI file finishes
        •                       •
        • etc...                •
        •                       •
GOTO  :start            ;return to the line labelled ":start"
```

Figure 2.13: Sample Script File

This script file allows you to insert comments to be used for notes or troubleshooting. The comment lines are noted by a semicolon (;). SoundScript will bypass all text following a semicolon.

Running a Script

SoundScript uses the Voyetra Sound Factory and VMP drivers for its sound performance. These drivers must be loaded before using SoundScript. To automatically load the drivers and play the sample MIDI files, change to the C:\PRODUCER directory and type the following:

Additional .MIDI and .WAV files are available and can be downloaded from the Orchid BBS.

C:\MIDIJUKE 220 Enter ↵

or

C:\MIDIJUKE 240 Enter ↵

The MIDIJUKE selection you make depends on the Hex address setting of the Sound Producer.

You can run the SPSETUP program in Chapter 2 to see the Hex address setting for Sound Producer.

MIDIJUKE is the sample script file you created earlier. Once you run the script, you will see a "jukebox" and hear the MIDI files play accompanied by animation and digital audio sound effects. The top of the screen will show the name of the song playing. Press <ENTER> to play another song or press <ESC> to quit.

Guidelines for Creating and Running a Script

SoundScript requires that you follow certain syntax guidelines. Most of these guidelines are illustrated in the sample script file. They are as follows:

- The script language may be entered in lower or upper case letters.
- Each command must be on a separate line.
- You may indent lines or leave blank lines for clarity.
- You may insert comments on any line except a line with a RUN command. Every comment must be preceded by a semicolon (;).
- Some of SoundScript's commands require values called arguments. The command and any argument must be separated by one or more spaces or tabs.
- The PLAY and LOOP type commands must include the complete DOS pathname to the file, if the file is not in the current directory. Be sure to include the extension if you named the file with one.

To run SoundScript script files, follow these guidelines:

- Commands not supported by your hardware are bypassed. For example, if you do not have a VGA monitor, all commands to play .FLI files will be bypassed. If you do not have a CD-ROM drive all CDPLAY commands will be bypassed.
- If a syntax error occurs, execution will stop at the line where the error is encountered. A message will display showing the line number and the reason for the error.

- When playing the .MID, .VOC, or .WAV sound files or CD audio track, the PLAY and CDPLAY commands will start at the specified line and then go to the next line.

- If you want to include animation with sound, you must place the sound command before the animation command.

- While waiting for a script to finish playing or executing any command, you can press any key to go to the next line. Press the <ESC> key at any time to terminate the script.

SoundScript Commands

SoundScript requires the use of certain commands to create a script. The following commands are listed with the appropriate argument. The required arguments are indicated by the "<" and ">" signs. The optional arguments are enclosed in brackets ([ ]). The following information lists all commands supported by SoundScript's scripting language.

If you are not sure how to use a certain command, refer to the sample script file.

Animation Files (.FLI)

The script execution will not continue until the .FLI file is finished playing.

CDPLAY <from> [to]

SoundScript will play a specified portion of an audio CD from the start of a range to the end of a range. These values are specified in the form of track number: minutes: seconds, with each value separated by a colon (:). See examples in the following tables.

Command	Description
CDPLAY 2,3	Play all of track 2, stop at the beginning of track 3
CDPLAY 3:0:0 3:0:20	Play the first 20 seconds of track 3

Table 2.3: CDPLAY minutes & seconds

The minutes and seconds values may be omitted. If so, SoundScript will interpret them as a zero (0). The following table shows examples of omitting the minutes and seconds in the argument.

Command	Location on CD
CDPLAY 1:2:3	Track 1, 2 minutes, 3 seconds
CDPLAY 1:2	Track 1, 2 minutes, 0 seconds
CDPLAY 1	Track 1, 0 minute, 0 second
CDPLAY 1:3	Track 1, 0 minute, 3 seconds

Table 2.4: CDPLAY minutes & seconds omitted

SoundScript also can play the CD from the starting point to the end of the disk by omitting the [to] argument. See the following commands for other ways to utilize CDPLAY.

CDPLAY 1	Play the entire CD from the beginning of track 1 to the end of the disk
CDPLAY 5:3:20	Play from track 5, 3 minutes, 20 seconds to the end of the disk
CDSTOP	Stops the CD

Clear 0

The CLEAR 0 command inserted in your script will tell SoundScript not to reset your VGA card to its initial mode. This is useful if you want the final frame of the last animation file to remain on the screen after the script is finished.

Clear 1

The CLEAR 1 command will tell SoundScript to revert to its default method of resetting the VGA card when the script terminates. It clears the CLEAR 0 command.

Clear <0/1>

This command will do the work of both the previous commands. Clear 0/1 puts your VGA card into a mode which allows it to display animation files (.FLI), runs the script, then resets your VGA card to its initial state. This will remove any .FLI file image that may be left on the screen when the script terminates.

Digital Audio Files (.WAV or .VOC)

This command will stop playing a digital audio file and start a new one. The script execution will proceed immediately to the next line.

MIX <parameter> <value>

MIX configures the Sound Producer Pro mixer utility parameter settings. See the table below for the MIX command parameters.

Parameter	Description
MASTER	Master volume
PCM	Digital audio volume
SYNTH	FM synthesizer volume
AUX1	CD audio volume
AUX3	Volume of a line-level auxiliary device to the Line-in jack

Table 2.5: MIX Command Parameters

The <value> can be any number from 0 to 127. For example, to set the volume for the FM Synthesizer, type:

```
MIX SYNTH 100
```

To set the volume for the Digital Audio volume, type:

```
MIX PCM 120
```

Repeat <n>

SoundScript will run a block of commands a specified number of times. The end of the block of commands is marked by an EndRepeat command.

Unlike the BASIC language, SoundScript does not support "nested" "Repeat" commands. You cannot place one Repeat routine within another.

EndRepeat

Marks the end of a block of commands used by the Repeat command. When SoundScript encounters this statement, it will skip back to the previous Repeat line until all steps are completed.

GOTO <:label>

The script execution will skip over all lines between this line and the line containing the label. Labels must be preceded by a colon (:). This command works exactly like the DOS "GOTO" command. For example, the following line would cause script execution to skip to the line containing the label :Start:

```
GOTO :START
```

GOTO can be used to make a script loop endlessly. This would work well for a free-running presentation. GOTO also can be used for debugging (finding and eliminating errors) the end of a long script file. Once the beginning of the script is working, insert a GOTO command at or near the beginning of the script.

This will enable you to move quickly to the section you want to debug. When you have successfully debugged the end section, remove the GOTO command.

Play [d:\path\]<filename.ext>

Starts the playback of a specified file. You must include the file's name and DOS extension. The file type, specified by its DOS extension, must be .FLI, .MID, .VOC, or .WAV. The drive and pathname must be included if the file is not in the current drive or directory.

Run <command>

Run can be used with the DOS "ECHO" command to display a line of text as part of your script. For example, the following command will display the string "Display this text." on the screen:

```
Run Echo Display this text.
```

Note the following information when you are using RUN to execute DOS commands.

- SoundScript displays your text in 40-character text mode.
- You cannot put a comment on the same line as a RUN command. If you do, DOS will try to execute the comment as part of the DOS command, which will result in an error.
- Once the DOS command is started, SoundScript will resume execution from the line following the RUN command.

Wait <filetype/CD/KEY/time>

SoundScript will pause before executing the next command. The WAIT command can accept several different types of arguments.

Wait <filetype>

Pauses the script until the current file has completed playing. The argument <filetype> can be .MID, .VOC, or .WAV.

Wait CD

Pauses the script until the current CD material has completed playing.

Wait Key

Pauses a script until any keyboard key is pressed.

Wait <time>

Pauses the script for a specified period of time. The argument <time> is in "hundredths of a second" (1 second is equivalent to 100 and 2 seconds—200).

MIDI Files (.MID)

MIDI will stop playing a MIDI file and start a new one. The script execution will proceed immediately to the next line.

Stop <file type>

Stops playing the current <file type> file. The file type can be .MID, .VOC, or .WAV.

SYNC <filetype/CD>

Allows SoundScript to keep playing an animation file (.FLI) until the specified sound file or CD material has completed playing.

Chapter

3

WINDOWS SOFTWARE

Software applications for Windows are included to take advantage of the capabilities of Sound Producer Pro in the Windows multimedia environment. The applications are installed automatically using the SINSTALL.EXE program. If you have not already installed your Windows applications, see the install instructions for SINSTALL.EXE in Chapter 2.

In addition, Sound Producer Pro supports a large library of Windows software that is compatible with the AdLib, Sound Blaster Pro II, Disney Sound Source, and Covox Speech Thing sound standards.

The Windows applications included are the following:

Voice Notes

Voice Notes enables you to add custom voice annotation to all Windows applications that support Object Linking and Embedding (OLE).

JukeBox

This manual presumes that you are already familiar with the basics of Microsoft Windows. Please refer to the Microsoft manual when terminology or installation steps are unfamiliar to you.

Jukebox allows you to see and hear "sound events" entered into a playlist. You have the option to create or edit playlists, and to audition files.

Mixer

Controls the volume of your stereo audio sources during digitized audio playback.

WinDAT

WinDAT features options to play, record, display, and edit digital audio files.

■ Using Voice Notes™

OLE allows information in varying formats to be combined in a single document.

The Voice Notes program enables you to add custom voice annotation to all Windows applications that support the Object Linking and Embedding (OLE), such as documents, spreadsheets, and presentations.

Using the microphone and speakers included, you can easily record and playback voice messages by utilizing the audio features of Windows 3.1. Before using Voice Notes, verify that you have connected the microphone to your Sound Producer Pro.

Quick Start

The following steps will familarize you with Voice Notes, to get you up and running quickly.

1. Start the Microsoft Windows application.
2. From the Accessories window, double-click on the application WRITE.
3. Press the CTRL + R keys (Hot Key function) to open the Voice Notes window and start recording (see Figure 3.1).
4. Speak to record a message, and then click Accept or press <ENTER> to embed your message into the WRITE application.
5. Once in the application, double-click on the 

icon to play the message. While the message is playing, the cursor will change to become 

to indicate that Voice Notes is in progress. Press the left mouse button to stop the message before completion.

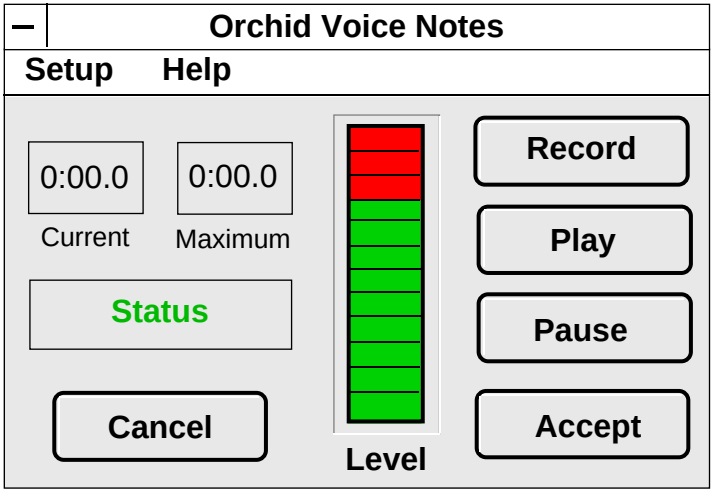


Figure 3.1: Voice Notes Menu Screen

The Voice Notes Window includes a menu bar with Setup and Help options. The options and selections are detailed below:

Setup

Opens a drop-down menu that allows you to check (✓) items for default settings. Set the following selections for your preference:

Auto Record

If checked, recording starts immediately upon opening of the Voice Notes Window by either of the following:

- Selecting Restore from the icon pop-up menu.
- Double clicking on the Voice Notes icon.
- Selecting the Hot Key within an application that supports OLE.

If not checked, the Record button in the Voice Note Window must be clicked to begin recording. *Default is checked (✓).*

Hot Key

You can define a key combination that will automatically open the Voice Notes Window from within an application that supports OLE. If Auto Record is checked, the Hot Key function will allow you to record a voice note with a single key stroke. *Default is CTRL + R.*

Maximum Length

Allows you to pre-set the maximum length of a Voice Note. This data will be displayed in the Voice Notes Window in the "Maximum" box.

Always on Top

When checked, it allows the Voice Notes icon to remain on top of any open Window or application, with the program minimized. You can double-click on the icon at any time to activate it. *Default is checked (✓).*

Help

Opens a drop-down menu with the following choices:

Index

Help index on how to use the Voice Notes recorder.

About

Displays the copyright information and current version number of Voice Notes.

Recording a Message

To enhance the clarity of your recording, place the microphone as close as possible, such as mounted on the side of your monitor or mounted on your keyboard. To record and play back a message, the following options are available from the Voice Notes Window:

Record/Re-Record

Starts the Voice Notes Recorder. Once you press this button it will become Re-Record. If you want to record your message again, press Re-Record to start over. The button will remain Re-Record until you press either the Accept or Cancel buttons.

Once you press Accept, your recorded sound embedded in your document. You can then double-click on the Voice Notes icon to play your message.

Play

Plays back what you have recorded.

Pause/Continue

Stops the recording or playback. Once you press this button it will become Continue. You may continue recording or playback. Press Accept to accept the message, or press Cancel.

Accept

When you are satisfied with what you have recorded, press Accept and your note will be automatically embedded into your document and the Voice Notes Window will close. You may also press the <ENTER> key to accept.

Cancel

Closes the Voice Notes Window without embedding your Voice Note. You may select any button at any time without having to press the Pause button. For example, while a recording is being made, pressing the <ENTER> key or clicking Accept, will stop the recording, close the window, and embed the Voice Note.

Status

A status window that reports the current status of Voice Notes—"Playing", "Recording", "Stopped", or "Ready". All of the status messages will appear in green text, except "Recording", which will appear in red.

Current and Maximum

These boxes will display the elapsed (current) time and maximum time.

Level

The Level meter displays a bar graph of your recording level with green, yellow, and red bars, while recording is in progress.

Embedding a Message

You can embed voice messages in all Windows applications that support OLE. After you record and accept a message, the Voice Notes Window closes and automatically embeds the message in your document. To embed the Voice Note in your document or spreadsheet, follow the steps below:

1. Open the Microsoft Windows application.
2. Press CTRL + R keys (Hot Key function) to open the Voice Notes window and start recording.
3. Speak to record a message, and then click Accept or press <ENTER> to embed the message into your application.

If you embed a message in a document that does not support OLE, the icon may display as a graphic. You can click on it, but it will not play.

Playing a Message

1. Once in the application, double-click on the 

icon to play the message. While the message is playing, the cursor will change to become 

to indicate that Voice Notes is in progress. Press the left mouse button to stop the message before completion.

Playback Only

You can create a diskette with a Playback only version of Voice Notes and a sound driver for your associates. This will allow them to play Voice Notes embedded in documents you send them. The sound driver will be installed only if there is no sound hardware already installed that can play the PCM format sound.

To create a Playback only diskette, follow the step below:

1. Run the SINSTALL program and select "Build Voice Notes Playback Diskette" and follow the instructions. See Chapter 2 for information on the SINSTALL program.

Additional Menu Options

Voice Notes uses the optional "Always on Top" feature with the program minimized, to allow you access to Voice Notes options at any time. From your document or any Window, you can click once on the Voice Notes icon for additional options. The following options will appear:

Restore
Opens the Voice Notes Window.

Move
Allows you to move the Window without a mouse.

Minimize
Minimizes the Window to the Voice Notes icon.

Close
Closes the Window.

Switch To
Allows you to switch between windows without a mouse.

These options also can be accessed from the Voice Notes Window. From the System Menu, access a pull-down menu by clicking once on the "-" box.

■ Using Jukebox™

Jukebox provides an easy way to see and hear "sound events" entered into a "playlist", in the Windows environment. The playlist can include MIDI files, .WAV files, or CD tracks. Jukebox includes features such as the ability to create, edit, and save the playlists, and an Event Manager option to add, search for and audition files.

The Jukebox main menu has two sub-menu windows—Playlist and Playlist Files Manager. Double-click on the Jukebox icon in the Sound Producer Pro window and the following menu will appear:

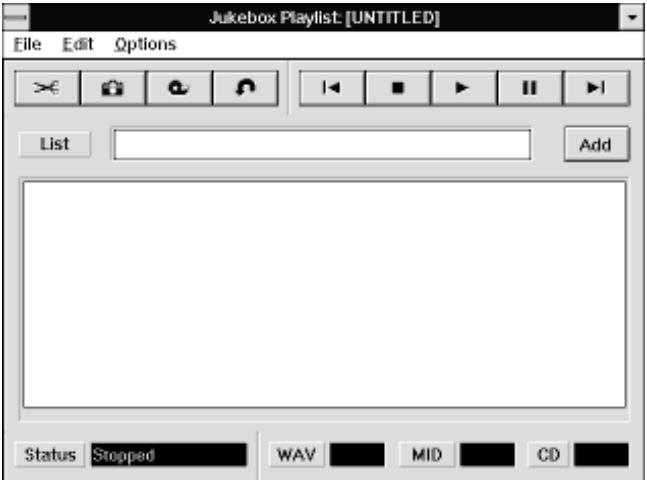


Figure 3.2: Jukebox Playlist Screen

Jukebox supports only the .WAV, .MIDI, and CD tracks sound events.

The Playlist

The Playlist option features selections to move, delete, and control playback of the playlist. It is divided into the following control areas:

Menu Bar

Uses pull-down menus common to most Windows applications.

Edit Controls

For edit commands such as Cut, Copy, Paste, and Undo.

Transport Controls

Uses the Play, Stop, Pause, Previous , and Next control buttons, similiar to a tape deck or VCR.

Playlist Title Box

Displays the title of the current playlist.

CD Title Box

Displays the title of the current CD in the playlist.

The Playlist

Displays a list of the individual sound events in the playlist.

Status Area

Displays the current status of the Playlist. It also shows how many and what type of events are in the playlist.

Playing a Playlist

When you open a Jukebox file and click on the Play button, the playlist will play each file or CD track one after the other.

To play a playlist, follow the steps below:

1. Click on Open from the File menu. From the Open dialog box, type in the directory C:\PRODUCER\VOYETRA\JUKEBOX (or the directory where you stored the .JUK files). The file will load and display the playlist.

You cannot edit or load a different playlist until you stop playback. The menu items will be grayed-out while Jukebox is playing.

2. Click on the Play button to start the playlist at the beginning. If you do not highlight an event or the first event, playback will start at the beginning of the list.

3. Click on the Stop button to end the playback.

4. To start playing at a specific event in the playlist, highlight the desired event and then click on the Play button. For example, if you highlight the third event and click on the Play button, Jukebox will start playing the third event and continue playing to the end of the list.

Running Jukebox in the Background

Jukebox will stop running a playlist when you exit the program. To continue running the playlist, you can minimize the Jukebox application. It will continue to play sound events in the background while you work in another application.

To start the playlist in background, follow these steps:

1. From the Jukebox menu, load a playlist and click on the Play button.

2. After the playlist starts playing, minimize the Jukebox windows by clicking on the Minimize button at the right end of the Title Bar.

You can now open any other Windows application. The playlist will play until it reaches the end. You can stop the playback by maximizing the Jukebox application and clicking the Stop button.

The Loop Option

Loop will play a song or group of songs repeatedly. When Loop is active, the current playlist will continue to play after reaching the end. To end the Loop process, click on the Stop button.

1. Click on Loop from the Options menu to invoke this feature. To end the Loop process, click on the Stop button. *The default is OFF.*

Editing a Playlist

Jukebox allows you to edit events and paste them in different parts of the playlist, using the Cut, Copy, Paste, and Undo commands.

Cut and Copy Commands

The Cut command will remove the selected data. To Cut a single event from the playlist, follow the steps below.

1. Click on the event you want to "cut". The event will be highlighted.

2. Click on the Cut button or choose Cut from the Edit menu. The highlighted event will be removed from the playlist.

Use the steps above to "copy" an event, however, the Copy command will not remove the event from the playlist.

You can "cut" or "copy" a group of consecutive or non-consecutive events by clicking and dragging the mouse.

Paste Command

Paste will add the events that you cut or copy to a different part of the same playlist or to a new playlist.

To Paste events to the end of the playlist, follow the steps below.

1. If any events are highlighted, click on Deselect All from the Edit menu.

2. Click on the Paste button or choose Paste from the Edit menu. The events that you cut or copied will be added to the end of the playlist.

To Paste an event within the playlist, follow the steps below.

1. Highlight the line just below the point where you want to Paste the event.

2. Click on the Paste button or choose Paste from the Edit menu. The event will be inserted above the highlighted line. If one or more events are highlighted, all "pasted" events will be inserted before the first highlighted event.

Undo and Delete Commands

Selecting the Undo menu command or the Undo button will undo your most recent editing operation. The Delete All commands will delete all events of a specified type from your playlist.

Playlist Files Manager

The Playlist Files Manager will locate, audition, and add sound events to your playlist. From the Playlist window, double-click on Playlist Files Manager, and the following screen will appear:

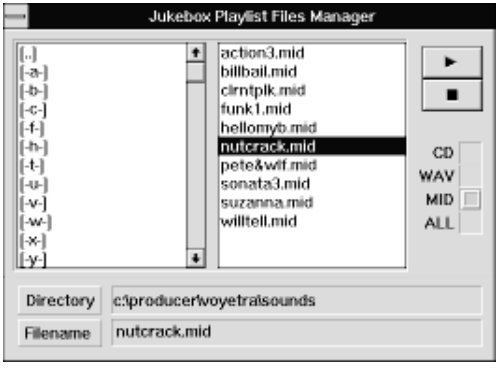


Figure 3.3: Playlist Files Manager Window

The Playlist Files Manager window is divided into the following control options:

CD

Displays all the tracks available on the CD currently loaded in your CD-ROM drive.

WAV

Displays all files with a .WAV file extension.

MID

Displays all files with a .MID file extension.

ALL

Displays all files in the current directory, regardless of the extension.

All of these control options are selectable by clicking on the VIEW button from the menu.

The WAV, MID, and ALL Buttons

Click on either the WAV, MID, or ALL buttons, and two list boxes will appear. On the left side, a Directory list will display the available drives and directories. On the right side, a File list box will display files of the type chosen with the View option. The text boxes at the bottom of the window will display the directory and filename of the file that is currently highlighted.

The CD Button

Click on the CD button option and the Playlist Files Manager will display a single list box which displays the tracks on the current CD. At the bottom of the window, two text boxes will display the CD title and track number of the file currently highlighted. You also can manually enter CD titles and track numbers.

Adding New Events to a Playlist

From the Playlist Files Manager window, you can add new events to an existing playlist or create a new one. You can add the first event to your playlist, regardless to what section of the playlist is highlighted.

To add new events to the playlist, follow the steps below.

1. Choose New from the File menu to load a new, blank playlist file.

2. If you have a CD-ROM drive and you want to include CD tracks in your playlist, insert an audio CD into the drive. If you do not name CD tracks, they will be listed as Track 1, Track 2, and so on. (Refer to the section - Entering Disk Titles and Track Names).

3. Click on the Add button and the Sound Event Manager window will appear.

4. Click on the appropriate View button to select the type of sound event you want to display. If you select .WAV or .MID, select the drive / directory which contain the files.

5. From the Playlist Files Manager, double-click on the event you want to add to the playlist. That event will display as the only event in the playlist.

6. Double-click on additional events in the Sound Event Manager, one at a time, to add them to your playlist.

You must use the Copy command to copy events from the Playlist Files Manager; you cannot use the Cut command.

To add a *group* of new events to your playlist, use the Copy and Paste commands. Use the same guidelines that you used in the Playlist window for these commands. Playlist Files Manager also will allow you to select a group of consecutive or non-consecutive events.

Locating Sound Events

All CD tracks in a playlist must be from the same CD.

The Playlist Files Manager will help you locate and audition .WAV, and .MID files, or CD tracks, and add them to a playlist.

To locate and audition sound events, follow the steps below.

1. Click on the Add button in the Sound Event Manager window.

2. Select the type of sound event to be displayed by clicking on the appropriate View button. If you select .WAV or .MID, select the drive / directory which contain the files.

Auto Audition Sound Events

You can audition sound events by clicking on them in the Playlist Files Manager window. There is no need to use the Play button.

1. Click on Auto Audition from the Options menu to invoke this feature. *The default is OFF.*

CD-ROM Disk Titles

When you select CD from the Playlist Files Manager, Jukebox initially displays Untitled as the disk's title and Track 1, Track 2, etc, for each of its tracks. The Jukebox program will allow you to enter the correct titles (or any other text) before you copy them to the playlist. The titles you enter will be added to the playlist when you save it.

To enter a CD title, follow the steps below.

1. Load a CD into your CD-ROM drive.
2. Click on the Add button to enter the Sound Event Manager, then click on CD.
3. Place the cursor in the CD Title box and enter a title.

For any track you add from the CD to a playlist, the title will appear in the Playlist window's CD Title box. When you save the playlist, all contents of the Playlist window's CD Title box will be saved.

CD-ROM Track Names

For track titles to appear in a playlist, you must enter them in the Playlist Files Manager before placing tracks in the playlist. You cannot edit the track names in a playlist.

1. Load a CD following steps 1 and 2 above.

2. Place the cursor in the Track box and enter a Track name.

3. Enter a name into the Playlist Files Manager's Track Title text box. (You can remove the CD from the drive to look at the track titles. Make sure you replace it before continuing).

4. Save your playlist.

Once you have created a track list, you can copy titles from the CD track list into any playlist.

The CD track titles entered into the Playlist Files Manager cannot be saved. Before copying track titles to other playlists, it is recommended that you make a reference playlist for each CD.

Additional Information

- Jukebox is compatible with the Voyetra CD Player and Microsoft's Musicbox. It will automatically read disk titles and track lists created by either of these programs.

- Track lists saved with the Voyetra CD Player or Microsoft Musicbox, are saved in a file called MUSICBOX.INI. When Jukebox scans a disk, it checks to see if a MUSICBOX.INI track list exists for that CD. If one is found, the disk title and track name will automatically be displayed in the Playlist Files Manager.

Using Mixer for Windows

Mixer Parameters configured in either Windows or DOS will override the other.

The Mixer program allows you to mix input sources. You can digitally control the mixer on Sound Producer Pro in the Windows environment.

Double-click on the Mixer icon in the Sound Producer Pro window and the following menu will appear:

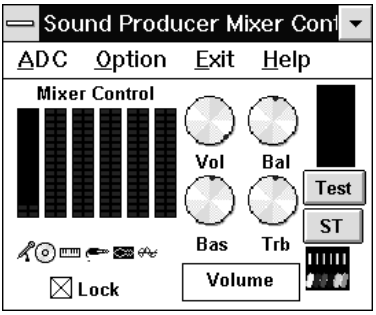


Figure 3.4: Sound Producer Pro Mixer Menu

There are six icons above Mixer Control on the menu. These selections allow you to individually control the volume of audio sources during playback operation. Select each one by clicking on the red horizontal bar above the icon, and moving the bar to the desired level. The selections available from left to right are:

Before configuring the CD, FM, Line in and Voice selections, Sound Producer Pro must be set to Stereo mode. To set Stereo mode, click on the ST selection from the Mixer menu.

Mic

The Mic icon controls the stereo volume for the Microphone Input in 8-step intervals.

CD

The CD icon controls the stereo volume for the CD-Audio in 16-step intervals.

FM

The FM icon controls the stereo volume for the FM Music Synthesizer in 16-step intervals.

Line in

The Line in icon controls the stereo volume for external audio equipment in 16-step intervals.

Voice

The Voice icon is the stereo volume control for the DACs (Digital-Analog Converters) in 16-step intervals.

COVOX

The COVOX icon is the volume control for the Disney Sound Source and Covox Speech Thing features in 16-step intervals.

Vol, Bal, Bas, Trb

There are four buttons on the Mixer menu—Vol (Volume), Bal (Balance), Bas (Bass), Trb (Treble), to control the sound. To adjust the master Volume, Balance, Bass or Treble, click on the control button and turn it to your desired level.

ADC

The ADC controls the digitized audio recording. Click on the ADC option and the following menu will appear:

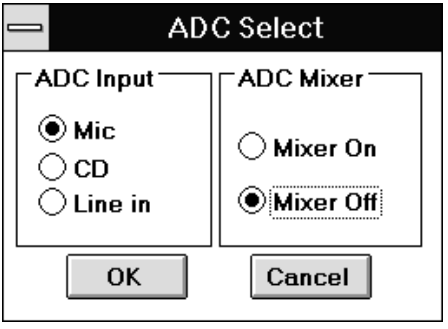


Figure 3.5: ADC Select Screen

ADC Input Select

From this selection you can choose the type of audio input source to be used during digitized audio recording. The recording input sources include the CD Audio, Line in, or Microphone. The recording level will be preset.

ADC Mix

ADC Mix gives you the option of enabling or disabling the recording mixer. If the ADC Mix is turned ON, the recording input source will be a combination of the Microphone, CD Audio, and Line in.

Option

Option allows you reset or save the current configuration. The following selections are available from the Option menu:

Reset Card

This selection resets all of the mixer volume control levels to their default settings.

Save Setting

You can store the individual volume settings of the mixer in the EEPROM. Storing the settings in the EEPROM will enable you to always startup with your selected settings.

Exit

Click on Exit to exit from the Mixer program, or press the <ALT> and <E> keys simultaneously.

■ Using WinDAT ™

WinDAT allows you to play, record, and edit digital audio files in the Windows environment. Features of WinDAT include easy-to-use tape deck styled control buttons, a Windows-type Clipboard, a graphic display of digital audio files, and powerful editing functions.

New sound files are easily created by "cutting" and "pasting" from existing sound files. You can also Cut and Paste between two different files. The Clipboard feature in WinDAT allows you to view the contents before pasting.

Quick Start

The following steps will familarize you with WinDAT, to get you up and running quickly. Double-click on the WinDAT icon from the Sound Producer Pro window. You can load one of the digital audio files included or one of your own.

1. Click on Open from the WinDAT File menu. The Files dialog box will appear.
2. From the Format list box, select WAV as the desired file format.
3. Change to the C:\PRODUCER\VOYETRA\SOUNDS directory where the digital audio files are located, or the directory where your files are located.
4. From the Files list box, double-click on the filename or click on Open. After the file loads, WinDAT will return to the main menu.

The filename will display at the top of the window, and a graphic display of the audio file will appear at the bottom of the window.

The File indicator will display the file length at the bottom right of the window.

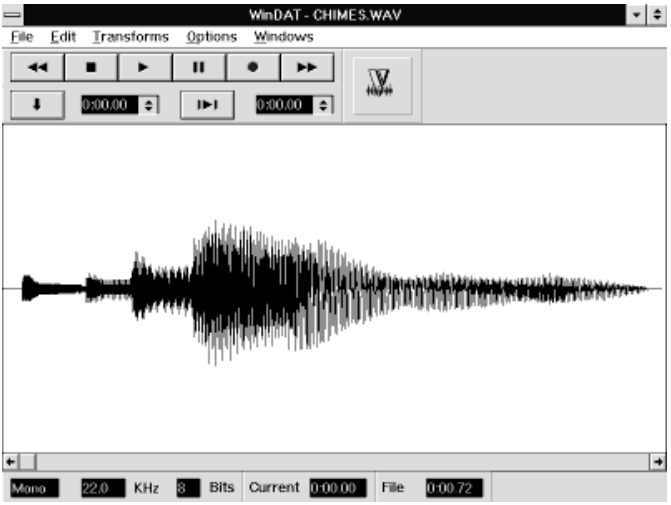


Figure 3.6 WinDAT Main Menu Screen

The main menu screen has several control areas as well as several options available. The control areas are as follows:

Menu Bar

Uses pull-down menus common to most Windows applications.

Transport Controls

Uses the Play, Stop, Record, Rewind, and Fast Forward control buttons, similiar to a tape deck or VCR. See the figure below:

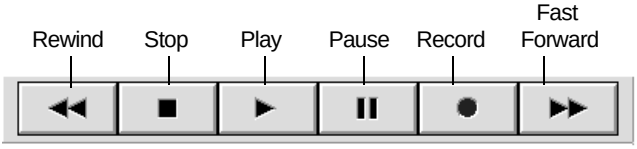


Figure 3.7: Transport Controls Screen

You also can control the playback and recording of an audio file with your PC's keyboard. Following is a list of the keyboard keys equal to the Transport Controls buttons.

Transport Controls	Keyboard Controls
Play	[Spacebar]
Stop	[Enter]
Rewind	[< ,]
Fast Forward	[> .]
Pause	[P]
Record	[R]

Range Controls

The Range Controls are used to mark, play, or edit a specific range of a digital audio file. The selected portion (range) of a file is defined by its starting and ending times in seconds. The starting and ending time of a range can be specified to precisely 1/100th of a second.

Mark Range

Allows you to mark a range while you listen to a file. When you hear the beginning of the section you want to select, click on the Mark Range button. Hold the button down while the file plays, then release it at the end of the section.

Start Time Controls

Displays the starting time of the selected range in the format of "minutes:seconds:hundredths of seconds". Click on the Start Time Controls box to move the upper arrow to increase the starting time, or click on the lower arrow decrease the starting time.

Play Range

Click on the Play Range button to start playback of the selected range.

End Time Controls

Displays the ending time of the selected range in the format of "minutes:seconds.hundredths of seconds". Click on the End Time Controls box to move the upper arrow to increase the ending time, or click on the lower arrow decrease the ending time.

Graphic File Display

Displays the waveform of the digital audio file loaded in WinDAT. A scroll bar allows you to scroll through the file. The waveform is displayed in the main menu window. See an example of a waveform in the figure below.

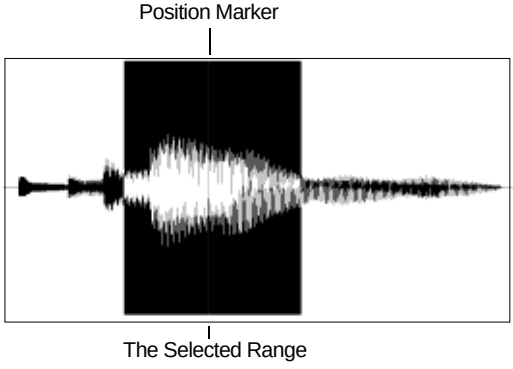


Figure 3.8: Graphic File Display (Waveform)

The horizontal axis represents the time; the vertical axis represents amplitude or loudness. The file length is displayed in the Status Area at the lower right of the window. The length of the file will determine the amount of time shown by the Graphic File Display.

Status Area

Gives information about the current file, such as Type, Sample Rate, Bit Length, current cursor position, and the total file size.

Mono/Stereo

Displays whether the audio file is in mono or stereo mode.

Sample Rate (KHz)

Displays the sample rate of the current audio file.

Bit Length (Bits)

Displays whether the audio file is 8-bit or 16-bit.

Current Position

Displays the current position in the audio file, in "minutes:seconds.hundredths of seconds."

File Length

Displays the file length in "minutes:seconds:hundredths of seconds."

Playing Files

To play a file, follow the step below:

1. Click the Play button in the Transport Controls area. The digital audio file will play through your sound system. Playback will stop when the file ends.

Auto Auditioning Files

Using the Auto Audition option, you can automatically preview audio files before playing them.

1. Click on Auto Audition from the Options menu. Click on Open or Save As from the Files menu. Select a file from the Files list box and WinDAT will play that file until you stop it or select another file.

Rewinding Files

You can choose to manually rewind a file, or setup for automatic rewind, which will rewind the file to the beginning after it stops.

1. For manual rewind, double-click the Rewind button in the Transport Controls area.

OR

2. Click on Auto Rewind from the Options menu. You can click on Auto Rewind again to disable it.

Recording Files

WinDAT can perform digitized audio recording operations. Make sure that you have selected your recording source and sound level.

1. Click on Setup from the WinDAT Windows menu. The Setup dialog box will appear.
2. Choose a sample rate from the list in the Sample Rate box, or you can type in any value between 4000 and 23000.
3. Choose a file format (WAV or VOC), click on Stereo, then click on 8-bit for the bit-length.

The Sound Producer Pro Mixer utility can be used to adjust the playback sound level and select your recording source.

Notes for Setup parameters

- Sound Producer Pro does not support 16-bit digital audio. An attempt to record or playback such a file will result in an "Unsupported Audio File Format" error message.
- Higher sample rates result in better audio quality; lower sample rates result in a smaller file size.
- Some slower computers may encounter problems recording at higher sample rates because they cannot write to the disk fast enough.
- WinDAT supports different bit lengths in both stereo and mono modes. However, it cannot convert files between stereo and mono modes, or between different bit lengths.

Once you have set WinDAT's recording parameters and verified your audio input source connections, you are now ready to record. Follow the instructions below.

1. To record from a CD or Tape player, "cue up" the material as needed.

2. Click on the Record button in the Transport Controls area. WinDAT will go into recording standby mode. This is confirmed by a change in the appearance of the Record button.
3. Click on the Play button to start recording. This is confirmed by an additional change in the appearance of the Record button. The recording process will begin.
4. Click on the Stop button to stop recording.
5. Rewind WinDAT and click on the Play button to hear what you have just recorded. If you are satisfied with what you have recorded, you can save the recording as a file.
6. Click on Save from the File menu. The Files dialog box will appear.
7. If you are saving a new file, you will be prompted to type in a file name. Select the directory where you want to store your file.

Editing Files

WinDAT provides powerful editing features which allow you to edit sections of a file. You can delete and copy a section, paste a new section, and insert a section of silence into a file. This is easily accomplished by specifiying the section or range of the file that you want to edit.

The range is indicated by the Start Time and End Time Controls in the Range Controls area. The Start and End times will show in reverse-video. This gives you the precise starting or ending time values of the selected range. The range controls are displayed as follows:

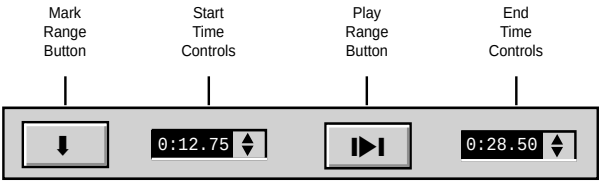


Figure 3.9: Range Controls

You have a choice of how to select the range values of your file. The choices are:

- Click on the Start Time or End Time controls and move up or down to reach your preferred start or end time.
- You can mark the starting/ending range while you listen to a file. When you hear the beginning of the section you want to select, click on the Mark Range button. Hold the button down while the file plays, and release it when you come to the end of the section. The range will display in the Start Time and End Time Controls boxes.

Use the following choices to clear a selected range, select the entire file, or play a selected range:

- To increase or decrease the start or end time, click on the Start and End Time controls and move up or down.
- To clear a range selection, click anywhere in the Start or End Time Controls displays.
- To select the entire file, double-click anywhere in the Start or End Time Controls displays.
- To play back a selected range, click the Play Range button in the Range Controls area.

Removing a Section of a File

One of WinDAT's powerful editing features, this option allows you to remove a portion of a selected file.

WinDAT has its own Clipboard. It does not use the Windows Clipboard.

1. Select the range of the file that you wish to remove.
2. Click on Cut from the Edit menu.
3. Play the file to hear the results of the edit.

The Cut command deletes the selected range from the file and places it in WinDAT's Clipboard. The rest of the file is shifted to fill in the gap.

Pasting in a File

Inserts the contents of WinDAT's Clipboard at the marked position and shifts all data to the right. You also can use the Cut or Copy command to place something in the Clipboard.

1. Click on Clipboard from the Windows menu to verify that the data was copied in the Clipboard. Press the Play button to check the contents of the Clipboard.
2. Click on New from the File menu to Paste into a new file, or you can Paste the contents in an existing file.

Pasting data into a new file will start the range at 0.00. To Paste in an existing file, select the point where you want to Paste the Clipboard contents by specifiying it as the range's starting point.

3. Click on Paste from the Edit menu. The contents of the Clipboard will be inserted at the specified starting point in either an existing or new file.

Mix Pasting in a File

Similar to the Paste selection, Mix Paste will mix the contents of the Clipboard with the data in the current file. A starting point must be specified.

Trimming a File

Deletes all data except the selected range. The contents of the Clipboard will remain the same.

Inserting Silence in a File

Inserts a break of silence (from .01 to 10 seconds) at the starting point of a selected range. The remaining data will shift from the starting position to the right. Use the slider in the dialog box to adjust the length of the silence.

Modifying Files with Transforms

WinDAT allows you to modify your digital audio files, using the "Transforms" option. All the Transforms functions (see the figure below) operate on a selected range.

Figure 3.11: Transforms Menu

Normalize

Balances the fullness of the selected range and pushes the peak value to the best sound possible. Normalize also optimizes the loudness of files recorded at a low levels.

Find Peak

Scans the selected range and displays a pop-up window which reports the amplitude and location of the loudest sound. It will set the start point marker one second before and set the end point marker to 1 second after, the maximum amplitude value. Find Peak also will find the beginning of a word in a file containing recorded speech, or locate an unwanted peak.

Scale

Scale will increase or decrease the loudness of a selected range. You must specify a factor range between .01 to 10.00. A scaling factor of 2.0 will double the amplitude and a factor of 0.5 will cut the amplitude in half. Scale also allows you to match the loudness between files before Cutting and Pasting between them. Use the steps below to scale the loudness of a selected range:

1. Select the range you wish to scale, or click on Select All from the Edit Menu to scale the entire file.
2. Click on Scale from the Transforms menu. The Scale dialog box will appear.
3. Place your mouse pointer on the slider and move it up or down to select a scaling factor and click OK.

Using WinDat's Windows Menu

WinDAT will save any changes made as the new defaults, and write them to the "DAT" section of your WIN.INI file.

Setup

The Setup option is used for selecting the File Format (VOC or WAV), Sample Rate, Stereo / Mono, Bit Length, Temp Directory and Work Directory.

1. Click on Setup from the WinDAT Windows menu. The Setup dialog box will appear.
2. Click on the selections for your audio file.

The Setup dialog box will always display the sample rate that the file was saved with. Changing the sample rate of an existing file will cause a change in the playback, speed, and pitch.

Data pasted from the Clipboard will play back at the sample rate of the current file.

Clipboard

This option gives information on the contents of the Clipboard. It displays information such as the file the data came from, and the length of the section cut. The contents of WinDAT's Clipboard are stored in a file in the selected Temp Directory. You can audition the contents of the Clipboard before you Paste.

Additional Information

- WinDAT cannot edit Voice (.VOC) files. If you load a .VOC file into WinDAT, the message "Compressed" will appear.
- Some .VOC files are saved in a "multi-chunk" format. If you load one of these files into WinDAT, you are given the following options:
  - Load the file only (you cannot use the Edit or Transforms options).
  - Convert the file to the "non multi-chunk" ".VOC" data format (this may expand the size of the file).

Appendix

A

TECHNICAL HELP

Orchid Technology is known for its responsiveness to its customers. Appendix A will give you helpful hints for troubleshooting the Sound Producer Pro.

Troubleshooting the Sound Producer Pro

The following information will help you diagnose problems you may have with the Sound Producer Pro.

Following these simple steps serves a two-fold purpose:

> You may be able to fix your problem and avoid having to contact the Orchid Technology Technical Support Department...
>
> or
>
> if these steps do not help you solve your problem, they will most certainly give you a better handle on what to tell the Technical Support Analysts once you do contact them.

The information provided here is in symptom / response form. That is, a symptom is given, and a check point response is provided for you to look at.

Symptom 1

No sound output during testing.

Check

1. Is the external speaker properly connected to the Sound Producer Pro Stereo Audio Output jack?
2. Has the Volume Control button been adjusted to about mid-range?

3. Is there another adapter in your system that may be using the same address (I/O Address, DMA Channel or Interrupt)? If so, change its addressing or select another address for Sound Producer Pro. (Refer to Chapter 2 - Configuring Sound Producer Pro).
4. Run " SPMIXTSR" to verify the volume settings.

Symptom 2

The computer locks up when running a Disney Sound Source compatible program.

Check

1. Have you configured a parallel port at address 378H, 3BCH, or 278H? Have you enabled the Disney Sound Source option?
2. Is your printer turned on? If so, turn off the printer and disconnect the printer cable from your PC's parallel port.
3. Run "SPSETUP" to test the parallel port.

Symptom 3

"**Disk Could Not Keep Up with Digital Audio Rate.**"

Check

1. Were you recording when you received this error message? Decrease the sample rate or bit resolution. If you where recording in stereo, switch to mono.
2. Have you de-fragmented your hard drive lately? Windat encountered a performance problem with your hard drive. Use one of the commercial disk optimizing utilities available. Excellent digital audio performance requires that you optimize your hard drive often.

Symptom 4

"**Could not load audio driver" or "General Protection Fault.**"

Check

1. Is the Sound Producer Pro audio driver installed in Windows?

   If so, from the Control Panel window, click on the Drivers icon, click on Add, and reload the "Sound Producer Pro WAVE & MIDI" driver (see the section on Changing the Address Settings in Windows). Restart Windows and check the sound again.

2. Have you re-installed the sound driver?

3. Did you change the default address settings? If so, you need to reset the address settings in Windows (see the section on Changing the Address Settings in Windows).

Symptom 5

"**The mouse cursor is jumping all over the screen, and I cannot control it.**"

Check

1. Change the Hex address of the Sound Producer and reload the Windows driver (run the SPCONFIG program and save the changes using SPSETUP). Reset the address settings in Windows (see step 3 above).

Appendix

B

TECHNICAL INFORMATION

The features and specifications of the Sound Producer Pro are covered in this Appendix. Included are the hardware address settings supported by the Sound Producer Pro, as well as specifications for the CD-ROM and the Game / MIDI Port.

Sound Producer Pro Technical Specifications

Features

Full compatibility with the following sound standards:

- Sound Blaster Pro II
- AdLib
- Disney Sound Source
- Covox Speech Thing

Video Standards Supported

MDA, CGA, EGA and VGA

Computers Supported:

ISA machines: IBM ATs—286, 386, 486, and compatibles

Card Size:

7.8" x 4.2"

Connectors:

DB-15 port for joystick / MIDI input
3.5 mm stereo jack for microphone input
3.5 mm stereo jack for speaker output
3.5 mm stereo jack for line input
On-board interface for AT-BUS CD-ROM drive
On-board SCSI controller socket for optional CD-ROM drive

Temperature:

Operating: from 0 to 40 degrees C
Storage: from -25 to 90 degrees C

Humidity:
Operating: from 15% to 90%
Storage: from 0% to 90%

Additional Features:

Synthesizer

- 20-voice Stereo FM Music Synthesizer with four FM operators

Stereo Digital / Analog Mixer (built-in)

- Selectable input and mixing of all audio sources for recording:
  - Line-in
  - PC Speaker
  - Stereo CD-Audio
  - Stereo DAC
  - Stereo FM Music
  - Stereo Microphone

Stereo Digitized Audio Playback

- Two 8-bit Digital-to-Analog Converters (DACs), for output of digitized sounds such as speech, music, and special sound effects
- Sampling Rate of :
  - 4KHz to 44.1KHz (mono)
  - 4KHz to 22.05KHz (Stereo)
- Hardware audio decompression ADPCM (ratios of 2:1, 3:1, and 4:1)
- DMA (direct memory access) or Programmed I / O transfer mode
- Stereo Dynamic Adaptive Filtering - 1.6KHz to 18KHz (programmable)

Sound Source DAC (8-bit)— sampling rate of 7KHz

Stereo Digitized Audio Recording

- Two 8-bit Analog-to-Digital Converters (ADCs), for recording sounds through all audio sources
- Sampling Rate of 4KHz to 44.1KHz
- DMA (direct memory access) or Programmed I/O transfer mode
- Stereo Dynamic Adaptive Filtering -1.6KHz to 18KHz (programmable)

CD-ROM

- Built-in AT-Bus CD-ROM interface
- Optional SCSI CD-ROM interface upgrade

Stereo power amplifier (built-in)

- 4 watts per channel
- Stereo headset connector
- Directly operates speakers and headphones

Game Port/MIDI Interface

- Standard built-in (15-pin D-sub) connector
- Game I/O port for PC analog joystick
- Built-in MIDI IN and MIDI OUT connector
- MIDI time-stamp for Multimedia extension
- Sound Blaster MIDI compatible
- 64-byte FIFO buffer

Stereo Microphone Input

- Automatic Gain Control for direct sound input

Volume control (software selectable)

- Master Volume—range of 60dB in 16-step intervals
- Left/Right Balance—range of +/-24dB

- Bass / Treble—range of + / -15dB in 16-step intervals
- Individual control for all audio sources—16-step intervals each
- Independent Left and Right Output Volume for stereo balancing—range of 64dB with 16-step intervals

Fade-in, fade-out, and panning features (software selectable)

SCSI CD-ROM Drives

Listed below are the CD-ROM Drives supported by the Sound Producer Pro when a SCSI chip is installed.

Chinon	CDS-431	
Denon	DRD-253	
Hitachi	CDR-1750S	CDR-3650U
LMSI / Philips	CM131 CM212	CM210 CM214
NEC	CDR-35 CDR-80	CDR-72 CDR-83
Panasonic	CR-501 LK-MC501	CR-522
Pioneer	DRM-600	
Sony	CDU-541 CDU-6111	CDU-6110 CDU-8022
Toshiba	XM-2100A XM-3200A XM-5100	XM-3100A XM-3301B

Address Selections

The Sound Producer Pro uses I/O addresses, Interrupt Channels and DMA Channels. All addresses are software configured by using the Hardware Configuration Setup program.

The charts that follow list all of the addresses available and descriptions. Also included are the specifications for the CD-ROM and the Game/MIDI Port.

I/O Port Addresses

Address	Description	Operation
200H - 207H	Game Port	write/read
Base + 0H	Left FM Music Status	read only
Base + 0H	Left FM Music Register Address	write only
Base + 1H	Left FM Music Data Port	read only
Base + 2H	Right FM Music Status	read only
Base + 2H	Right FM Music Register Address	write only
Base + 3H	Right FM Music Data Port	read only
Base + 4H	Mixer chip Register Address Port	write only
Base + 5H	Mixer chip Data Port	read/write
Base + 6H	DSP Reset	write only
Base + 8H	FM Music Status Port	read only
Base + 8H	FM Music Register Address Port	write only
Base + 9H	FM Music Data Port	read only
Base + 0AH	DSP Read Data	read only
Base + 0CH	DSP Write Data or Command	write only
Base + 0CH	DSP Write Buffer Status (bit 7)	read only
Base + 0EH	DSP Data Available Status (bit 7)	read only
388H	FM Music Status Port	read only
388H	FM Music Register Address Port	write only
389H	FM Music Data Port	read only

Table B.1: I/O Port Addresses

Default is 220H, with the option of selecting 240H.

Interrupt Channels

Interrupt	AT Machine
IRQ 0	Used By System Timer
IRQ 1	Used By Keyboard
IRQ 2	Free For Use
IRQ 3	Free For Use (or COM Port 2)
IRQ 4	Used By COM Port 1
IRQ 5	Free For Use
IRQ 6	Used By Diskette Controller
IRQ 7	Default Used by Sound Producer Pro
IRQ 10	Free For Use

Table B.2: Interrupt Addresses

Default is IRQ7, with the option of selecting IRQ2, IRQ5, or IRQ10.

DMA Channels

DMA Channel	AT Machine
DMA Channel 0	Free For Use
DMA Channel1	Default - Sound Producer Pro
DMA Channel 2	Used by Diskette Controller
DMA Channel 3	Free For Use

Table B.3: DMA Channel Addresses

Default is DMA Channel 1, with the option of selecting Channel 0, or Channel 3.

CD ROM Specifications

AT-Bus CD-ROM Interface Pin-Outs			
Pins	**Function**	**Pins**	**Function**
01	Ground	02	CD-Reset
03	Ground	04	Ground
05	Ground	06	Operation Mode bit 0
07	Ground	08	Operation Mode bit 1
09	Ground	10	CD-Write
11	Ground	12	CD-Read
13	Ground	14	CD-Status bit 0
15	Ground	16	No Connection
17	Ground	18	No Connection
19	Ground	20	CD-Status bit 1
21	Ground	22	CD-Data Enable
23	Ground	24	CD-Status bit 2
25	Ground	26	CD-Status/Data Enable
27	Ground	28	CD-Status bit 3
29	Ground	30	Ground
31	CD-Data 7	32	CD-Data 6
33	Ground	34	CD-Data 5
35	CD-Data 4	36	CD-Data 3
37	Ground	38	CD-Data 2
39	CD-Data 1	40	CD-Data 0

Table B.4: AT-Bus Pin-Outs

SCSI CD-ROM Interface Pin-Outs			
Pins	**Function**	**Pins**	**Function**
01	Ground	02	Data Line: bit 0
03	Ground	04	Data Line: bit 1
05	Ground	06	Data Line: bit 2
07	Ground	08	Data Line: bit 3
09	Ground	10	Data Line: bit 4
11	Ground	12	Data Line: bit 5
13	Ground	14	Data Line: bit 6
15	Ground	16	Data Line: bit 7
17	Ground	18	Data Line: Odd Parity
19	Ground	20	Ground
21	Ground	22	Ground
23	Ground	24	Ground
25	No Connection	26	Terminator Power
27	Ground	28	Ground
29	Ground	30	Ground
31	Ground	32	Attention (initiator driven)
33	Ground	34	Ground
35	Ground	36	Bus is busy (or Tied)
37	Ground	38	Acknowledge
39	Ground	40	Resets The Bus (or Tied)
41	Ground	42	Message
43	Ground	44	Select (ID is on data lines)
45	Ground	46	-Control/Data
47	Ground	48	Request bus transaction
49	Input/-Output	50	Ground

Table B.5: SCSI Pin-Outs

Game/MIDI Port Specifications

The Game port on Sound Producer Pro is identical to the standard PC Game Control adapter. The 15-pin D-sub connector is also used as the built-in MIDI interface. If your PC has a game port, you can disable the game port on Sound Producer Pro (Refer to Chapter 2—Hardware Configuration Setup). See the diagram below for the port specifications.

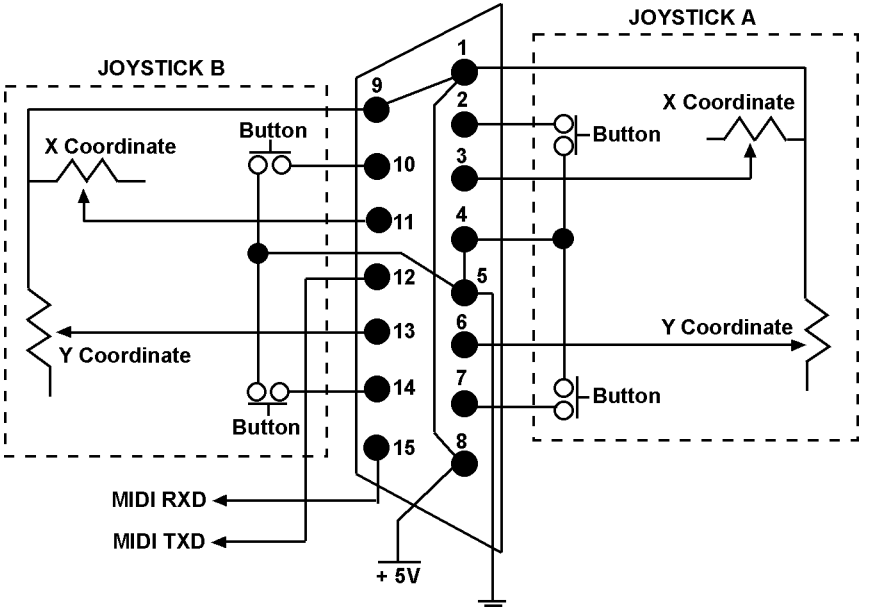


Figure B.1: Game/MIDI Port Wiring Diagram

FCC NOTICE

FCC# 138-SGNXPRO

Sound Producer Pro
Certified compliant with FCC Class B limits, part 15

To meet FCC requirements, shielded cables are required to connect the unit to a Class B certified device

"This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation."

This equipment generates and uses radio frequency energy and, if not installed and used properly in strict accordance with the manufacturer's instructions, may cause interference to radio or television reception.

This device has been tested and found to comply with the limits for a Class B computing device in accordance with the specifications in Subpart J of Part 15 of FCC Rules, which are designed to provide reasonable protection against such interference in a residential installation. Only equipment (computer input / output devices, terminals, printers, etc.) certified to comply with the Class B limits may be attached to this product.

If this equipment causes interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try and correct the interference by one or more of the following measures:

1. Reorient the receiving antenna.
2. Relocate the computer with respect to the receiver.
3. Move the computer away from the receiver.
4. Plug the computer into an outlet which resides on a different circuit breaker than the receiver.
5. If necessary, consult your dealer, or an experienced radio or television technician for additional suggestions.

You may find the booklet **How To Identify and Resolve Radio-TV Interference Problems** helpful. It was prepared by the Federal Communications Commission and is available from the U.S. Government Printing Office, Washington, DC 20402. Refer to stock number: 004-000-00345-4.

Orchid Technology is not responsible for any radio or TV interference caused by unauthorized modifications to this equipment. It is the responsibility of the user to correct such interference.

Operation with non-certified equipment is likely to result in interference to radio and TV reception. The user must use shielded interface cables in order to maintain the product within FCC compliance.

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