

**ASUS<sup>®</sup> AUDIO**  
**Creative Labs ViBRA 16C Series**

**USER'S MANUAL**  
**Drivers Installation**

# User's Notice

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Manual Revision:	<b>1.20</b>
Release Date:	<b>March 1997</b>

# Audio Drivers Installation

## Manual Information

The following three sections contain information for the audio software portion of your product. The first section (pages 1-12) deals with **Audio Driver Installation** for *Windows 95 and DOS & Windows 3.1x*. The second section (70 pages) is the **Audio Software Manual** for *Windows 95*. The third section (86 pages) is the **Audio Software Manual** for *DOS & Windows 3.1x*.

## ASUS Installation CD

This CD contains a collection of audio drivers and audio software applications for products with the Creative Labs ViBRA 16C Series Audio Chipset.

### NOTES:

- Some of the drivers were originally created for floppy diskettes. Please substitute your CD ROM drive letter (such as D:) and the corresponding directory names in place of any references to "A:" or "B:" floppy drives.
- Before installing the audio drivers for Windows 3.x, you must install Creative Technology's Configuration Manager (CTCM).
- You must close all applications before installing the audio drivers.







The following is a list of the main directories used in this audio section:

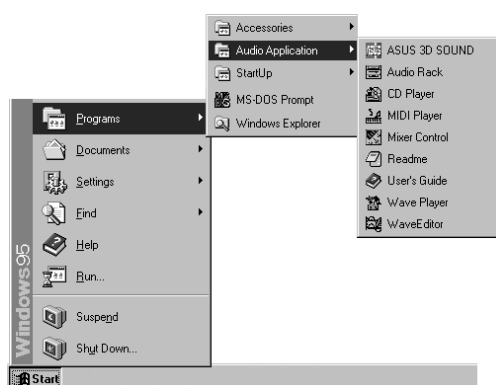
### ASUS Audio Driver CD Contents

\AUDIO\CTCM	Creative PnP Configuration Manager for DOS/Win3.x (Run <b>INSTALL.EXE</b> from DOS, before Win3.x)
\AUDIO\DISKS	Individual installation disks for above drivers (Copy to 1.44MB 3.5" floppy disks if necessary)
\AUDIO\NT40	Audio Drivers & Applications for WinNT (Double click the <b>SETUP</b> icon from WinNT)
\AUDIO\OS2	Audio Drivers & Applications for OS2 (Run <b>INSTALL.EXE</b> from DOS Prompt)
\AUDIO\WIN31	Audio Drivers & Applications for DOS & Win3.x (Install CTCM, then run <b>INSTALL.EXE</b> from DOS)
\AUDIO\WIN95	Audio Drivers & Applications for Win95 (Double click the <b>SETUP</b> icon from Win95)

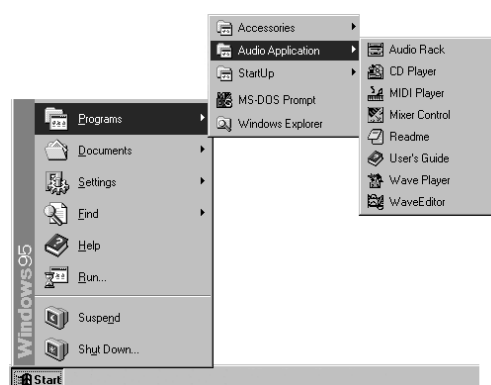
# Win95 Audio Drivers

## Audio Drivers Installation Procedures:

1. Insert the installation CD into the CD-ROM drive.
2. Double click on "My Computer" icon. 
3. Double click on your CD-ROM drive. 
4. Double click on the "Audio" folder. 
5. Double click on the "Win95" folder. 
6. Double click on the "Setup.exe" icon  to install both ASUS 3D Sound (requires ASUS 3D Sound Chip) and the Audio Software. Currently ASUS motherboards with audio onboard have the ASUS 3D Sound Chip and ASUS audio expansion cards do not. If you do not have a product with the ASUS 3D Sound Chip, please use the "Setupsb.exe" icon . Using the "Setup.exe" icon will give you an extra selection "ASUS 3D SOUND" in your audio utilities group. You may ignore the extra selection if you installed it accidentally.
7. Carefully follow the installation wizard displayed and click the "Next" buttons to continue through the installation process.
8. When installation is completed, you can run the audio utilities through the start menu as shown below:



(With ASUS 3D SOUND)



(Without ASUS 3D SOUND)

# Win95 Audio Drivers

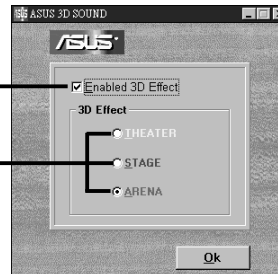
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## 3D Sound

For 3D Sound support, you must have an ASUS product with the ASUS 3D Sound Chip (currently motherboards with audio onboard) and install the ASUS 3D Sound driver. Running the program will give you the following control panel.

Click here to Enable  
or Disable 3D Sound

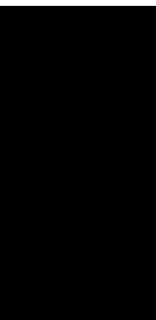
Choose the effect  
you would like here



# Win95 Audio Drivers

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# Win3.x Audio Drivers

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## Configuration Manager

In DOS and Windows 3.1x environments a program called the Configuration Manager must be installed in order for the Configuration Manager to do resource allocations for all ISA Plug and Play cards. The audio portion of this card uses 16-bit ISA specifications.

## Creative PnP Configuration Manager (CTCM)

If you try installing the audio drivers first, the audio install program will not be able to find the PLUGPLAY\DRIVERS\DOS\ESCD.RF database file and give you the following message: "Configuration Manager not found. Please install the Configuration Manager before installing your Audio Software." "Press a key to continue." Pressing a key will send you back to the DOS prompt.

Run the Configuration Manager install under DOS prompt by running **INSTALL** from the \AUDIO\CTCM\ directory.

### The first screen shows:

The following path will be used for installing Configuration Manager programs.

Proceed using the settings shown

Configuration Manager Path : C:\CTCM  
Microsoft Windows 3.1 Path : C:\WINDOWS  
System Bootup Drive : C:\

Press <ENTER> to continue, <F1> for help, or <F3> to exit.

If you need to change the paths shown, you may push the down arrow key and press <ENTER> when highlighted. If your Windows directory is not detected, you need to change the path shown to your Windows directory. If you wish to change the Windows path some other time, you will have to run INSTALL from your Configuration Manager installation CD again.

# Win3.x Audio Drivers

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**You will get the following message after you press <ENTER>:**

Welcome to the Configuration Manager installation program. This program installs Configuration Manager files onto your computer's hard disk. Before installing, please read the README file for the latest information. If you need more information before deciding on a certain option, you can always get help by pressing F1.

Press <ENTER> to continue, <F1> for help, <F2> for README, or <F3> to exit.

**The following lines will be added to your system files:**

C:\AUTOEXEC.BAT file:

```
SET CTCM=C:\CTCM
```

```
C:\CTCM\CTCU /S /W=C:\WINDOWS
```

C:\CONFIG.SYS file:

```
DEVICE=C:\CTCM\CTCM.EXE
```

Press <ENTER> to continue, <F1> for help, or <F3> to exit.

**A message will appear on the next screen:**

Software installation completed.

The following files were modified and its original saved with B~K extension.

**C:\CONFIG.SYS**

**C:\AUTOEXEC.BAT**

You must reboot in order for the newly edited CONFIG.SYS to be initiated. You may choose to exit to DOS by pressing <ENTER> but be sure to reboot on your own. A message "Please remember to REBOOT your system" will appear when exiting. Otherwise, press <F10> to automatically reboot your system.

## ASUS 3D Sound

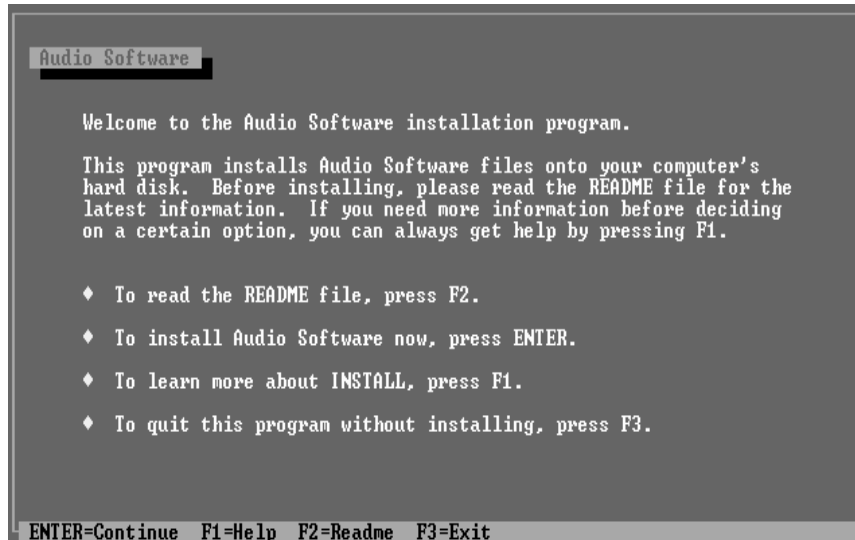
Now that your Configuration Manager is installed, you may run **INSTALL** from the \AUDIO\WIN31\ directory to install both ASUS 3D Sound (requires ASUS 3D Sound Chip) and the Audio Software. Currently ASUS motherboards with audio onboard have the ASUS 3D Sound Chip and ASUS audio expansion cards do not. If you do not have a product with the ASUS 3D Sound Chip, please see "Audio Software." Using **INSTALL** will give you an extra icon "ASUS 3D SOUND" in your audio utilities group. You may ignore the extra selection if you installed it accidentally.



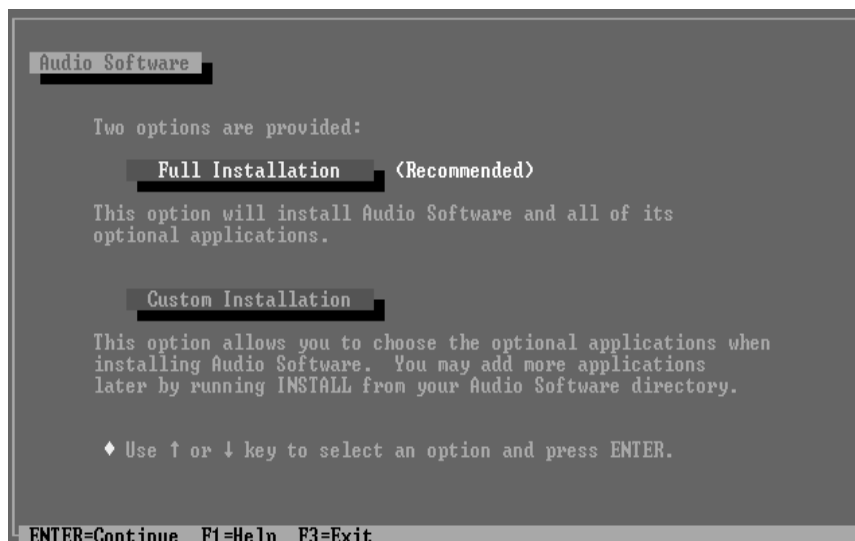
# Win3.x Audio Drivers

## Audio Software

After the ASUS 3D Sound is installed, the following Audio Software Installation Screen will appear. You may skip the ASUS 3D Sound installation by running **SBINST** from the \AUDIO\WIN31\ directory which will take you directly to this Audio Software Installation.

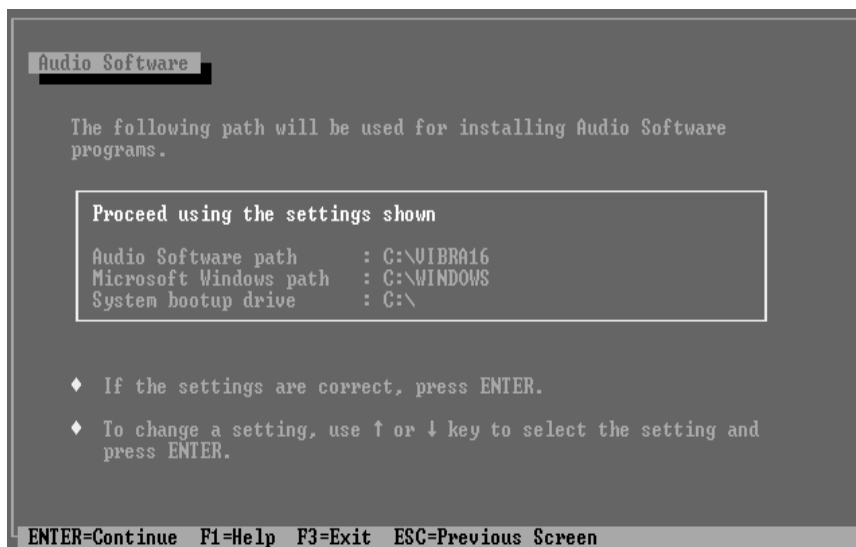


Follow the instructions and make your choice to learn more about INSTALL <F1>, view the README <F2>, quit <F3>, or install Configuration Manager <ENTER>.



# Win3.x Audio Drivers

You may choose "Full Installation" to install all components or "Custom Installation" to toggle DOS: (1) Audio Samples (2) Readme and Common Q&A Files and WINDOWS: (1) WaveEditor (2) QuickCD. You can select Custom Installation if you are curious about its options and then go back to the previous screen by pressing <ESC>. Pressing <ENTER> at the above screen will show the installation paths. You may change the paths or press <ENTER> again if the paths are correct. Press <ENTER> to continue so that changes can be made to your system files.



You will be prompted that an addition will be made in your C:\AUTOEXEC.BAT and C:\CONFIG.SYS files. The typical PC will have these settings added to the system files:

C:\AUTOEXEC.BAT

```
SET BLASTER=A220 I5 D1 H5 P330 T6
SET SOUND=C:\VIBRA16
SET MIDI=SYNTH:1 MAP:E
C:\VIBRA16\DIAGNOSE /S /W=C:\WINDOWS
C:\VIBRA16\MIXERSET /P /Q
```

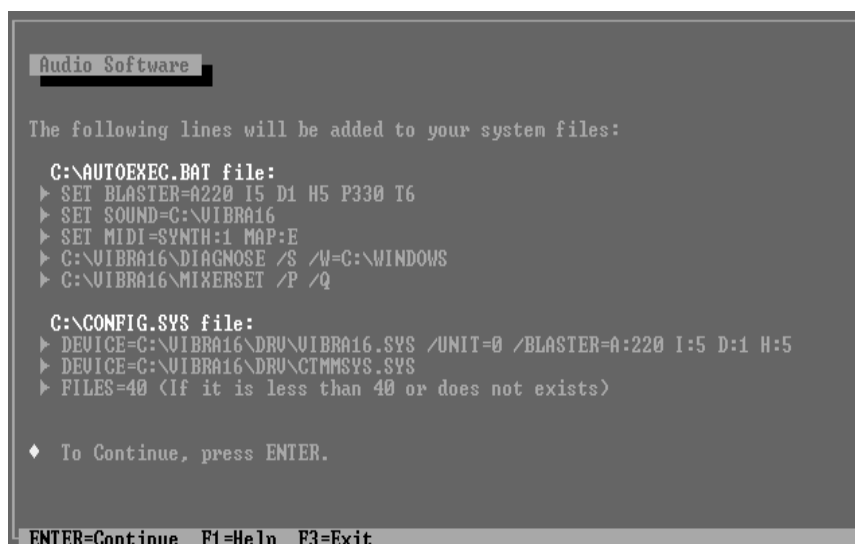
C:\CONFIG.SYS

```
FILES=40 (If less than 40 or does not exist)
```

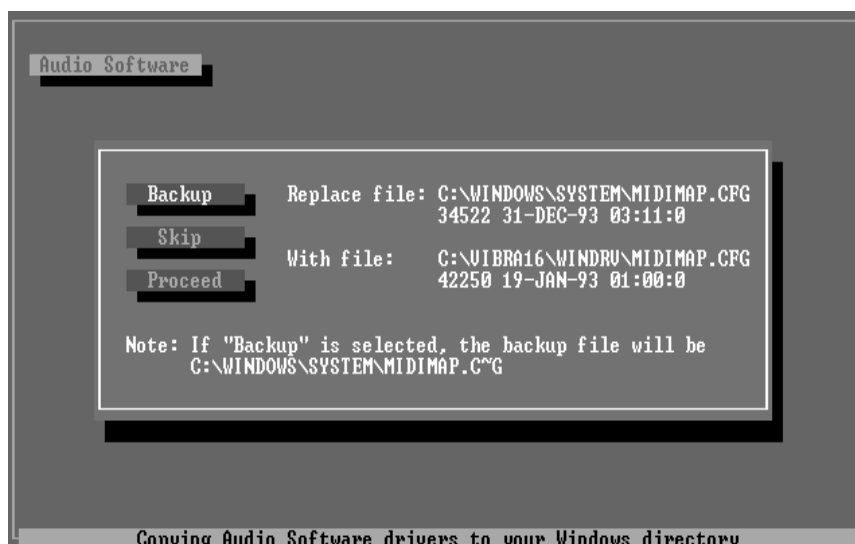
# Win3.x Audio Drivers

If you wish to use the "Play" and "Record" utility located in \VIBRA16\ directory in DOS mode, you must also add the following two lines through "Custom Installation."

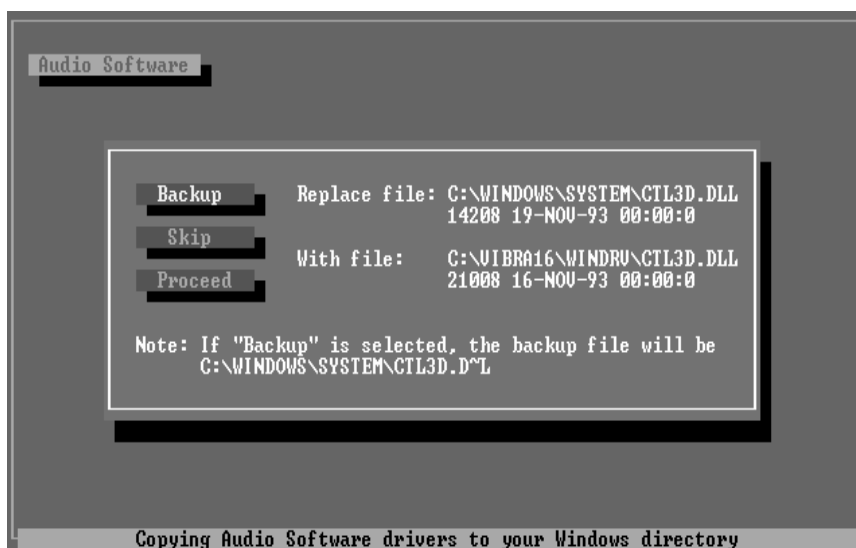
```
DEVICE=C:\VIBRA16\DRV\VIBRA16.SYS /UNIT=0 /BLASTER=A:220 I:5 D:1 H:5
DEVICE=C:\VIBRA16\DRV\CTMMSYS.SYS
```



Certain older audio files may already exist in your Windows directory. If so, simply press <ENTER> to "Backup the original files" as shown here:



# Win3.x Audio Drivers

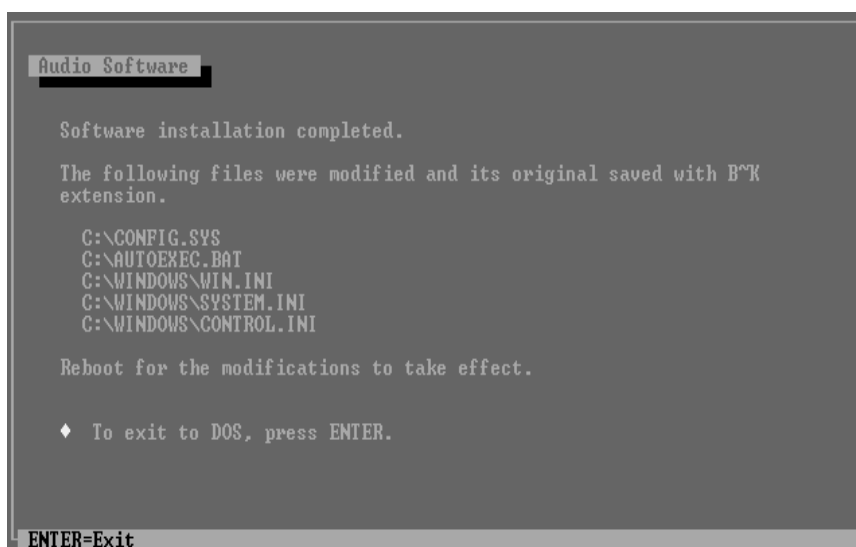


Win3.x Audio Drivers  
(Audio Installation)

The following files will then be saved with a .B~K extension in case you need to reference your original system file settings:

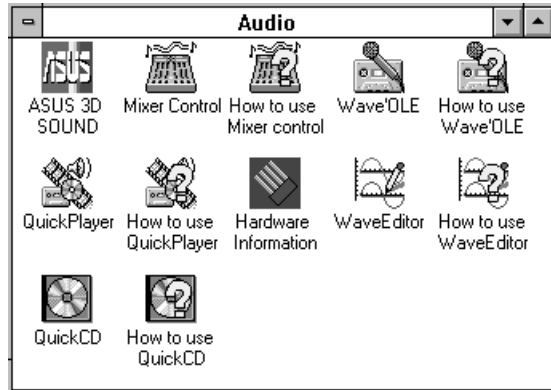
C:\CONFIG.SYS  
C:\AUTOEXEC.BAT  
C:\WINDOWS\WIN.INI  
C:\WINDOWS\SYSTEM.INI  
C:\WINDOWS\CONTROL.INI

You must reboot in order for the newly edited CONFIG.SYS to be initiated. You may exit to DOS by pressing <ENTER> and edit your CONFIG.SYS file and then reboot on your own. Otherwise, press <F10> to automatically reboot your system.

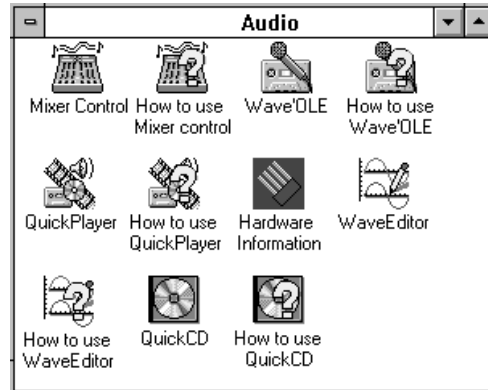


# Win3.x Audio Drivers

After your system is rebooted, enter Windows to see that the Audio Software is correctly installed. You should here a musical chime as you enter Windows 3.1x and see the following on your screen:



(With ASUS 3D SOUND)



(Without ASUS 3D SOUND)

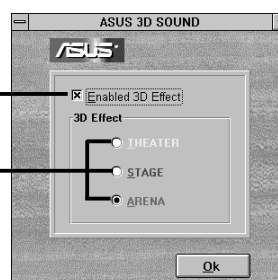
After this message above, your installation for Windows 3.1x is complete. From here on, you may refer to Section II or Section III for Audio Software usage.

## 3D Sound

For 3D Sound support, you must have an ASUS product with the ASUS 3D Sound Chip (currently motherboards with audio onboard) and install the ASUS 3D Sound driver. Running the program will give you the following control panel.

Click here to Enable  
or Disable 3D Sound

Choose the effect  
you would like here



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# Win3.x Audio Drivers

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## Environment Variables

There are three environment variables used to signify information of our audio hardware : SOUND, BLASTER and MIDI. These variables will be setup by SETPNP.EXE added in the AUTOEXEC.BAT during your audio software installation.

### *SOUND Environment variable*

The SOUND environment variable specifies the directory location of audio drivers and software. You can type “SET” at the DOS prompt and see the following line for the setting of the SOUND environment variable:

**SOUND=<path>**

### *BLASTER Environment Variable*

The BLASTER environment variable specifies the base I/O address, interrupt number and DMA channel hardware configuration of the audio hardware. You can type “SET” at the DOS prompt and see the following line for the setting of the BLASTER environment variable:

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

Where:

- A Specifies the audio hardware base I/O port
- I Specifies the interrupt request line
- D Specifies the Low DMA channel
- H Specifies the High DMA channel
- P Specifies the MPU-401 base I/O port
- T Specifies the card type

# Win3.x Audio Drivers

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## *MIDI Environment Variable*

The MIDI environment variable specifies the MIDI file format used and where the MIDI data is sent to. The MIDI data can be sent to FM chips or audio hardware MIDI port. Generally, there are three MIDI file formats available in the market, General MIDI, Extended MIDI and Basic MIDI. You can type “SET” at the DOS prompt and see the following line for the setting of the BLASTER environment variable:

**MIDI=SYNTH:<1/2> MAP:<G/E/B>**

Where:

- SYNTH:    1   Specifies internal synthesizer (default)  
            2   Specifies audio hardware MIDI port
- MAP:      G   Specifies General MIDI file format  
            E   Specifies Extended MIDI file format (default)  
            B   Specifies Basic MIDI file format

## *Maximum Recording Rates for the Audio Hardware*

The sampling rate used for recording is largely influenced by your computer’s main processor. To obtain 16-bit digital audio using Windows, the following maximum recording rates are suggested.

SYSTEM	RECORDING RATE
386 and above	Stereo - 44KHz
	Mono - 44KHz
386 SX and below	Stereo - 22KHz
	Mono - 44KHz

To obtain optimal performance, try configuring the audio hardware to use a high DMA (Direct Memory Access) channel under Windows. Refer to your audio hardware Getting Started Manual for more information on setting up the sound card to use a high DMA channel.