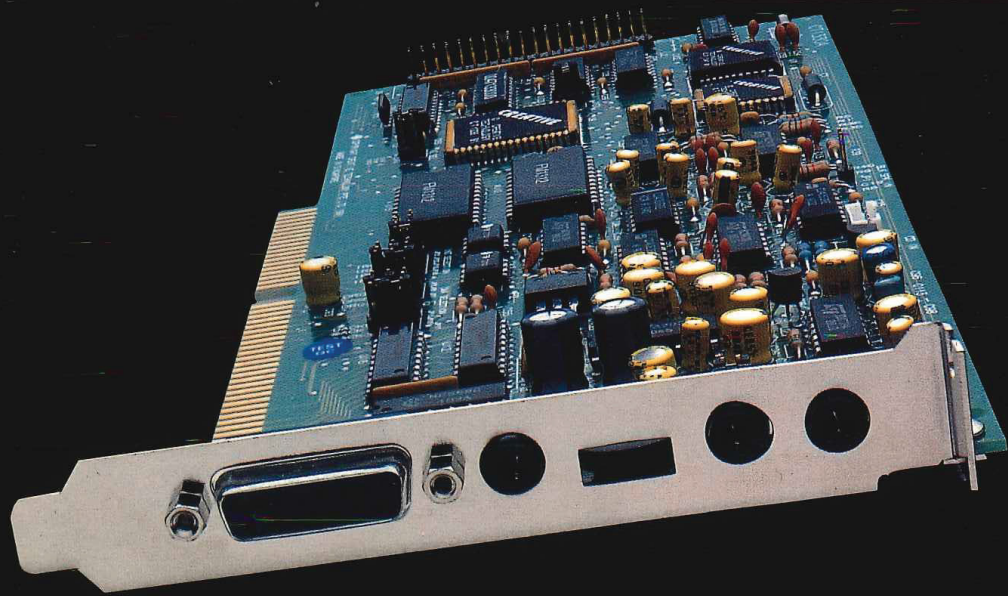


CREATIVE LABS, INC.

SOUND BLASTER *PRO*

Stereo/Music/Voice/Speech/MIDI/CD-ROM Interface/Game Port

The Multimedia Sound Standard



Full Downward Compatibility with SOUND BLASTER. Total Software Transparency.
Full Compliance with Microsoft Multimedia Level 1 Extensions to Windows.

**USER
REFERENCE
MANUAL**

**SOUND
BLASTER**

PRO

USER REFERENCE MANUAL

Copyright © Creative Labs, Inc., 1989-1991
Copyright © Creative Technology Pte Ltd., 1989-1991

Creative Labs, Inc. License Software Statement

The software described in this manual is protected by copyright laws internationally. Therefore you must not copy it for any purposes other than backing-up our software and protecting your investment from loss.

The software must not be used on two or more machines at the same time.

W A R R A N T Y

Creative Labs, Inc. warrants that the physical diskettes and documentation enclosed herein to be free of defects in workmanship for a period of 60 days from the date of purchase. In the event of a defect in material or workmanship during the warranty period, Creative Labs, Inc. will replace the defective diskettes or documentation when the defective product is returned to Creative Labs, Inc. by the owner. The remedy for this breach of warranty is limited to replacement only and shall not cover any other damages, including but not limited to the loss of profit, special, incidental, consequential and other similar claims.

Creative Labs, Inc. specifically disclaims all other warranties, expressed or implied, including but not limited to implied warranties of merchant ability and fitness for a particular purpose with respect to the defects of the products and program license granted herein. With respect to the use of this product, in no event shall Creative Labs, Inc. be liable for any loss of profit or any other commercial damage, including but not limited to special, incidental, consequential or other damages.

IBM, PS/2 are registered trademark of International Business Machines Corp.
Voyetra Sequencer Plus is a registered trademark of Voyetra Technologies
MSDOS, Windows are registered trademark of Microsoft Corp.
AutoDesk Animator is a registered trademark of Autodesk Inc.
Tandy is a registered trademark of Tandy Corp.
AdLib is a registered trademark of Adlib Inc.

FCC NOTICE

This card has been tested and found to comply with the limits for a Class B digital device, pursuant to of Part 15 of the FCC Rules. These limits are designed to provide reasonable protected against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encourage to try to correct the interference by one or more of the following measures:

Reorient or relocate the receiving antenna.

Increase the separation between the equipment and receiver.

Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

Consult the dealer or an experience radio/ TV technician for help.

CAUTION

To comply with the limits for the Class B digital device, pursuant to Part 15 of the FCC Rules, this card must be installed in computer equipmentscertified to comply with the Class B limits. All cables used to connect the computer and peripherals must be shielded and grounded. Operation with non-certified computers or non-shielded cables may result in interference to radio or television reception.

FCC ID : IBACT-SBP 1330

MODIFICATION

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

Creative Labs, Inc.

2050 Duane Avenue Santa Clara CA 95054

USA Technical Support Line: **(408) 982 9226**

SOUND BLASTER *PRO*

Please read the "README" file, if any, for the latest information concerning the SOUND BLASTER PRO which is not available at printing time. To read this file, type:

README

USA Technical Support Line: (408) 982 9226

CONTENTS

Chapter 1	Introduction
Chapter 2	Installation Notes
Chapter 3	Joystick Port/MIDI Connector
Chapter 4	Using Sound Blaster Pro With Other Software
Chapter 5	The Talking Parrot
Chapter 6	SBTalker Text-to Speech Synthesizer
Chapter 7	Dr. Sbaitso-Your Personal Consultant
Chapter 8	MMPlay-Multimedia Presentations
Chapter 9	Voice Editor II
Chapter 10	Voice Utilities
Chapter 11	FM Intelligent Organ (Stereo Version)
Chapter 12	CD Player
Chapter 13	SBP-MIX & SBP-SET Mixer Input & Volume Control
Chapter 14	Windows Applications Jukebox, Mixer Control
Appendix	Appendix A Appendix B Appendix C Appendix D Appendix E

SOUND BLASTER *PRO*

Chapter

1

INTRODUCTION

INTRODUCTION1-1

SOUND BLASTER *PRO*

INTRODUCTION

Creative's SOUND BLASTER PRO

Welcome to the world of Multimedia - a dream made true by the Sound Blaster Pro from the CREATIVE group of people.

We, at CREATIVE, have had this dream since 1986, when we launched our talking computer - CUBIC-CT. It was a multimedia, multi-lingual PC that had music, voice-input, voice-output, enhanced graphics, huge ROM Disk, multi-lingual - all built into the computer. A great technological feat at that time. But CUBIC-CT was way ahead of its time - because there was very little software to support the multimedia features.

Today, when we launched Sound Blaster Pro, we have completely reversed the situation. Sound Blaster Pro being 100% compatible with Sound Blaster has a tremendous amount of software support from day one. These are quality Entertainment, Education, Music, Multimedia and Productivity software developed in-house by Creative Labs and more than 5000 third-party developers all over the world.

And many new and exciting multimedia applications that utilize the SOUND BLASTER PRO's extra features are on their way to flood the market. You will wonder how you will ever compute without Sound Blaster Pro, just as the mouse or VGA graphics.

Sound Blaster Pro is essentially TWO SOUND BLASTERS put into one - you have almost two of everything on the Sound Blaster :

- ▶ Dual DACs for stereo or mono digitized voice output
- ▶ Stereo/Mono ADC for sampling voice in stereo or mono,
- ▶ You can now sample from the microphone, Line-in or even from the CD-Audio.
- ▶ Dual FM music synthesizer chips - to give you 22 voices of stereo FM music.
- ▶ The maximum sampling rates of the DAC and ADC are increased to 44.1KHz (22.05KHz in stereo).

SOUND BLASTER *PRO*

PLUS - all the audio signals are controlled and mixed by a very versatile digital/analog Mixer built in the Sound Blaster Pro. The Mixer allows mixing of the following audio sources :

- ▶ Digitized stereo sound
- ▶ FM stereo music
- ▶ Microphone
- ▶ Line-in
- ▶ CD-Audio

AND can you imagine what if you can control their individual volumes by software? The outcome is awesome and breathtaking.

Then we still have the joystick port and the MIDI interface. The MIDI interface has a 64 byte buffer with full duplex and time stamping features.

We are really proud that the Multimedia PC sound standard was developed based on the specifications of the Sound Blaster. Sound Blaster Pro naturally exhibits full compliance to the Multimedia PC standard.

To be ready for the Multimedia PC. We have added a CD-ROM interface on the Sound Blaster Pro. You may attach an internal or external CD-ROM Drive at a much lower cost in the near future. Check with us when you are ready to go into CD-ROM.

We don't stop here. To further the multimedia cause, we want to be sure that you are all set up for it from day one. You might be aware that Sound Blaster is already bundled with many software. Now, we have decided to bundle in three more products which we used to sell:

- ▶ SBPRO VOICE EDITOR software
- ▶ SB MIDI KIT which consists of a MIDI Adaptor Plug with MIDI cables and Voyetra's SEQUENCER PLUS software
- ▶ MMPLAY - Script based multimedia presentation software

SOUND BLASTER ^{PRO}

These great values in Sound Blaster Pro allow you to be productive in Multimedia from day one if you wish. Or just enjoy the good old Sound Blaster favorites that are now improved:

- ▶ FM Intelligent Organ (now in stereo)
- ▶ Talking Parrot (now more fun)
- ▶ Dr SBAITSO2 (Text-to Speech, now crazier)

Of course, you can run the numerous amazing games that provide you with great voices, music and action. Don't forget, the Sound Blaster Pro is not just for games, it is also for the Professionals, and there are many other great education, music, multimedia and productivity software that support the Sound Blaster Pro.

The multimedia day has come, and we are really glad that you are on board. We thank you for your purchase of the Sound Blaster Pro, a product that we think will change the way you compute forever.

Creative Labs, Inc.
Creative Technology Pte Ltd.

SOUND BLASTER *pro*

INSTALLATION NOTES

INSTALLATION NOTES	2-3
Installing the Sound Blaster Pro Card	2-3
Testing the Sound Blaster Pro Card	2-5
Manual TEST-SBP	2-6
Changing the Jumper Settings	2-7
Changing I/O Address	2-7
Changing Interrupt Line	2-7
Changing DMA Channel	2-7
Installing Software	2-8
Set Sound Environment	2-9
Set Sound	2-9
Set Blaster	2-10
SET-ENV	2-10
Installing Sound Drivers (INST-DRV)	2-10

SOUND BLASTER *PRO*

INSTALLATION NOTES

The Sound Blaster Pro can be used on IBM AT 286s, 386s, 486s, PS/2 (model 25/30), Tandy AT and compatibles.

The MMPLAY software requires a VGA adaptor to run properly. The rest of the bundled software require at least EGA graphics to run.

Installing the Sound Blaster Pro Card

- ▶ Switch off the power supply of the computer and remove the top cover.
- ▶ Plug the Sound Blaster Pro card into any free 16-bit slot of the computer.
- ▶ Connect the Sound Blaster Pro card to stereo speakers or headphones or to your home stereo set. (Refer to Figure 1).

Warning: The built-in stereo power amplifier has a maximum output power of four watts per channel with four ohms speakers and two watts per channel with eight ohms speakers. Do not play at maximum volume if your speaker are not capable of handling this power.

- ▶ Adjust the volume control of the Sound Blaster Pro card to mid range.
- ▶ Replace the top cover of the computer and switch on the computer.
- ▶ After booting up your system, you can proceed to test the Sound Blaster Pro card. The next section provides a detailed discussion on the diagnostic program TEST-SBP.
- ▶ Please refer to **Appendices D** and **E**, if you need to connect Sound Blaster Pro to the CD-ROM drive or the PC's internal speaker.

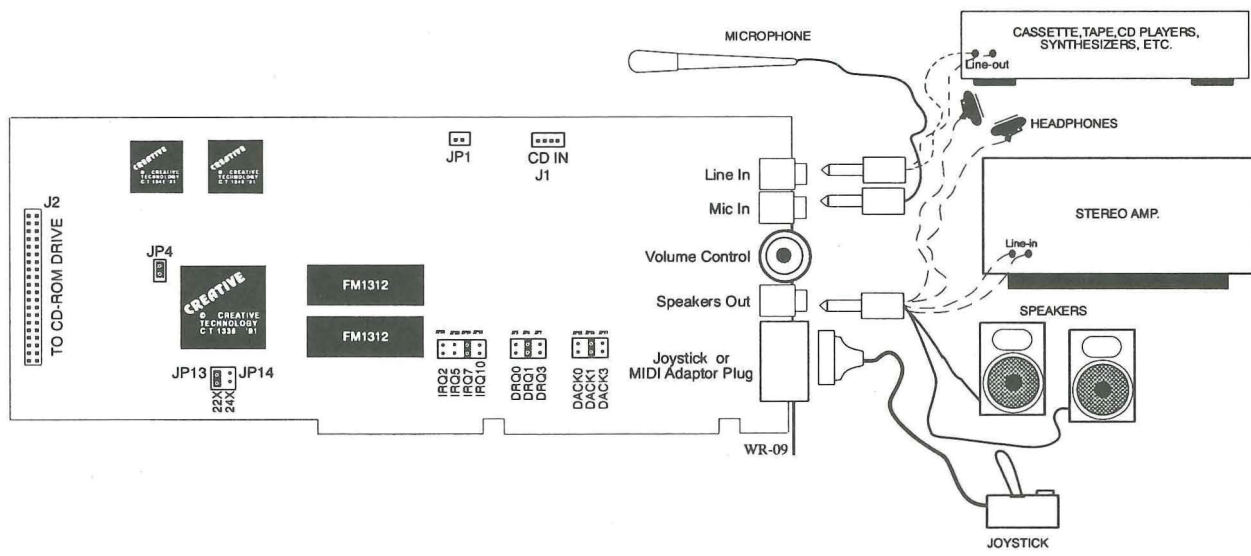


Figure 1

Testing the Sound Blaster Pro Card

The diagnostic program for Sound Blaster Pro card, **TEST-SBP**, is found on the diskette labeled **Sound Blaster Pro Disk #1**.

Place this disk into drive A and type:

TEST-SBP

This program tests the basic hardware configuration of Sound Blaster Pro. These include the base I/O address, interrupt and DMA channel. These settings are jumper selectable. (Refer to Figure 1 for details).

The program starts the test by scanning the jumper setting to identify the hardware configuration. Once the hardware configuration is identified, a menu display lets you test the voice/music output.

The automatic scanning process lets you install the card easily. It scans for the factory defaults and then checks for other settings if the default setting has been changed. Listed below are the defaults and other possible settings.

Hardware Configuration Settings

I/O Port Address:

220 - 237 Hex (factory default)

240 - 257 Hex

Interrupt Line:

2

5

7 (factory default for digitized sound)

10

DMA channel:

0

1 (factory default for digitized sound)

3

The automatic scanning of hardware configuration process might not work due to hardware conflicts with other adaptor cards in your system. These cards may use the I/O port, interrupt or DMA channel that the test program accesses.

Manual TEST-SBP

You can avoid hardware conflicts by executing **TEST-SBP** with the optional **/M** switch for manual selection. For example:

TEST-SBP /M

With this switch, the program will prompt you to select a possible hardware configuration manually. Select the option that matches the jumper settings on the card.

If the test program reports an error on one of the settings, it indicates a hardware conflict between Sound Blaster Pro and another hardware card.

To resolve the conflict, you need to change the hardware configuration on the other adaptor card or the Sound Blaster Pro card. We strongly suggest that you avoid changing the factory default setting of Sound Blaster Pro. This is because Sound Blaster Pro is backward compatible with the Sound Blaster card. To support previous Sound Blaster software, you should set your Sound Blaster Pro at I/O address: 220 or 240, DMA channel 1 and interrupts 2, 5, or 7.

If you decide to change the hardware configuration on the Sound Blaster Pro card, please refer to **Changing Jumper Settings** and **Appendix C**, for solving any installation problem.

If you have changed the factory default configuration, you must install the drivers discussed in **Installing Sound Drivers**.

Changing Jumper Settings

This section describes how to change the jumper setting of the I/O address, Interrupt line and DMA line.

Switch off the computer and remove the Sound Blaster Pro card from the computer. Locate the jumpers by referring to Figure 1.

Changing I/O Address

I/O address is selected by JP13 and JP14. To change the factory default I/O address from 220H to 240H, pull the jumper from JP13 (22X) and plug it into JP14.

- JP13 (22X) - 220-237 Hex I/O Address (default)
- JP14 (24X) - 240-257 Hex I/O Address

Changing Interrupt Line

The Interrupt Line can be selected by putting the jumper on one of the following:

- JP21 (IRQ2) - Interrupt Line 2
- JP20 (IRQ5) - Interrupt Line 5
- JP19 (IRQ7) - Interrupt Line 7 (default)
- JP18 (IRQ10) - Interrupt Line 10

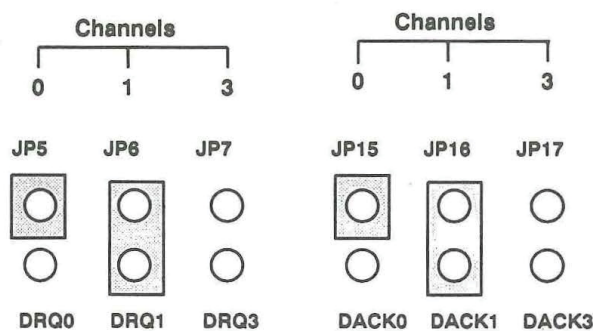
Changing DMA Channel

Four jumpers are used to select the DMA channels for the SB (Digitized Sound). There are three DMA channels available: 0, 1 and 3. The DACK jumpers must have the same settings as the DRQ jumpers. The diagram shows the factory defaults where the SB set to Channel one.

SOUND BLASTER *PRO*

The pins are used to select the DMA channel for Sound Blaster Pro (SB). We suggest that you do not change the digitized sound (SB) default from DMA channel one.

Installing Software



Important: The Sound Blaster Pro's software is distributed in compressed format, you need a hard disk to install the software.

The hard disk's installation program, **INST-HD**, is on the diskette labeled as **Sound Blaster Pro Disk #1**. Place this diskette in your floppy drive and execute the program giving the destination drive name of the hard disk. For example:

INST-HD C:

INST-HD installs the Sound Blaster Pro's software under the directory **\SBPRO**. Several subdirectories are automatically created under this directory.

Note: Before executing any Sound Blaster Pro program, you must set up two environment strings, refer to **Set Sound Environment**.

Important: From this point, it is assumed that you are in **\SBPRO** subdirectory.

SOUND BLASTER *pro*

Important: From this point, it is assumed that you are in \SBPRO subdirectory.

Set Sound Environment

Before you run any Sound Blaster Pro's software, you need to setup two environment strings;- **SOUND** and **BLASTER**. (Please refer to your DOS manual on the **SET** environment command, if necessary).

Set Sound

The **SOUND** environment string specifies the Sound Blaster Pro's software directory. Many software packages rely on this environment setting to locate the sound drivers and other Sound Blaster Pro files.

The hard disk install program modifies your AUTOEXEC.BAT file to include the command **SET SOUND=C:\SBPRO** for setting the **SOUND** environment string (assuming your Sound Blaster Pro's software is installed in C:).

Note: There is no space before or after the = (equal) sign.

Currently, Voice Editor II, FM Intelligent Organ and MMPlay sound drivers are located in the \DRV subdirectory under the path specified in the **SOUND** environment string.

Set Blaster

The **BLASTER** environment string specifies the base I/O address, interrupt and DMA channel hardware configuration of your Sound Blaster Pro card.

The command for setting the **BLASTER** environment string with factory default setting is

SET BLASTER=A220 I7 D1

where:

A specifies the base I/O port. It is either 220 or 240.

I specifies the interrupt line. It is 2, 5, 7 or 10.

D specifies the DMA channel. It is 0, 1 or 3.

Note: There is no space before or after the = (equal) sign. But, there must be at least a space between two settings.

SET-ENV

The SET-ENV program found in the \SBPRO directory helps you identify the hardware configuration on your card and modifies the AUTOEXEC.BAT file to include the set BLASTER environment string based on your hardware configuration.

It is necessary to run this program after installing the software or after changing the hardware configuration.

Installing Sound Drivers (INST-DRV)

This section is meant for those who have changed the default I/O port address, interrupt and DMA. When hardware configurations are changed, the various drivers must be re-installed with the new changes.

This re-installation is necessary for running Sound Blaster applications which do not support the BLASTER environment string. For these applications, you have to install the driver with your new hardware settings.

The command format is :

INST-DRV [directory]

Assuming that you are in \SBPRO directory, to install the SBFMDRV.COM, just enter:

INST-DRV

SOUND BLASTER *PRO*

To install CT-VOICE.DRV and ORGAN.DRV, just enter:

INST-DRV \SBPRO\DRV

Once in INST-DRV, select the correct I/O port address, interrupt and DMA channel. The program will check and verify the configuration and display a list of drivers found in the directory. Just select the driver you want to install.

SOUND BLASTER *PRO*

JOYSTICK PORT / MIDI CONNECTOR

JOYSTICK PORT / MIDI CONNECTOR	3-3
Disable Joystick Port	3-3
Double Joysticks	3-3
MIDI and MIDI Adaptor	3-4
MIDI Software	3-4

SOUND BLASTER *pro*

JOYSTICK PORT / MIDI CONNECTOR

The Joystick Port on the Sound Blaster Pro is identical to that on the standard PC Game Control Adaptor (or Game I/O port). It uses an analog joystick with a 15-pin D-Sub connector. It supports any software that uses the standard PC joystick.

This 15-pin connector also serves as the MIDI interface of the Sound Blaster Pro. With the joystick port replicated on the MIDI adaptor, both the MIDI device and Joystick can share one slot, leaving more room on your PC for other peripheral cards.

Disable Joystick Port

If your computer already has a joystick port (or Game I/O card), you can remove it and use the one on the Sound Blaster Pro.

If you do not wish to remove it, perhaps that card also serves other functions, you must disable the joystick port on the Sound Blaster. This is because the two identical joystick ports will clash with each other.

Disabling the Sound Blaster Pro joystick port can be done by removing the jumper JP4 on the card. (See figure 1 for the location of this jumper). The MIDI port is not affected by the removal of this jumper.

Double Joysticks

If you need to run two joysticks from the Sound Blaster Pro Joystick Port, a Joystick Splitter Y-Cable is separately available from Creative Labs, Inc. A Y-cable from other companies might not work for Sound Blaster Pro.

MIDI and MIDI Adaptor

The MIDI interface of the Sound Blaster Pro implements the standard recommended by the International MIDI Association.

To connect the Sound Blaster Pro to a MIDI keyboard (or synthesizer), you need to plug the MIDI Adaptor cable with the MIDI Kit to the Joystick/MIDI connector. This MIDI Adaptor is required because the standard MIDI IN/OUT plugs will not fit the computer interface connectors.

Two MIDI cables are provided with the MIDI Adaptor. You will not miss the joystick port as it is replicated on this MIDI Adaptor.

Plug the MIDI Cable end marked MIDI-OUT to the MIDI-IN of the keyboard, and plug the MIDI-IN of the cable to the MIDI-OUT of the keyboard.

You do not need a MIDI-THRU because your PC will be used as the MIDI host. MIDI-THRU is only found on MIDI instruments.

To connect to more MIDI instruments, you can use the MIDI-THRU of the MIDI instruments to daisy chain instruments, or get the optional MIDI Box from Creative Labs. This box gives one MIDI-IN and five MIDI-OUTs.

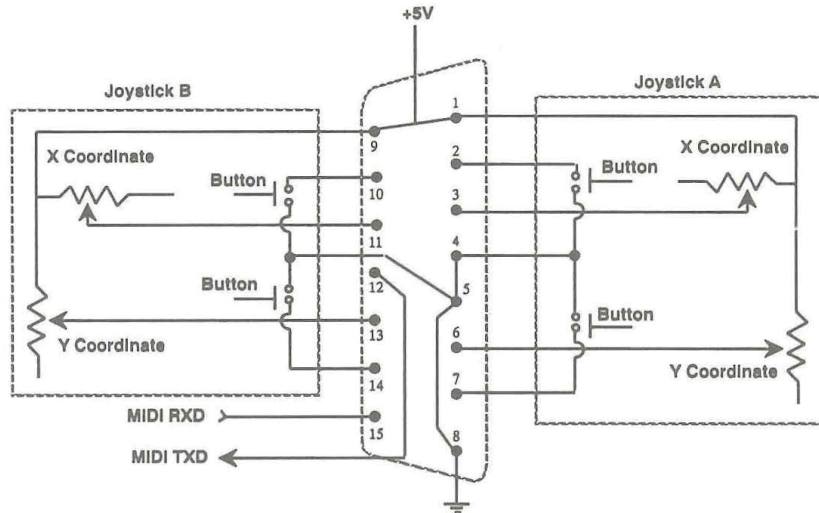
MIDI Software

A MIDI Adaptor and MIDI keyboard do not complete the list for a MIDI setup. You still need software.

For starters, the bundled SFM Intelligent Organ software supports the MIDI keyboard. You are able to play on the computer keyboard as well as the MIDI keyboard.

For music pro (or to be), you can use the MIDI Sequencer Sp Pro software that comes with the MIDI Kit to play music using a MIDI keyboard or the internal FM music Synthesizer.

Joystick / MIDI Port Wiring Diagram



SOUND BLASTER *PRO*

Chapter

4

USING SOUND BLASTER PRO WITH OTHER SOFTWARE

USING SOUND BLASTER PRO WITH OTHER SOFTWARE	4-3
Third Party Software Support	4-3

SOUND BLASTER *PRO*

USING SOUND BLASTER PRO WITH OTHER SOFTWARE

The Sound Blaster Pro is the sound card that has the largest library of supporting software. We are constantly introducing new and innovative software for Sound Blaster Pro.

A Sound Blaster Developer Kit is available for those who wish to write software that makes use of Sound Blaster Pro. See the "Optional Hardware and Software Catalog" for details.

A SOUND BLASTER Windows Developer Kit is also available now for those who wish to write Windows 3.0 application.

Third Party Software Support

Music/sound drivers are usually included in third party software. Just pick the sound/music card from the install menu or from their instructions given. The sound/music card could be one of the following :

- ▶ Sound Blaster
- ▶ Sound Blaster Pro
- ▶ AdLib* Music Card

Sound Blaster Pro will be automatically supported by the Windows 3.0 with Multimedia extension. Just pick the right drivers during installation.

SOUND BLASTER *pro*

THE TALKING PARROT

Getting Started	5-3
Customizing Your Parrot	5-4
Making Parrot Voices	5-4
Talking Parrot Voice Files	5-5

SOUND BLASTER *PRO*

THE TALKING PARROT

Getting Started

This mischievous parrot likes to mimic speech. It talks back, sometimes with outrageous remarks and it even giggles when tickled. The purpose of this software is to provide you with a demonstration on the power of the Sound Blaster Pro and to give you some hands-on experience in using its voice capabilities combined with graphics.

You can say anything you want, in any language. You can press any key or simply leave it alone and see what happens.

Important: This program requires an AT (286) computer to run properly. A microphone plugged into the Sound Blaster Pro card is also required. If the microphone has a switch, make sure it is turned **ON**.

To start the program:

1. Change to the **\SBPRO** directory.
2. Type **PARROT** and press **Enter**.
3. When the screen displays a graph indicating noise level, press **Enter** and type a number that is ten counts above the noise level displayed (140 to 230) and press **Enter** again.

Example: If the graph displays 130, type **140** and press **Enter**.

4. When the parrot finishes its opening remarks, speak into the microphone.

Important: Speak directly into the microphone with sufficient volume so that the parrot can hear you.

5. Press the **Escape** key to leave the program.

Customizing Your Parrot

For those who want more fun out of the Talking Parrot, you can customize it by creating your own pictures and voices. There are four PCX format pictures used to make up the parrot. You can use any paint or draw program that saves in the .PCX format to create your own version of the Talking Parrot.

Give your drawings the same file names as those listed in the table and copy them to the **\SBPRO\PARROT** directory.

Parrot .PCX Picture Files	
EGA/VGA	Description
PARROT.E0	Parrot with mouth closed
PARROT.E1	Parrot with mouth open
PARROT.E2	Parrot with mouth wide open
PARROT.E3	Parrot with eyes and mouth closed

Making Parrot Voices

The pre-recorded voices for the Talking Parrot are stored in the PARROTV.VCB file. This file contains all 21 voices. To create your own voices, use Voice Editor II to record the 21 voice and give them the same names shown in the table. Store these files in the SBP/PARROT directory.

To create the .VCB file:

- ▶ From the **\SBPRO\PARROT** directory type **MAKEPV** and press **Enter**.

Important: Make sure that:

- ▶ All files are recorded at 10,000Hz sampling rate
- ▶ The voice data is **NOT** packed
- ▶ Each voice data in each file does not exceed 64K
- ▶ The sum of the size of the 21 voices must **NOT** exceed the free memory after the Talking Parrot is loaded. To be on the safe side, keep the file size less than 250K.

Note: The program MAKEPV used to create the PARROTV.VCB file checks for the existence of the original PARROTV.VCB file and ask for your permission to overwrite it.

Talking Parrot Voice Files

The following tables contain the 21 voice files that make up the PARROTV.VCB.

Random Greeting Message Files	
File Name	Description
PVOC-A.VOC	Hello there
PVOC-B.VOC	Hi I how are you ?
PVOC-C.VOC	Good day
PVOC-D.VOC	Welcome to the show.
PVOC-E.VOC	I'm a talking parrot.
PVOC-F.VOC	Please talk to me.
PVOC-G.VOC	Nice to see you.
PVOC-H.VOC	Please say something.
PVOC-I.VOC	Have a nice day.
PVOC-J.VOC	Goodbye.
The Parrot will say files PVOC-A, PVOC-E and PVOC-D at start up. When you quit the parrot says PVOC-J and PVOC-I.	

Random Reply Message Files	
File Name	Description
PVOC-K.VOC	Oh ! You sound terrible
PVOC-L.VOC	Yak ! You have bad breath
PVOC-M.VOC	What are you saying?
PVOC-N.VOC	What are you saying? (angrily)
PVOC-O.VOC	Don't talk nonsense
The Parrot will randomly refuse to play back the recorded voice and will send out one of these messages instead.	

SOUND BLASTER *PRO*

Reaction Message to Keyboard Files	
File Name	Description
PVOC-P.VOC	Ouch
PVOC-Q.VOC	Ooo..h
PVOC-R.VOC	Don't touch me
PVOC-S.VOC	Go away
PVOC-T.VOC	Hee..hee..hee
PVOC-U.VOC	Herr..herr..herr

When the keyboard is pressed, the Parrot will randomly send out one of these messages

SBTALKER TEXT-TO-SPEECH SYNTHESIZER

SBTALKER - Text-to-Speech Synthesizer	6-3
Removing SBTALKER	6-4
EMS Memory	6-4
Using the Read Program.....	6-4

SOUND BLASTER *PRO*

SBTALKER

TEXT-TO-SPEECH SYNTHESIZER

This text-to-speech synthesizer program is a memory-resident module that reads ASCII text and had an unlimited vocabulary . There are two application programs included with SBTALKER:

- ▶ **Read** : this program reads ASCII text files, text entered from the DOS command line, and text sent through communications ports.

- ▶ **Dr. Sbaitso** : a fun program that attempts to converse with you in English.

Important: You must load SBTALKER in memory before Read and Dr. Sbaitso can run. Remember, if you have not put the Set Sound command in your AUTOEXEC.BAT file, you need to enter the Set Sound command, **Set Sound=C:\SBPRO** before you can play Sound Blaster Pro software.

To load SBTALKER:

- ▶ Change to the **SBPRO\SBTALKER** directory.
- ▶ Type **SBTALK** and press **Enter**.

Note: SBTALK is a batch file (SBTALK.BAT) located in the SBPRO directory. You can run the program by entering **SBTALKER / DBLASTER** to specify the speech driver, BLASTER.DRV.

To set echo effect:

- ▶ After installing **SBTALKER**, type **SET-ECHO [dddd]** and press **Enter**.

Note: *dddd* set the delay time for the echo effect. The range is from 0 to 4,000. Entering 1,000 provides a good echo effect with about a 0.1 second delay. A delay setting of 500 produces a reverb effect.

Removing SBTALKER

SBTALKER will stay in memory until you remove it or reboot. You may not be able to run other applications with SBTALKER in memory.

To remove SBTALKER from memory:

- ▶ Change to the `\SBPRO\SBTALKER` directory.
- ▶ Type **Remove** and press **Enter**.

Important: To effectively remove SBTALKER, it must be the last program loaded in memory.

EMS Memory

SBTALKER automatically loads itself into Expanded Memory (EMS) memory, if the proper EMS driver is installed in the system. SBTALKER is compatible with most EMS drivers in the market. However, if you have one that doesn't work properly with SBTALKER, it may be necessary to remove this EMS driver to run SBTALKER.

Using the Read Program

READ can read text typed at the DOS prompt and ASCII text files. There are three entry formats:

- ▶ **Read "any text"**
- ▶ **Read**
- ▶ **Read <standard-input [/W]**

Note: `/W` option display the text while reading.

SOUND BLASTER ^{PRO}

Example:

Read <sbtest.txt/W.

To have this program say "Hello, how are you?" :

- ▶ At the DOS prompt type **Read "Hello, how are you?"** and press **Enter**. (or type: **Read hello, how are you?** and press **Enter**.)

To read an ASCII file:

- ▶ Type **Read <sbtest.txt** and press **Enter**.
- ▶ Press the **ESC** key to quit the program.

To read ASCII from the communications port, COM1:

- ▶ Type **Read <com1** and press **Enter**.

To read text enter from keyboard:

- ▶ Type **Read** and press **Enter**.

The program will read entered text line by line until you press **CTRL-C** to quit.

Note: sbtest.txt is an ASCII file supplied with the software. However you can ask it to read any ASCII text and you can type in a path to where the file is located. For example you can enter:

Read <C:\SBPRO\Readme.txt.

SOUND BLASTER *PRO*

Chapter

7

DR. SBAITSO YOUR PERSONAL CONSULTANT

DR. SBAITSO - YOUR PERSONAL CONSULTANT ..	7-3
Getting Started	7-3
Exploring Dr. Sbaitso	7-3
Dot Commands	7-5

SOUND BLASTER *PRO*

DR. SBAITSO YOUR PERSONAL CONSULTANT

The program, Dr. Sbaitso seems to act intelligently by responding to your queries. You can ask Dr. Sbaitso any type of question or tell him your problems. Dr. Sbaitso uses a synthesized voice to reply as he tries to solve your problems.

Getting Started

To load Dr. Sbaitso:

- ▶ Change to the **SBPRO** directory.
- ▶ Enter **SBAITSO2 [/S] [/40]** and press **Enter**.

Note: **/S** and **/40** are optional parameters. **/S** sets Dr. Sbaitso to run in stereo and echo mode. **/40** set the screen to 40 column mode, for example: **SBAITSO2 /S/40**.

Important: Remember, before you can run Dr. Sbaitso, you need to have SBTALKER loaded in memory.

Exploring Dr. Sbaitso

When the screen displays, just follow the instructions. Dr. Sbaitso is more enjoyable if you try to find ways to make the Doctor understand you using key phrases. Dr. Sbaitso will try to satisfy your questions. However, he performs best when you talk about your problems and use complete sentences.

SOUND BLASTER *pro*

We don't want to spoil your fun by telling you too much about Dr. Sbaitso. You can have more fun exploring Dr. Sbaitso yourself. If you want Dr. Sbaitso to repeat a response, press the **R** key.

To make the conversation more interesting, use the **.ECHO ON** command (See Dot Commands). This will cause the SBTALKER to say what you type using a different voice. Dr. Sbaitso can also perform some simple mathematics. If you feel that you are not getting much help from Dr. Sbaitso, type in the word **HELP**.

Dot Commands

Enter these commands in Dr. Sbaitso preceded by a period.

Dot Command	Description/Specifications
.QUIT	This lets you quit this program. (You can also quit by typing BYE or GOODBYE .)
.READ	With this command, Dr. Sbaitso can read an ASCII text file. Format: .READ filename .
.TONE t	This command set the tone— t is either 0 (Bass) or 1 (Treble).
.VOLUME v	Sets the volume. — V ranges form 0 (Lowest) to 9 (Loudest)
.PITCH p	Sets pitch. — P ranges from 0 (High) to 9 (Low).
.SPEED s	Sets the speaking speed. — S ranges from 0 (Slowest) to 9 (Fastest)
.PARAM tvps	Sets tone (0 or 1), volume (0 to 9), pitch (0 to 9) and speed (0 to 9).
.ECHO ON	This lets the program read what you type. .ECHO OFF will turn it off.
.COLOR x	Sets the background screen color. X ranges from 0 to 7.
.WIDTH 80 or 40	Sets screen width to 80 or 40 columns.
.HELP	Enters the help mode.

SOUND BLASTER *PRO*

MMPLAY MULTIMEDIA PRESENTATIONS

MMPLAY-MULTIMEDIA PRESENTATIONS	8-3
Getting Started	8-3
Script Commands	8-4
File Extensions	8-6
Drivers	8-7
Script & Batch File Example	8-7
Troubleshooting	8-8
Sound Blaster Pro Extension to MMPLAY	8-9

SOUND BLASTER *PRO*

MMPLAY MULTIMEDIA PRESENTATIONS

This program provides an impressive method of creating eye-catching graphics combined with superb sound. This is accomplished by integrating graphic animation from Autodesk's Animator and the sound capabilities of the Sound Blaster Pro card. You can synchronize animation and sound—FM music, Digitized Voice, CD-Audio and Line-in Audio. You can easily combine the power of Sound Blaster Pro with Autodesk Animator to create unique audio/video presentations on your PC.

We have included a multimedia demo using Animator designed graphics and Sound Blaster Pro. To see this demo:

- ▶ Change to the **SBPRO\MMPLAY** subdirectory.
- ▶ Type **MMDEMO** and press **Enter**

Note: Demonstrations require a lot of disk space. However, if you need to see more impressive demonstrations, check with your dealers or distributors for other MMPLAY Demos.

Getting Started

To start MMPLAY:

- ▶ Type **MMPLAY** <script> and press Enter.

Note: <script> is the name of the Script file used to control the presentation. Scripts are ASCII files created with a text editor.

- ▶ To abort the presentation, press the **Ctrl** and **End** keys at the same time (**Num Lock** must be off).

Note: The presentation stops only at the end of a play sequence.

Script Commands

When creating a script file, you enter a command on each line. You can use any text editor to create the ASCII scripts, such as EDLIN included with DOS.

The following conventions are used to describe script commands:

- ▶ Commands are not case sensitive. However, commands must be entered with the period.
- ▶ The Parameter shown as **< item >** is mandatory and must be entered with the command.
- ▶ When **< item > | < item >** is shown, one of them must be specified.
- ▶ Parameters **[Item]** in brackets are optional.

Note: When entering multiple items, such as commands and parameters, separate them with one or more space characters. [] and < > are used for clarity and are not typed as part of the command string.

SOUND BLASTER *PRO*

Command	Description
.APLAY <fli>	Lets you play back the FLI sequence an indefinite number of times, or until the SYNC condition is met. (See .SYNC command.) The playback can be terminated at any time by hitting any key. <fli> is the name of an animation file created by Autodesk's Animator. These files use a .FLI extension.
.APLAY1 <fli>	Using this command, you can play an FLI sequence one time.
.DELAY <ttt>	Sets a delay time from one command to the next command. <ttt> is measured in .01 seconds. Example: 100 equals 1 second.
.PAUSE	Lets you pause until a key is hit.
.PLAY <fff>	Plays a .CMF FM music file.
.REPEAT <nnn>	Sets the number of times for the next command to repeat.
.END	Ends the .REPEAT command. Place this command after the command that is repeated.
.SCREEN <0> <1>	Control the clearing of screen at end of a presentation. If the parameter is 1 , the screen is cleared and restored to the original mode. If it is 0 , the screen remains in the 320x200 256-color mode.
.SYNC <Vn> <Fn>	Specifies the termination condition for subsequent .APLAY commands. V is the voice using a .VOC file. F is FM music using a .CMF file. n is the marker value to match.

SOUND BLASTER ^{PRO}

Note: Each Sound Blaster Pro driver for voice and FM music supports the embedding of Markers into voice and music files. As the drivers process the files, they report the value of the Markers encountered to MMPLAY. This makes it possible to synchronize the ending of a looping FLI sequence with the preceding music or voice.

Normally, to wait for the end of a song or voice, the value **n** must be set to **0**.

Only the last **.SYNC** command preceding the **.APLAY** command has an effect.

.STOP <V> <F>	Stops the Voice or FM music output immediately. V is the voice using a .VOC file. F is the FM music using a .CMF file.
.VOUT <fff>	Plays the .VOC digitized Voice file.
.WAIT <Vn> <Fn>	Holds the presentation until a condition is met. (See the .SYNC command for parameters explanations.)
.EXECUTE <DOS command line>	Lets you execute a specified DOS command from MMPLAY. Returns to MMPLAY when the command is completed.

File Extensions

If a file in the script called for does not have an extension, the following default extensions are assumed:

- ▶ .PLAY music file - .CMF
- ▶ .VOUT voice file - .VOC
- ▶ .APLAY FLI file - .FLI
- ▶ .APLAY1 FLI file - .FLI

Drivers

MMPLAY expects the following drivers to be available:

- ▶ **Voice**—the CT-VOICE.DRV driver must be present in the \DRV subdirectory of the path specified by the Set Sound command, or in the current directory.
- ▶ **FM music**—SBFMDRV.COM driver is loaded by the user.

Note: Except for CT-VOICE.DRV, you do not need to load other drivers unless your presentation calls for them. MMPLAY always loads the CT-VOICE driver.

Sound Blaster Pro Extension to MMPLAY

MMPLAY has the following new commands to support the playing CD audio and Mixer volume controls on the Sound Blaster Pro.

Command	.VOLUME <source> <lll> <rrr>
Description	<p>Sets the left and right volume of selected sound sources. Sound source can be one of the following:</p> <p style="text-align: center;">VOICE LINE CD MUSIC MASTER</p> <p>Volume levels for <lll> and <rrr> range from 0 to 255. The default value is 200.</p>
Command	.PLAYCD <ttt> [sss [ddd]]
Description	<p>Plays the CD player and specifies track number, time offset from beginning of song, and duration of play set in <ttt> [sss[ddd]]. For example, if you want to play the fifth song on the CD, then <ttt> equals 5.</p> <p>Audio playback can start from an offset in terms of seconds specified in [sss]. If this is not specified, play starts from the beginning of the track.</p> <p>The duration of the playback is specified in [ddd] in terms of seconds. If this is not specified, the CD will play till the end of the disk.</p> <p>For example: PLAYCD 5 10 30</p> <p>Starts the CD playing from the 10th second of the 5th song for 30 seconds.</p>
Command	.STOPCD
Description	Stop the playing of CD music.

Script & Batch File Example

This sample batch file MMDEMO.BAT starts MMPLAY and calls the script file, MMDEMO.ACT

```
\SBPRO\SBFMDRV
MMPLAY MMDEMO.ACT
\SBJPRO\SBFMDRV /u
```

(Samplescript file MMDEMO.ACT)

```
.VOLUME MASTER 240 240
.VOLUME VOICE 96 96
.VOLUME MUSIC 240 240
.VOLUME CD 0 0
.VOLUME MIC 0 0
.VOLUME LINE 0 0
.PLAY FAIRY
.DELAY 300
.APLAY1 Z2
.REPEAT 2
.VOUT BREATH2
.END
.APLAY1 Z1
.VOLUME VOICE 160 160
.VOUT ELE
.APLAY1 DOT
.VOLUME VOICE 0 240
.VOUT SQ1
```

Play music file FAIRY.CMF in Background
Delay for 3 seconds

Play the animation file Z2.FLI once

} Play voice file BREATH2.VOC 2 times

SOUND BLASTER *PRO*

VOICE EDITOR II

VOICE EDITOR II	9-3
Starting Voice Editor II	9-3
Getting Around	9-3
Keyboard Fundamentals	9-4
Using the Mouse	9-3
File	9-6
Load	9-6
Understanding Blocks	9-8
Selecting Blocks	9-7
Mouse	9-8
Keyboard	9-9
Loading Large files	9-9
Save	9-10
Save As	9-10
Write	9-10
Intro	9-10
Exit	9-10
Record	9-11
Settings	9-11
Scan Input	9-12
Recording to Memory	9-13
Recording to Disk	9-14
Play	9-14

From Memory	9-14
Selected Blocks	9-15
From Disk	9-15
CD Player	9-16
Edit	9-16
Insert	9-17
Delete	9-18
Modify	9-18
The Modify Menus	9-19
Spilt Block	9-20
Edit Sampling Rate	9-20
Save	9-21
Cut	9-22
Paste	9-22
Fill	9-23
Insert	9-23
Packing Files	9-24
Effects	9-25
Amplify	9-25
Echo	9-26
Fade Out	9-26
Fade In	9-26
Pan Left-Right	9-26
Pan Right Left	9-27
Back to Block Editing	9-27
Copy	9-27
Move	9-27
Combine	9-27
Sound Basics	9-28
Sampling Rate	9-29

VOICE EDITOR II

Designed to take full advantage of the Sound Blaster Pro card, Voice Editor II lets you record, play, enhance, change and arrange sounds to suit your needs. You can select from different sound sources, such as microphone, stereo input and CD player. You can add markers and ASCII text to your sound samples and use them in other multimedia and interactive software applications.

Starting Voice Editor II

1. Change to the C:\SBPRO directory and type **VEDIT2**[/B:nn] and press **Enter**.

Note: /B:nn in the brackets is optional and lets you set the buffer size for playing from disk by entering a number for nn in 2k units. If nn is not specified, it uses 16 as the default (32k bytes). Playing a voice from the diskette uses a double-buffering method. You get a smoother sound if the buffer size is bigger.

2. When the Main Screen with Copyright Screen displays, press any key or click the mouse button to remove the Copyright Screen.

Note: Both the keyboard and a Microsoft compatible mouse can access the Voice Editor II's menus. Voice Editor II utilizes only the left button.

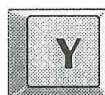
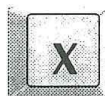
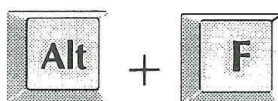
Getting Around

Voice Editor II is not complicated. It is a matter of understanding how to use the keyboard or mouse, using the menu and selecting options. Most options require little or no explanation. As you go through Voice Editor II's menu system, we have provided detailed explanations where necessary. However, you can go ahead and begin exploring Voice Editor II now and come back when you have a problem or question.

Keyboard Fundamentals

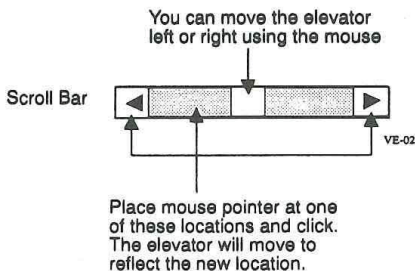
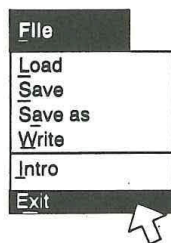
To access the menu from the keyboard:

1. Press the **Alt** key and the key of the underlined character in the Main Menu and the underline character in the Options Menus. You can use the **Up**, **Down**, **Right** and **Left** arrow keys to highlight the menu or option and press **Enter**.



Example: To quit Voice Editor from the keyboard:

1. Press and hold the **Alt** then press the **F** key. This will cause the File Menu to open.
2. Press the **X** key or use the **Up** and **Down Arrow** keys to highlight **Exit** and press **Enter**.
3. Select either **Y (Yes)** to exit to DOS or **N (No)** to cancel the request.



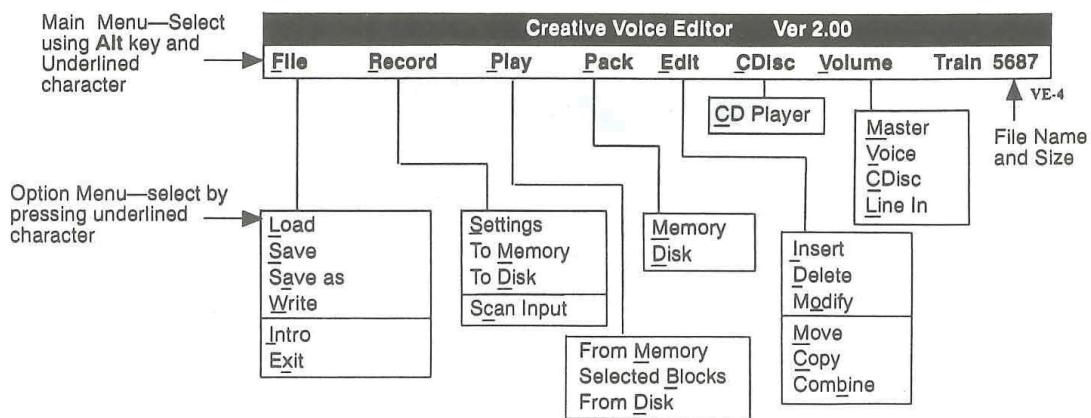
Using the Mouse

To access the menu and options, simply move the cursor (pointer) to menu item and press the mouse button and hold. When the menu pops down, move the mouse to highlight and select the desired option and release the mouse button.

When selecting a group of data or items, place the cursor at the beginning of the item or data. Now press and hold the mouse button while you drag the mouse to the end of the data you want to select and release the button.

You will notice scroll bars on many of the screens. You can click on the arrows, in the shaded area or click, hold and drag the box in the shaded area (elevator).

To quickly select and load a file, move the pointer to the file and double click. You can also double click to change directories and drives.



File

Load
Save
Save as
Write
Intro
Exit

The File menu loads, saves, saves selected blocks (Write) and exits Voice Editor II. Intro displays the Copyright Screen.

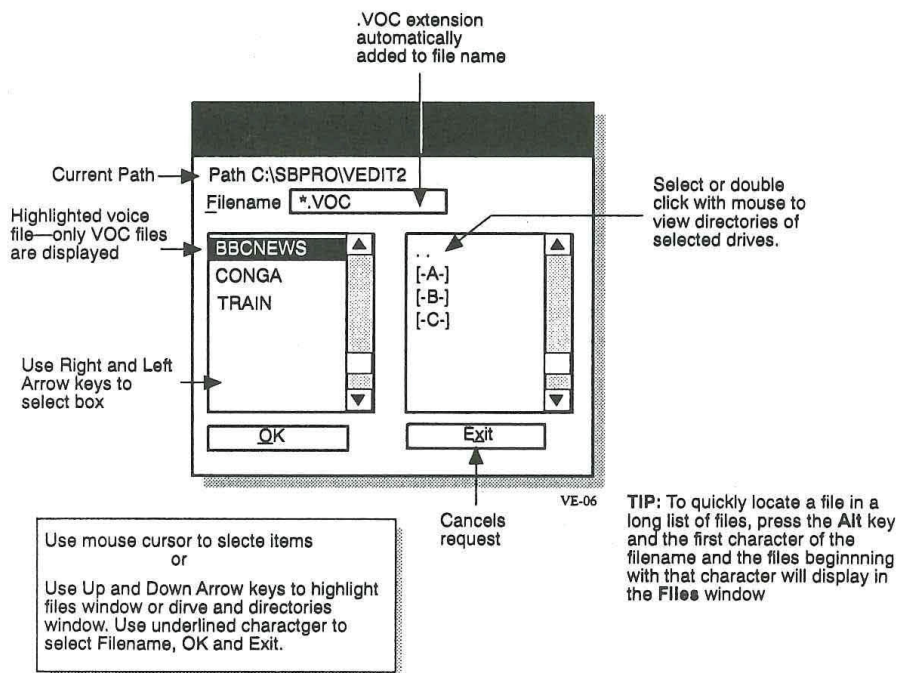
You can not select the grayed out options: Save, Save as and Write under the File menu at this time.

Load

To load a file:

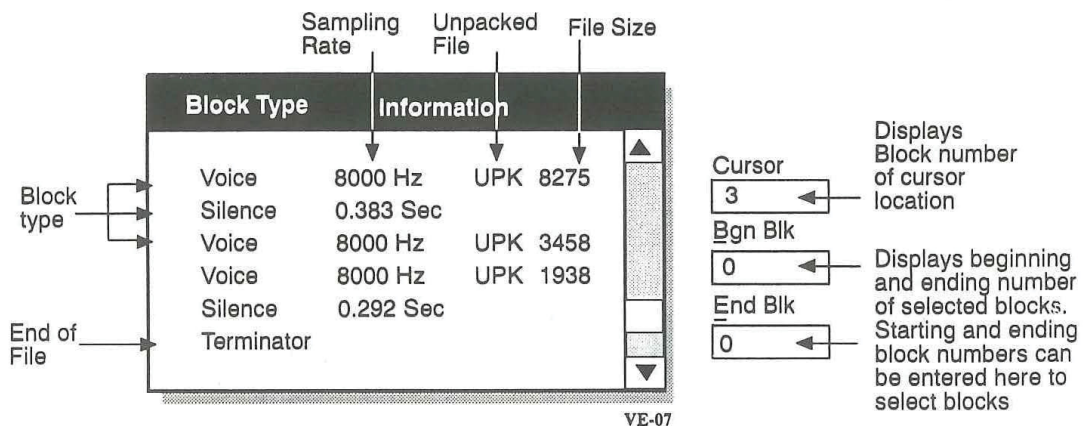
1. Select **L**oad from the options menu.
2. When the File Directory Screen displays, highlight a voice file in the files box.

Note: This screen displays any time you Load files, Save, Save as, Write files, blocks or data to disk. It also displays when you Play from disk.



SOUND BLASTER PRO

Once a file is loaded into memory, the Block Information Screen displays. This screen displays the information contained in a Voice file. As you edit or change voice files, the changes are reflected in this screen. A voice file consists of Voice, Silence, Repeat, ASCII text, Marker and Terminator blocks. Marker and ASCII text blocks are explained later.



Understanding Blocks

It is essential for the user to understand blocks and how they relate to Voice Editor II. Blocks make up a voice file. Each voice file can contain:

- Header** Used to define a .VOC file for Sound Blaster card.
- Voice** This is normally the sound you hear. Can be mono or stereo. Only unpacked data blocks can display as a waveform.
- Silence** You can add, change or remove silence from a data block.
- ASCII text** An ASCII text strings provide titles or other information.
- Marker** a marker sends out a two-byte flag so other application can perform a certain task when it sees this marker.
- Repeat** This provides a method of having a block repeated.
- Terminator** This indicates end of file.