

SOFTWARE
INSTALLATION
GUIDE

GAME THEATER 64

MAXI™ FX USER'S
GUIDE

Maxi™ **Sound**

Contents

1. INSTALLATION UNDER WINDOWS[®] 95.....	1
1.1. Introduction.....	1
1.2. Plug and Play Installation	1
2. INSTALLATION UNDER WINDOWS[®] 3.1X.....	3
2.1. Introduction.....	3
2.2. Software installation under Windows [®] 3.1X	3
2.3. Software installation for a CD-ROM drive	7
3. INSTALLING THE SOFTWARE.....	9
3.1. Maxi Sound Game Theater 64 AUDIO TOOLPAK CD-ROM	9
3.1.1. Windows [®] 95 software.....	9
3.1.2. Windows [®] 3.1X software.....	10
3.2. Installing the software	10
3.2.1. Maxi FX Game Theater.....	11
3.2.2. Maxi Bank Downloader	12
3.2.3. Maxi Sound program group	13
3.2.4. Midisoft [™] Audio Works / Sound Impression	14
3.2.5. CakeWalk Express	15
3.2.6. Internet Phone	16
4. USING MAXI FX GAME THEATER.....	17
4.1. Introduction : Card Architecture	18
4.1.1. The Codec's Windows [®] 95 interface :	20
4.1.1.1. Playback Volumes.....	21
4.1.1.2. Record Level	21
4.1.2. Digital Signal Processor's Windows [®] 95 interface :	21
4.1.2.1. Playback Volumes.....	22
4.1.2.2. Record Levels.....	22
4.1.3. Card's architecture and Windows [®] 95 Volumes : Summary.....	23
4.1.4. Interfaces in Windows [®] 3.1X.....	24
4.1.5. The Maxi FX Game Theater Window.....	25

4.2. The Maxi FX Game Theater Effects Menu	25
4.2.1. Running the Maxi FX Game Theater Software.....	26
4.2.2. The Main Maxi FX Game Theater Menu.....	27
4.2.3. The « Effect Control » Window.....	28
4.2.3.1. The <i>Help</i> , <i>Initialize</i> and <i>Close</i> buttons	29
4.2.3.2. The « EQ/Surr » panel.....	29
4.2.3.3. Volume Adjustments.....	29
4.2.3.4. The Reverb and Chorus Effects.....	29
4.2.3.5. The panel for adding effects to input sound.....	31
4.2.3.6. The « Equalizer » panel.....	32
4.2.3.7. The Surround Window.....	33
4.2.3.8. Save your Presets	34
4.3. How to add effects to games	35
4.3.1. In Windows® 95.....	35
4.3.2. In Windows® 3.1X.....	37
5. APPENDIX : THE « SYSTEM » SOFTWARE FOR THE CARD	38
5.1. Windows® 95 Drivers	38
5.2. Advanced options under Windows® 95	39
5.2.1. « Wave » drivers in Windows®	40
5.2.1.1. Windows® 3.1X	40
5.2.1.2. Windows® 95	40
5.2.2. Windows® 95 « MIDI » drivers	43
5.3. Changing the configuration under Windows® 3.1X.....	44
5.4. Automatic Uninstallation	46
5.4.1. Hardware Uninstallation	46
5.4.2. Software Uninstallation.....	47

Figures

Figure 1 : Plug and Play, detection of a new peripheral.....	1
Figure 2 : Plug and Play, inserting the manufacturer's diskette	2
Figure 3 : Plug and Play, installing the drivers	2
Figure 4 : Running the install program under Windows® 3.1X.....	3
Figure 5 : The Welcome panel.....	4
Figure 6 : Check the board.....	4
Figure 7 : The install directory.....	5
Figure 8 : The Maxi Sound Game Theater 64 applications program group.....	6
Figure 9 : Rebooting the computer after installation.....	6
Figure 10 : The Control Panel in Windows® 3.1X.....	7
Figure 11 : The « Drivers » Panel in Windows® 3.1X.....	7
Figure 12 : Adding a « [MCI] CD Audio » driver in Windows® 3.1X.....	8
Figure 13 : Installing the software	9
Figure 14 : Select or deselect parts of the software.....	10
Figure 15 : Maxi FX Game Theater installation	11
Figure 16 : Maxi Bank Downloader installation.....	12
Figure 17 : Maxi Sound applications' program group.....	13
Figure 18 : Midisoft™ Audio Works installation	14
Figure 19 : CakeWalk Express installation	15
Figure 20 : Internet Phone installation.....	16
Figure 21 : Maxi Sound Game Theater 64 card functions	18
Figure 22 : Windows® 95 Volume Control of the Codec	20
Figure 23 : Windows® 95 Volume Control of the Digital Signal Processor.....	22
Figure 24 : Volumes and Architecture	23
Figure 25 : Codec's interface in Windows® 3.1X.....	24
Figure 26 : The Maxi FX Game Theater main menu	25
Figure 27 : The Maxi FX Game Theater window	26
Figure 28 : The Maxi FX Game Theater main menu	27
Figure 29 : The « Effect Control » window	28
Figure 30 : Adding effects to inputs.....	31
Figure 31 : The Equalizer window	32
Figure 32 : The Surround window	33
Figure 33 : Switching from one application to another.....	35
Figure 34 : Minimize button on the main window.....	36
Figure 35 : Switching to Maxi FX Game Theater.....	36
Figure 36 : Going back to your game	37
Figure 37 : Modifying the resources under Windows® 95.....	38
Figure 38 : Changing the Plug and Play configuration.....	39

Figure 39 : The « Wave Mapper »	41
Figure 40 : Wave playback drivers	41
Figure 41 : Wave recording drivers	42
Figure 42 : Windows® 95's Sound Player / Recorder	42
Figure 43 : The « MIDI Mapper »	43
Figure 44 : The Maxi Sound Game Theater 64 program group under Windows® 3.1X.....	44
Figure 45 : Reconfiguring resources under Windows® 3.1X.....	44
Figure 46 : The card resources	45
Figure 47 : Rebooting the system after changing the resources.....	45
Figure 48 : Hardware and Software uninstallation in Windows® 95	46
Figure 49 : The « Un-installation » icon in Windows® 95 and Windows® 3.1X.....	47

© Guillemot International Inc., all rights reserved.

Maxi™ Sound is a trademark of Guillemot International. Midisoft Audio Works™ is a trademark of Midisoft. SBPRO™ is a trademark of Creative Technology, Singapore. GST™ and MPU-401™ are trademarks of Roland Corporation. Windows® 3.1, Windows® 3.11 and Windows® 95 are trademarks of Microsoft Corporation. CakeWalk Express™ is a trademark of Twelve Tone Systems, Inc. Internet Phone™ is a trademark of Vocaltec Ltd. Sound Impression is a trademark of Dennis J. Mc Mahon. All other brandnames are trademarks of their respective owners.

No part of this publication may be reproduced or copied without permission.

We reserve the right to revise this document without notice at any time.

Please contact your sales representative for any questions concerning this document.

1. INSTALLATION UNDER WINDOWS® 95

1.1. Introduction

Follow the instructions below to install the software and drivers of your Maxi Sound Game Theater 64 card. This card is entirely Plug and Play. If installed on a PC with a Plug and Play BIOS, Windows® 95 automatically detects this new peripheral and tells you what to do to install it.

1.2. Plug and Play Installation

Once your system has no more traces of previous Plug and Play sound card drivers, you can run the procedure for automatic detection of the Maxi Sound Game Theater 64 card. For this, you must go through the following stages:

- Switch on your computer and open Windows® 95.
- The computer automatically detects the Maxi Sound Game Theater 64 card and prompts you to insert the «Maxi Sound Game Theater 64 AUDIO TOOLPAK» CD-ROM in the CD-ROM drive (the drivers are provided on the equipment manufacturer's CD-ROM). Click on OK.



Figure 1 : Plug and Play, detection of a new peripheral

○ The following window appears. Type « D : » or the logical name of the drive where your CD-ROM drive is set and Click on OK.

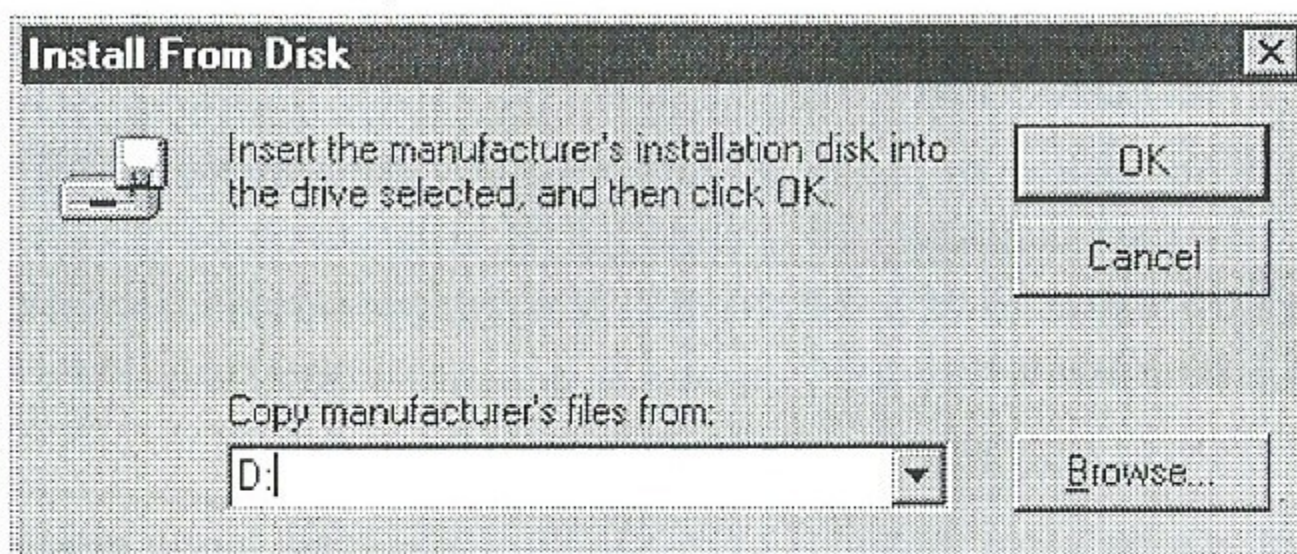


Figure 2 : Plug and Play, inserting the manufacturer's diskette

○ Plug and Play installation can proceed in two ways depending on the type of computer and, more specifically, the BIOS you have:

1. **Automatic installation:** Your card drivers are all installed together and the installation procedure completes automatically.
2. **Manual installation:** Your card drivers must be installed one by one in the following order :

Maxi Sound Game Theater 64 Audio Codec
Maxi Sound Game Theater 64 Audio Joystick
Maxi Sound Game Theater 64 Audio Registers
Maxi Sound Game Theater 64 MPU-401 & Waves

Figure 3 : Plug and Play, installing the drivers

Important:

Start by installing the first driver, « Maxi Sound Game Theater 64 Audio Codec », and repeat the process with the next one, « Maxi Sound Game Theater 64 Audio Joystick », and so on. Installation ends with « Maxi Sound Game Theater 64 MPU-401 & Waves ».

2. INSTALLATION UNDER WINDOWS® 3.1X

2.1. Introduction

Follow the instructions below to install the software and drivers of your Maxi Sound Game Theater 64 card. First refer to the « Hardware Installation Guide » to install your Maxi Sound Game Theater 64 card in your system.

2.2. Software installation under Windows® 3.1X

- Switch on your computer and open Windows® 3.1X.
- Insert the « Maxi Sound Game Theater 64 AUDIO TOOLPAK » CD-ROM in the CD-ROM drive.
- Run « D:\w31setup » from the Windows® 3.1X « File / Run » menu where « D : » represents your CD-ROM drive.

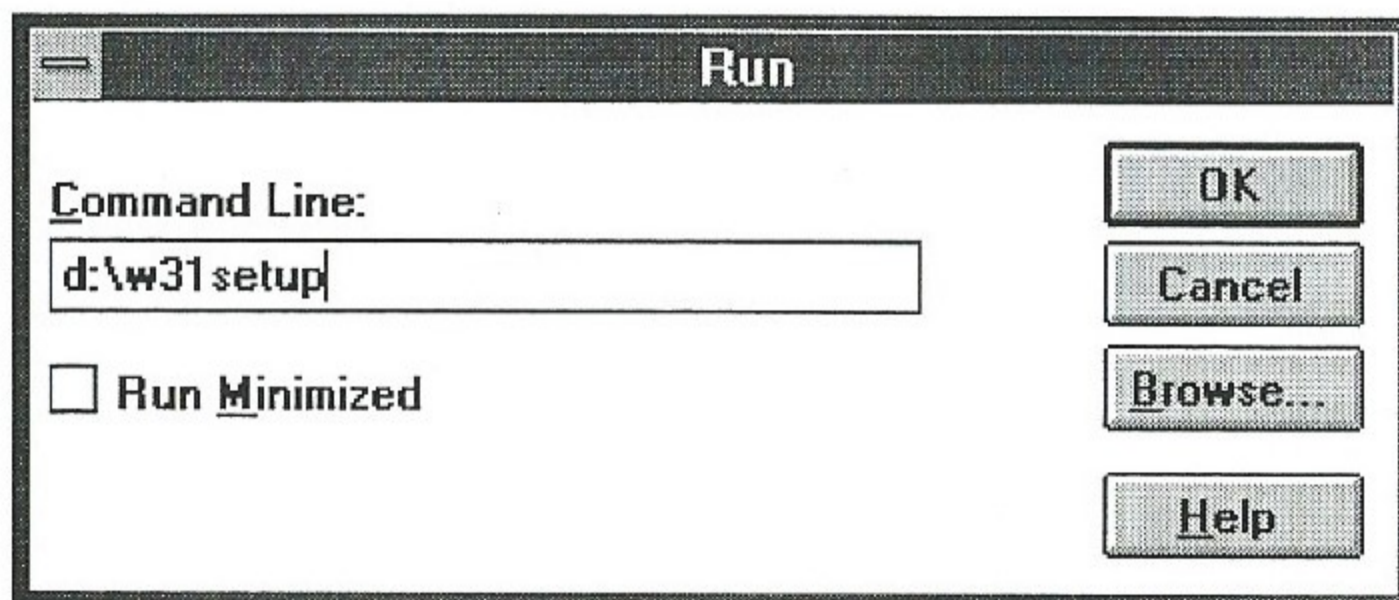
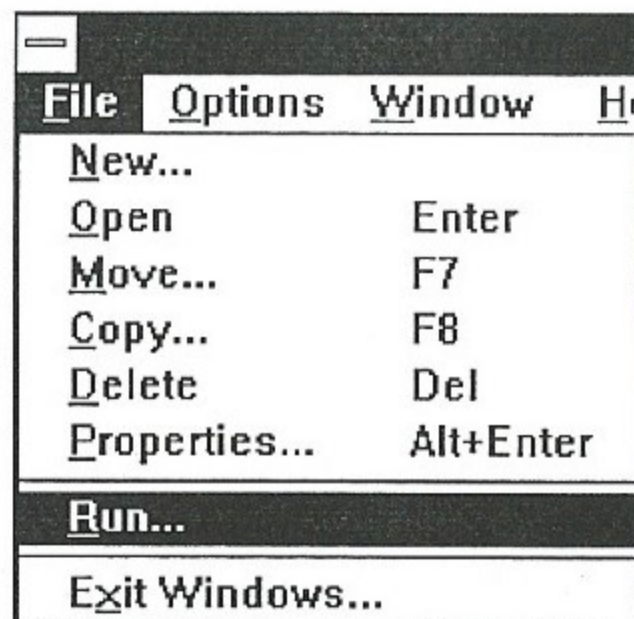


Figure 4 : Running the install program under Windows® 3.1X

Maxi Sound Game Theater 64 Software Installation Guide

○ You will obtain the following panel, click on « Next » to continue the installation program.



Figure 5 : The Welcome panel

○ Be sure that your card is installed in the system, then click on « OK ».

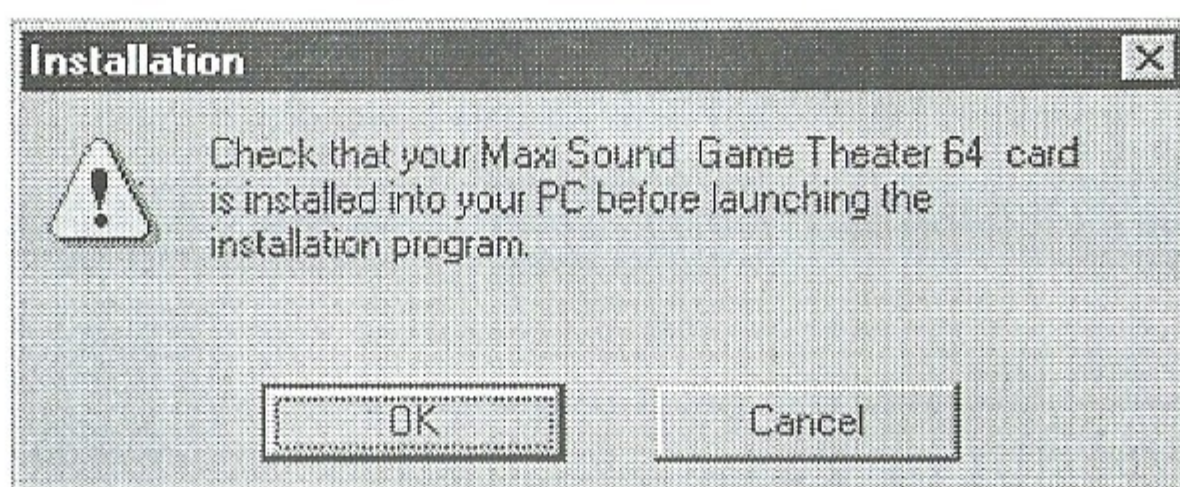


Figure 6 : Check the board

- Select the install directory of your Maxi Sound Game Theater 64 card and click on « OK ».

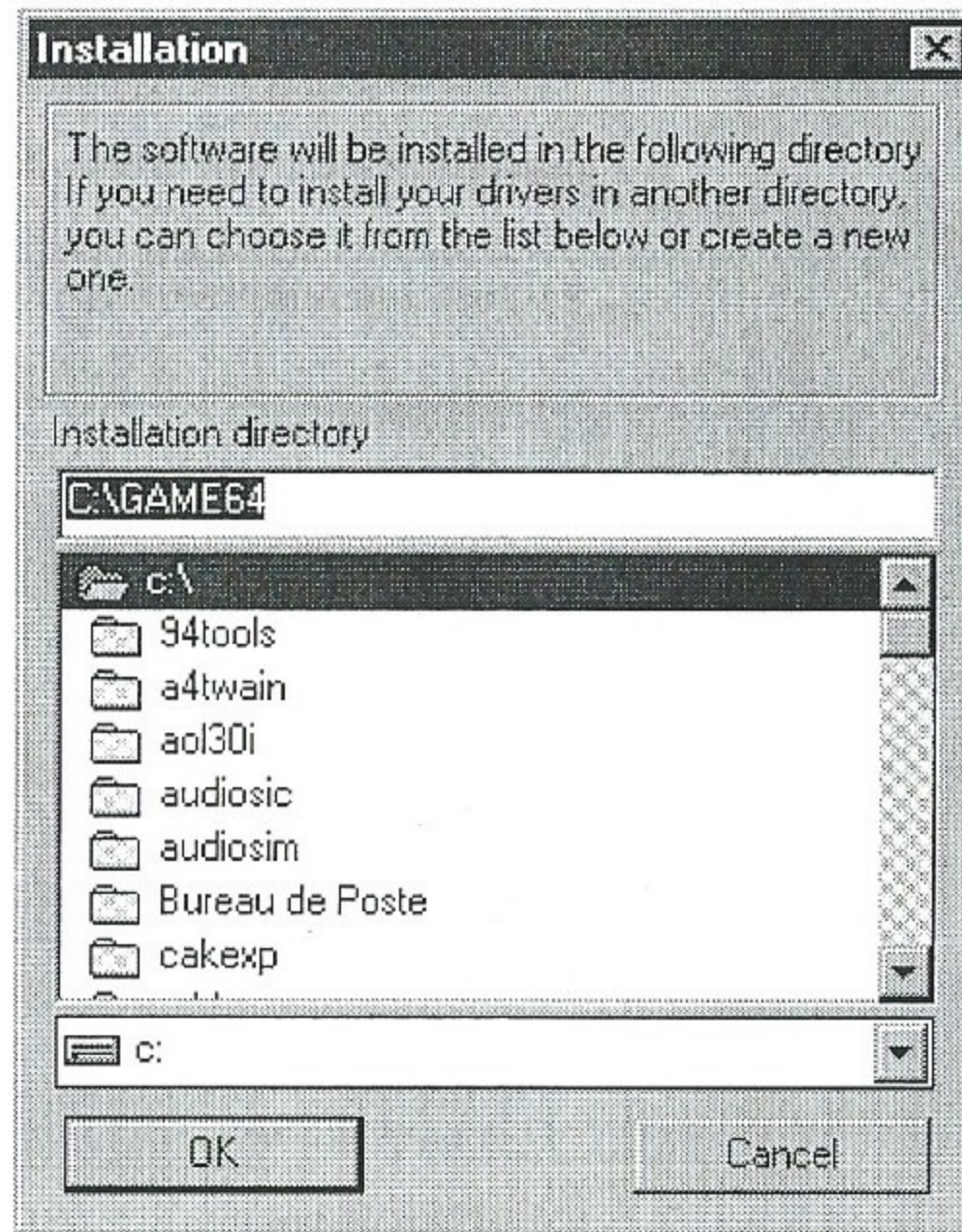


Figure 7 : The install directory

- Select a program group for the Maxi Sound applications and click on « OK ».

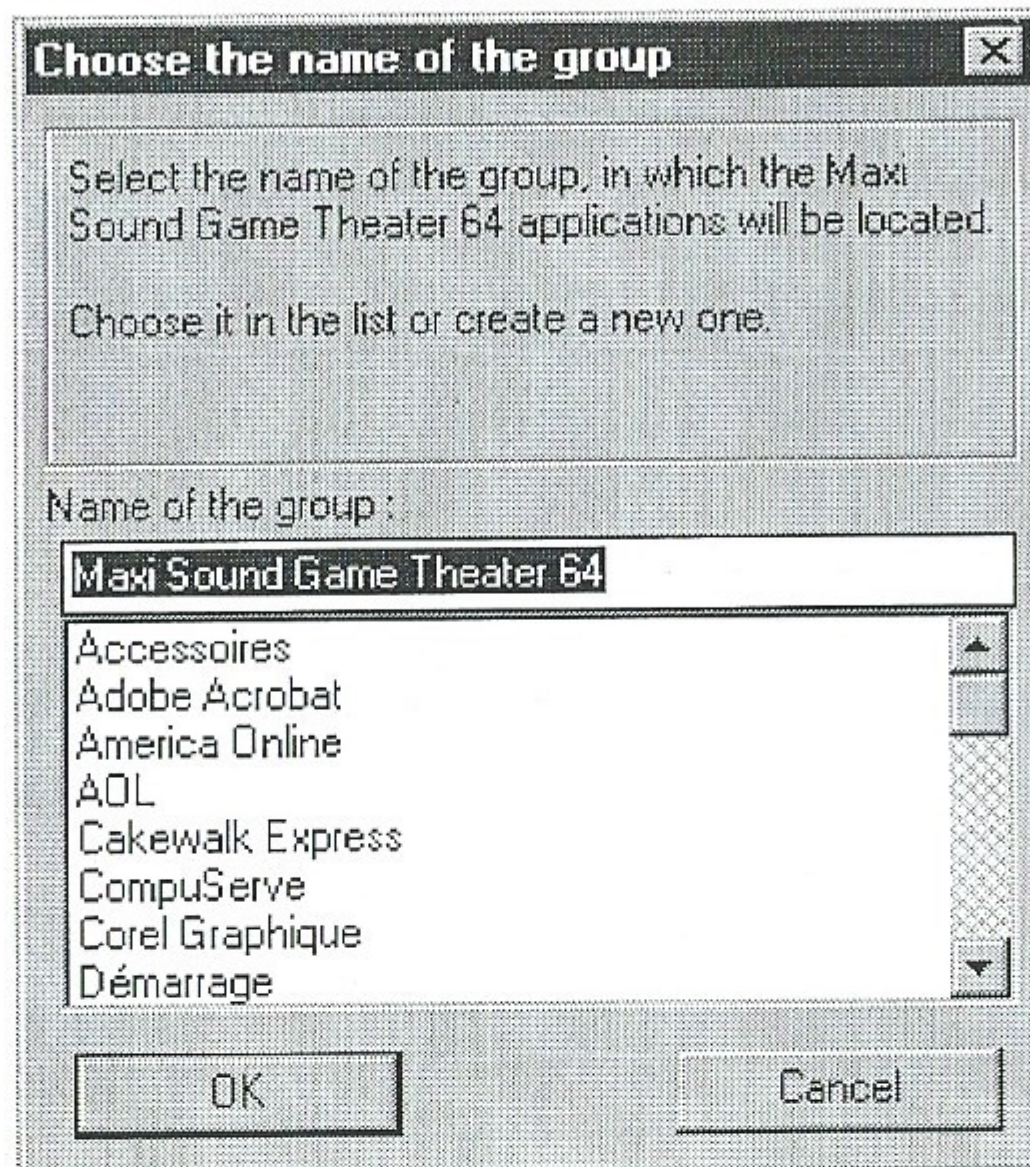


Figure 8 : The Maxi Sound Game Theater 64 applications program group

- Your Maxi Sound card is now installed in your computer. A default configuration is set for the board. Please refer to chapter 5.3 to change the configuration. You must now reboot your system for your computer to recognize the new sound card. Click on « OK ».

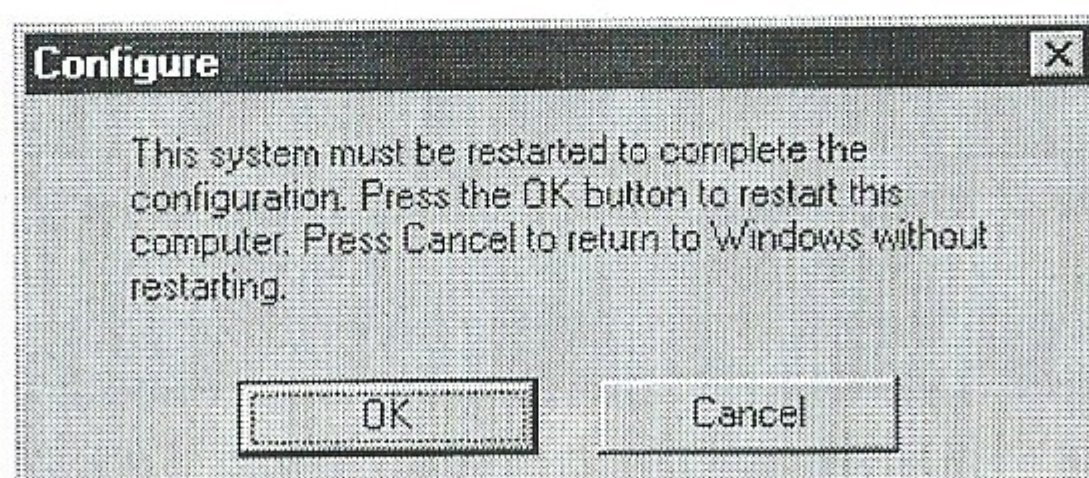


Figure 9 : Rebooting the computer after installation

2.3. Software installation for a CD-ROM drive

Refer to the installation manual of your CD-ROM drive for its software installation.

When your drive has been installed, you may not be able to hear Audio CD read in your CD-ROM drive. First check you've correctly connected the internal cable (please refer the Hardware Installation Guide).

- Then you have to install the CD-Audio driver in Windows® 3.1X by opening the « Control Panel » in the « Main » program group.

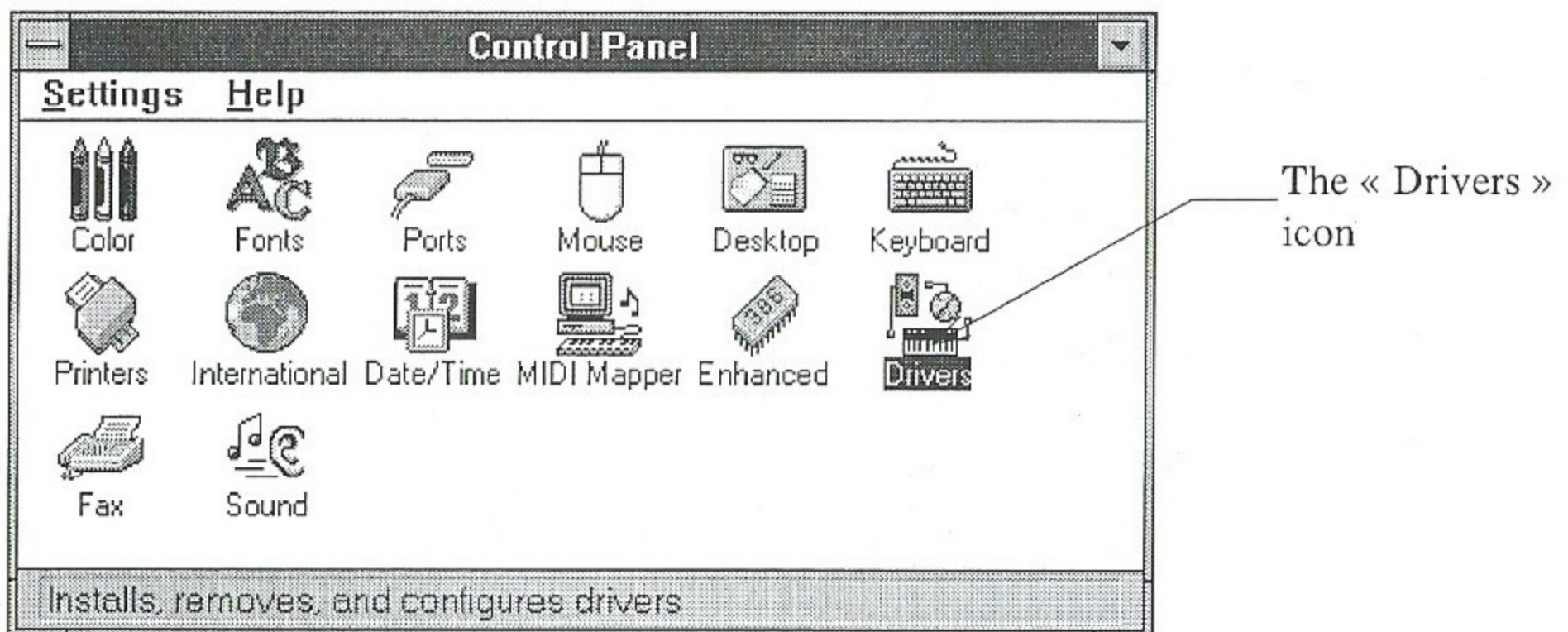


Figure 10 : The Control Panel in Windows® 3.1X

- Double-click on the « Drivers » icon, the « Drivers » panel appears :

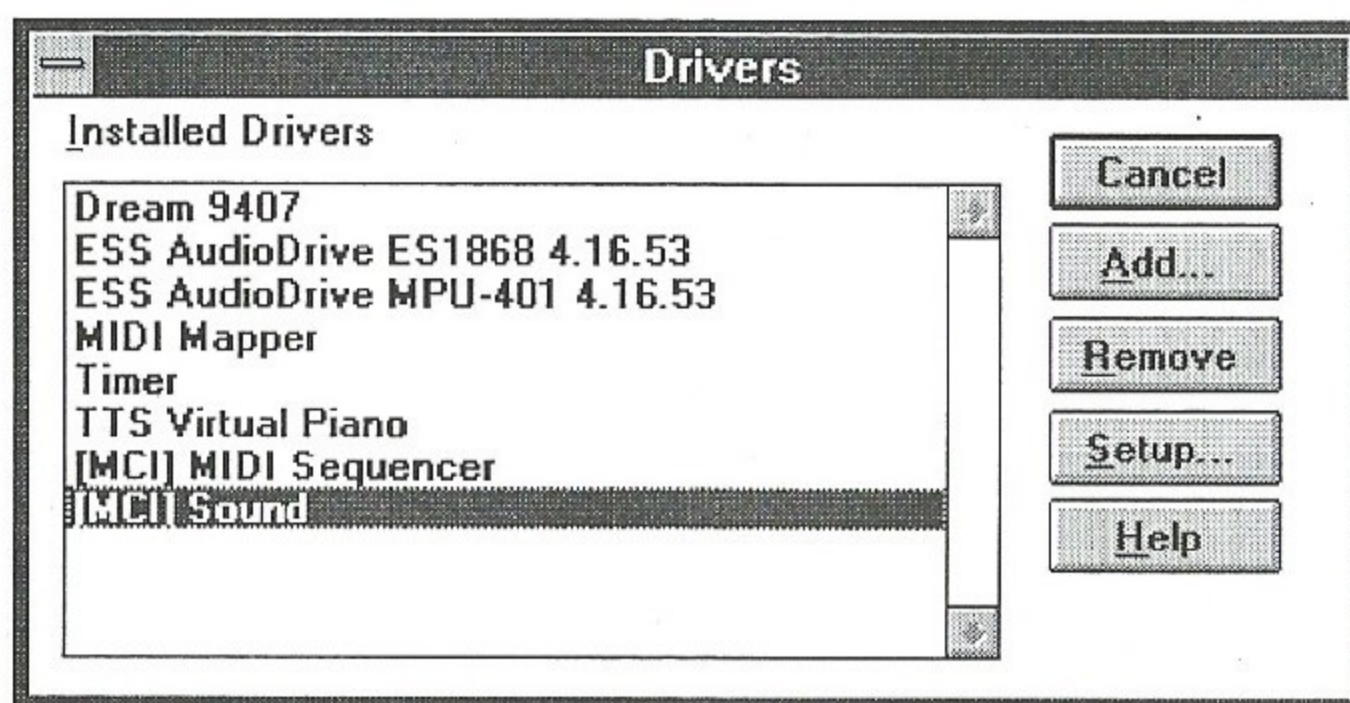


Figure 11 : The « Drivers » Panel in Windows® 3.1X

- Click on the « Add » button, the « Add » panel appears :

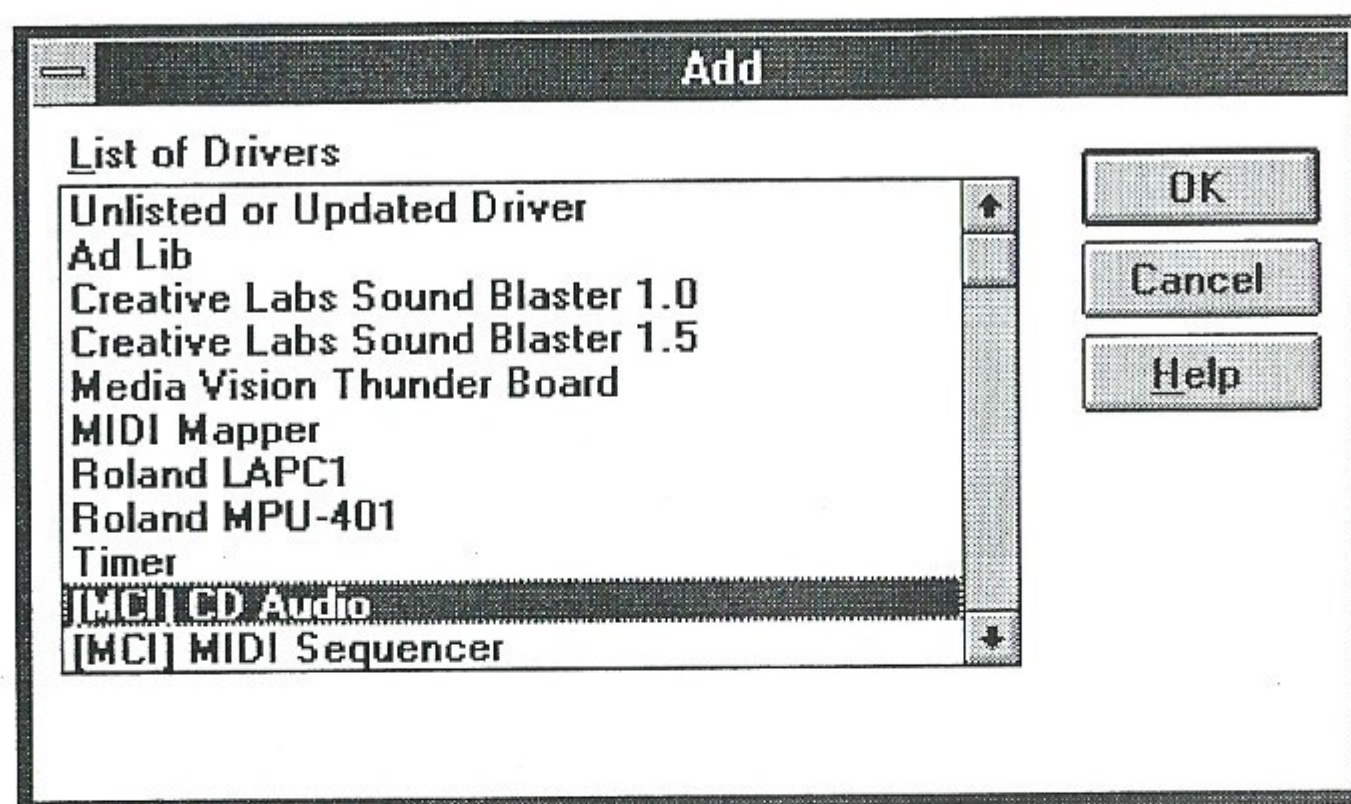


Figure 12 : Adding a « [MCI] CD Audio » driver in Windows® 3.1X

- Select the [MCI] CD Audio line in the list and click on « OK ». The systems ask for Windows® 3.1X's installation CD-ROM or diskette to copy the required files onto your system. When this procedure ends, you are able to use the Media Player to read audio compact discs in your CD-ROM drive.

3. INSTALLING THE SOFTWARE

3.1. Maxi Sound Game Theater 64 AUDIO TOOLPAK CD-ROM

« Maxi Sound Game Theater 64 AUDIO TOOLPAK » CD-ROM will be used to install the Windows® 95 or 3.1X drivers but also all the software specially developed for the board :



Figure 13 : Installing the software

3.1.1. Windows® 95 software

- Files used by the system for Plug and Play installation may be found at the root of the CD-ROM (see chapter 1).
- The CD-ROM is « autorun ». That means that when you insert the CD-ROM, it automatically starts and asks you whether you would like to explore the CD-ROM with the Explorer or launch the installation setup (other software).
- You can also launch the installation setup manually with INSTALL.EXE : installation program for software in the root of the CD-ROM.

3.1.2. Windows® 3.1X software

- Type « D :\W31SETUP.EXE » to install the board in Windows® 3.1X (see chapter 2).
- Type « D :\INSTALL.EXE » to install the software.

3.2. Installing the software

By clicking on « Setup », then on « OK », you will enter the installation program. To install the software, simply select or deselect the part of the software you would like to install.

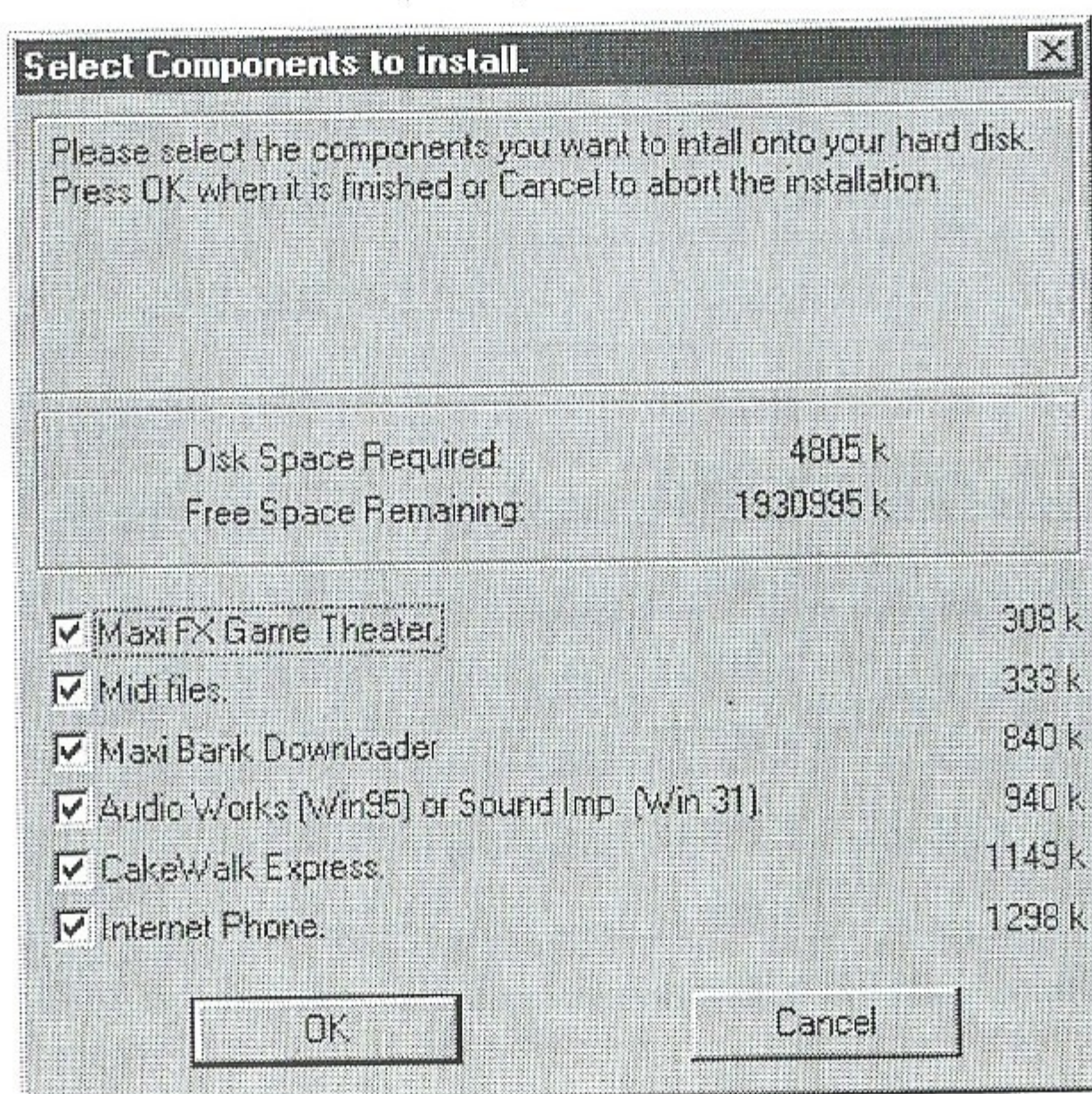


Figure 14 : Select or deselect parts of the software

3.2.1. Maxi FX Game Theater

To install Maxi FX Game Theater, select « Maxi FX Game Theater » in the installation program (see Figure 14).

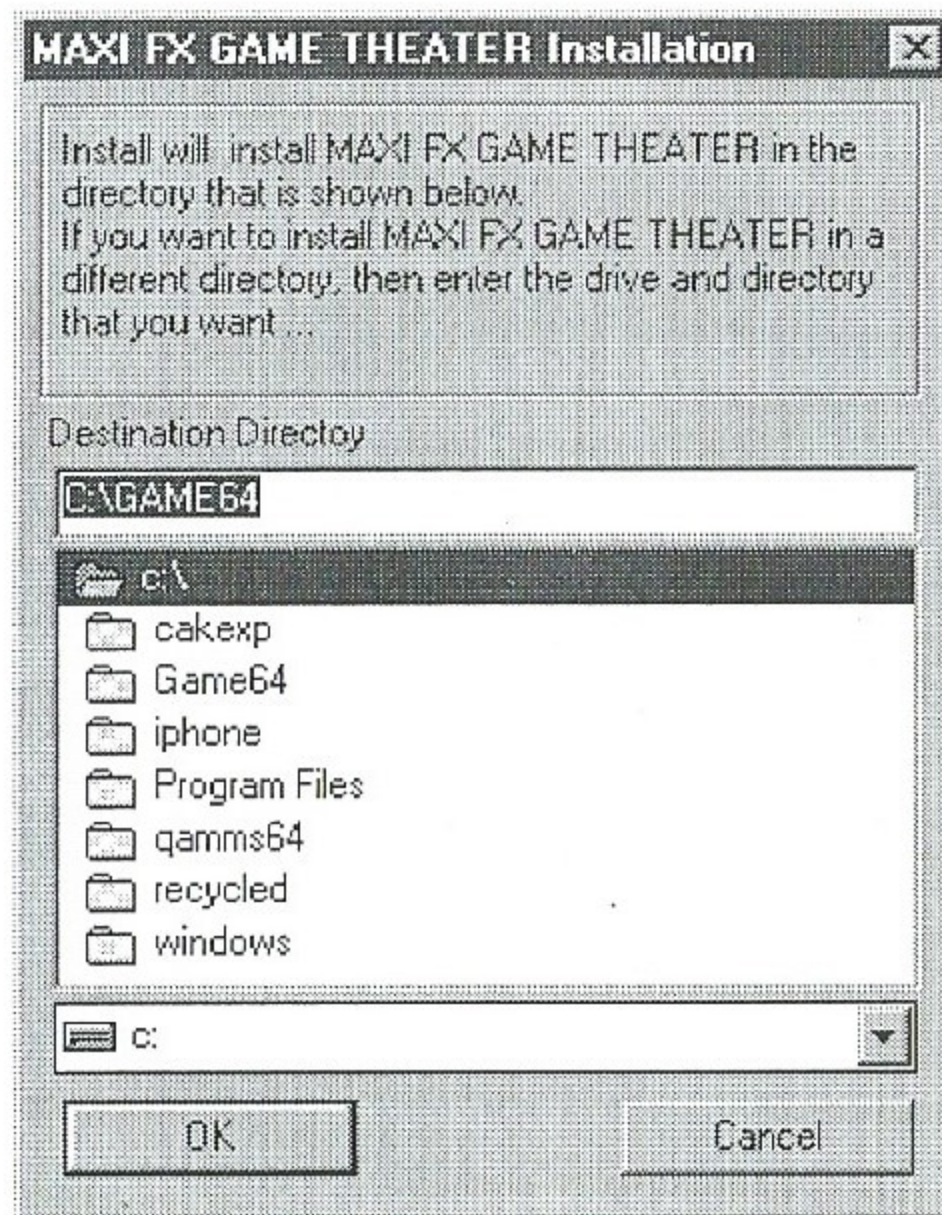


Figure 15 : Maxi FX Game Theater installation

Choose the directory where you want to install Maxi FX Game Theater and click on « OK » (see Figure 15).

Maxi FX Game Theater is a special software program that allows you to apply 2D or 3D surround, Chorus, Reverb, Equalizer, Echo in games and music.

Please refer to chapter 4 for more detailed information regarding the use of this software.

3.2.2. Maxi Bank Downloader

To install Maxi Bank Downloader software, select « Maxi Bank Downloader » in the installation program (see Figure 14).

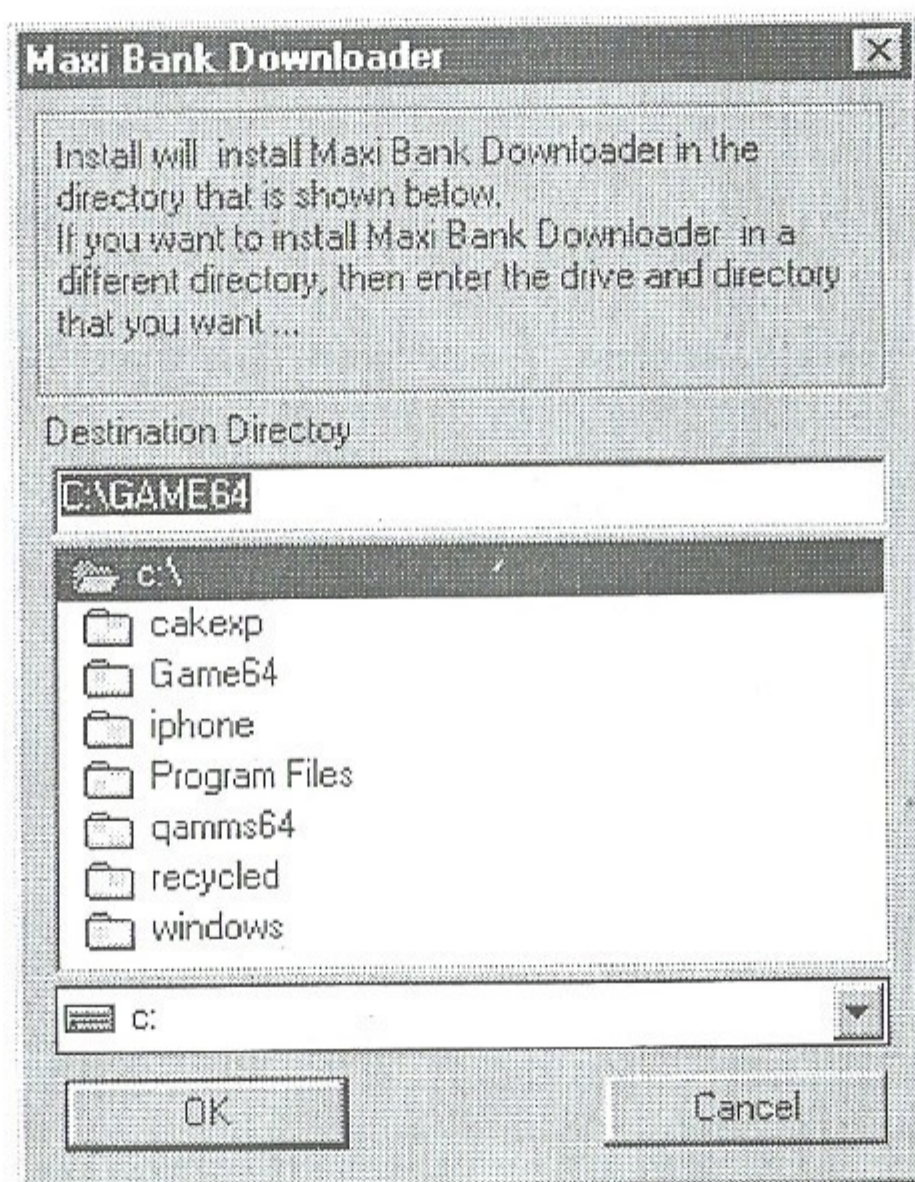


Figure 16 : Maxi Bank Downloader installation

Choose the directory where you want to install the software and click on « OK » (see Figure 16).

Maxi Bank Downloader allows you to load sound banks into the Maxi Sound Game Theater 64 memory to use them in MIDI games, CakeWalk Express or any sequencer.

Please refer to the Maxi Bank Downloader Reference Manual for more detailed information regarding the installation or use of this software.

3.2.3. Maxi Sound program group

All Maxi Sound applications will be accessible from the same program group. The installation asks for a name for that program group as shown in Figure 17a. Enter a name or keep the default one « Maxi Sound Game Theater 64 ». All icons to launch Maxi Sound applications will be put in the same program group (see Figure 17b).

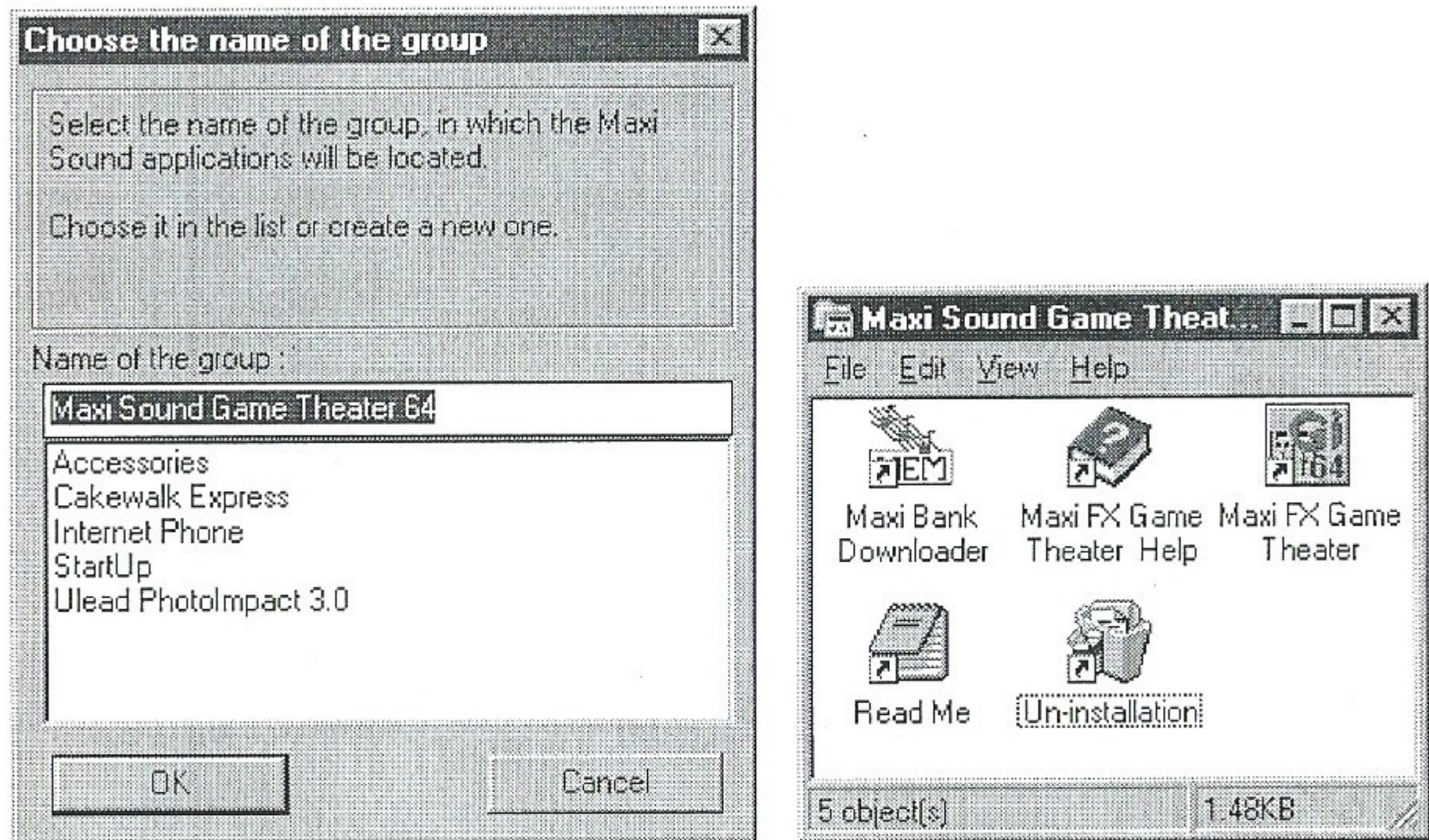


Figure 17 : Maxi Sound applications' program group

3.2.4. Midisoft™ Audio Works / Sound Impression

To install Midisoft™ Audio Works or Sound Impression software, select « Audio Works (Win 95) or Sound Impression (Win 3.1X) » in the installation program (see Figure 14).

- In Windows® 95, the installation program will copy Midisoft™ Audio Works software onto your system.
- In Windows® 3.1X, it will copy Sound Impression software.

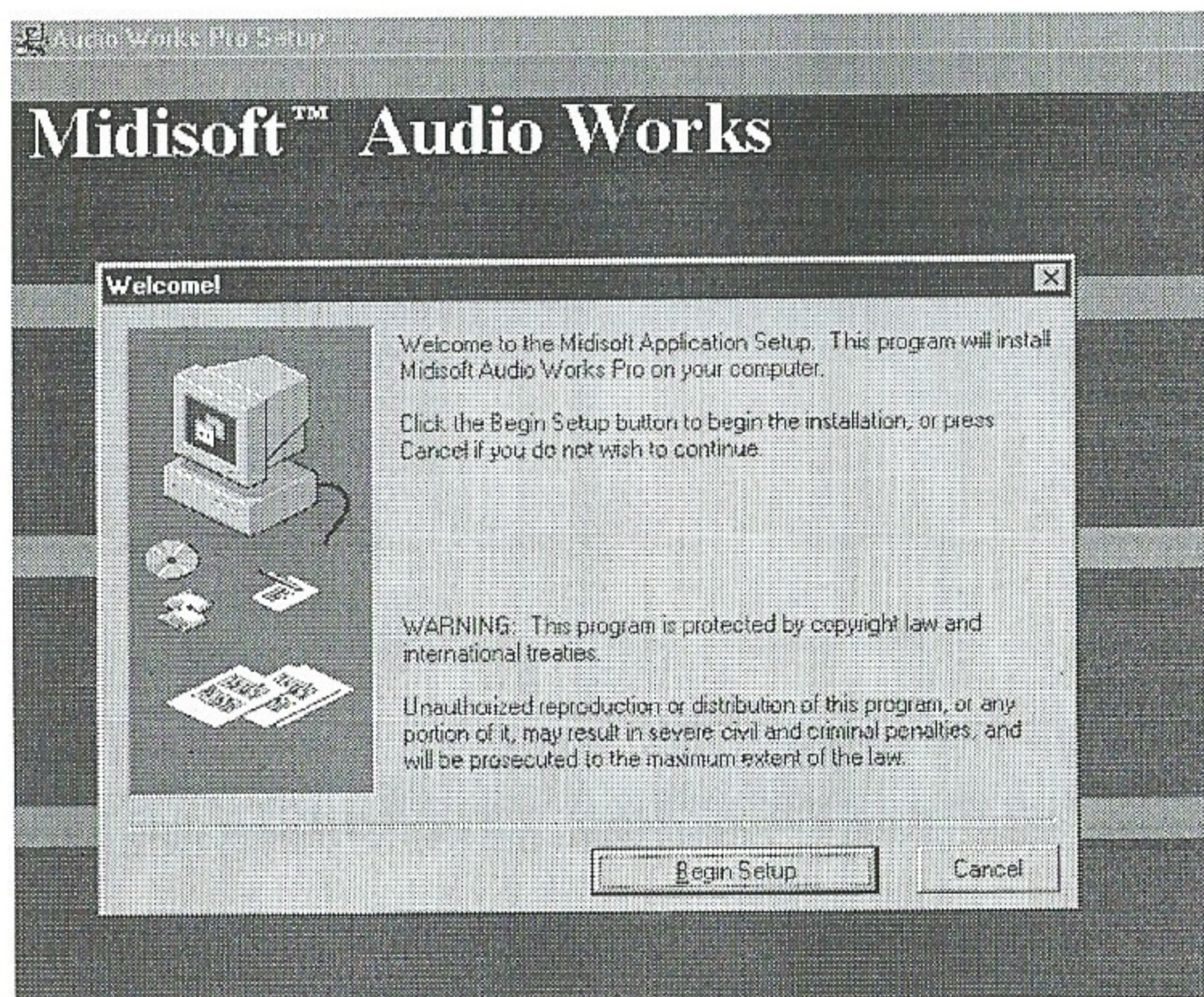


Figure 18 : Midisoft™ Audio Works installation

Click on the « Begin Setup » button shown in Figure 18 and then follow the instructions given by the installation program.

Midisoft™ Audio Works and Sound Impression programs are respectively the 32 bit and 16 bit versions of a stereo rack interface with integrated mixing panel, wave file recorder and player, MIDI player and CD-Audio player, plus a multi-session Wave editor for enhanced sound manipulation.

Please refer to the Midisoft™ Audio Works manual or the Sound Impression on line help for more detailed information regarding the installation or use of the software.

3.2.5. CakeWalk Express

To install CakeWalk Express software, select « CakeWalk Express » in the installation program (see Figure 14).

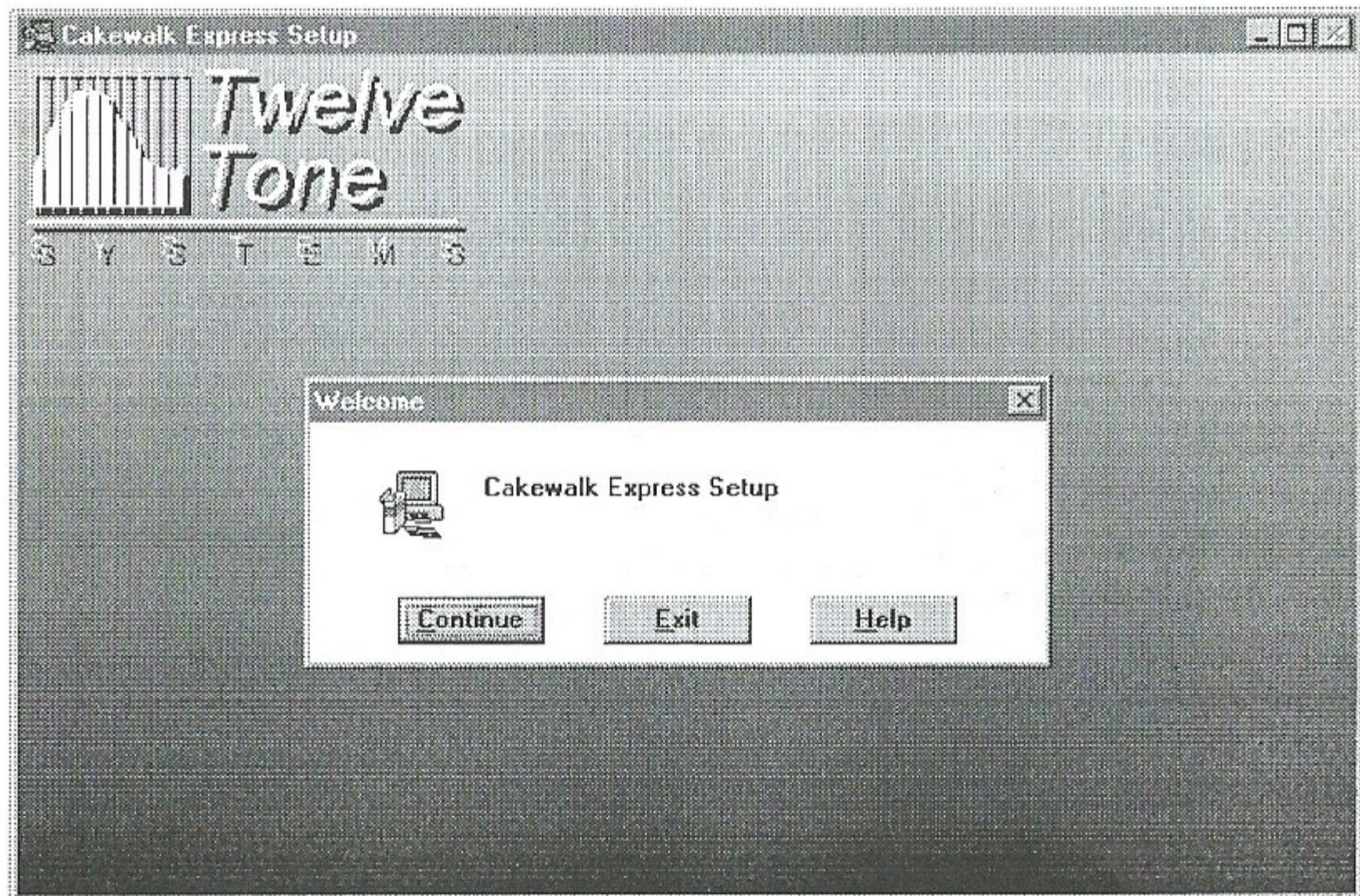


Figure 19 : CakeWalk Express installation

Click on the « Continue » button shown in Figure 19 and then follow the instructions given by the installation program.

CakeWalk Express is a multi-track MIDI sequencer for Windows[®] that allows you to record, edit and playback MIDI music with the on-board MIDI synthesizer of the board or an external MIDI instrument.

See the CakeWalk Express manual for more information about installing or using this software.

3.2.6. Internet Phone

To install Internet Phone software, select « Internet Phone » in the installation program (see Figure 14).

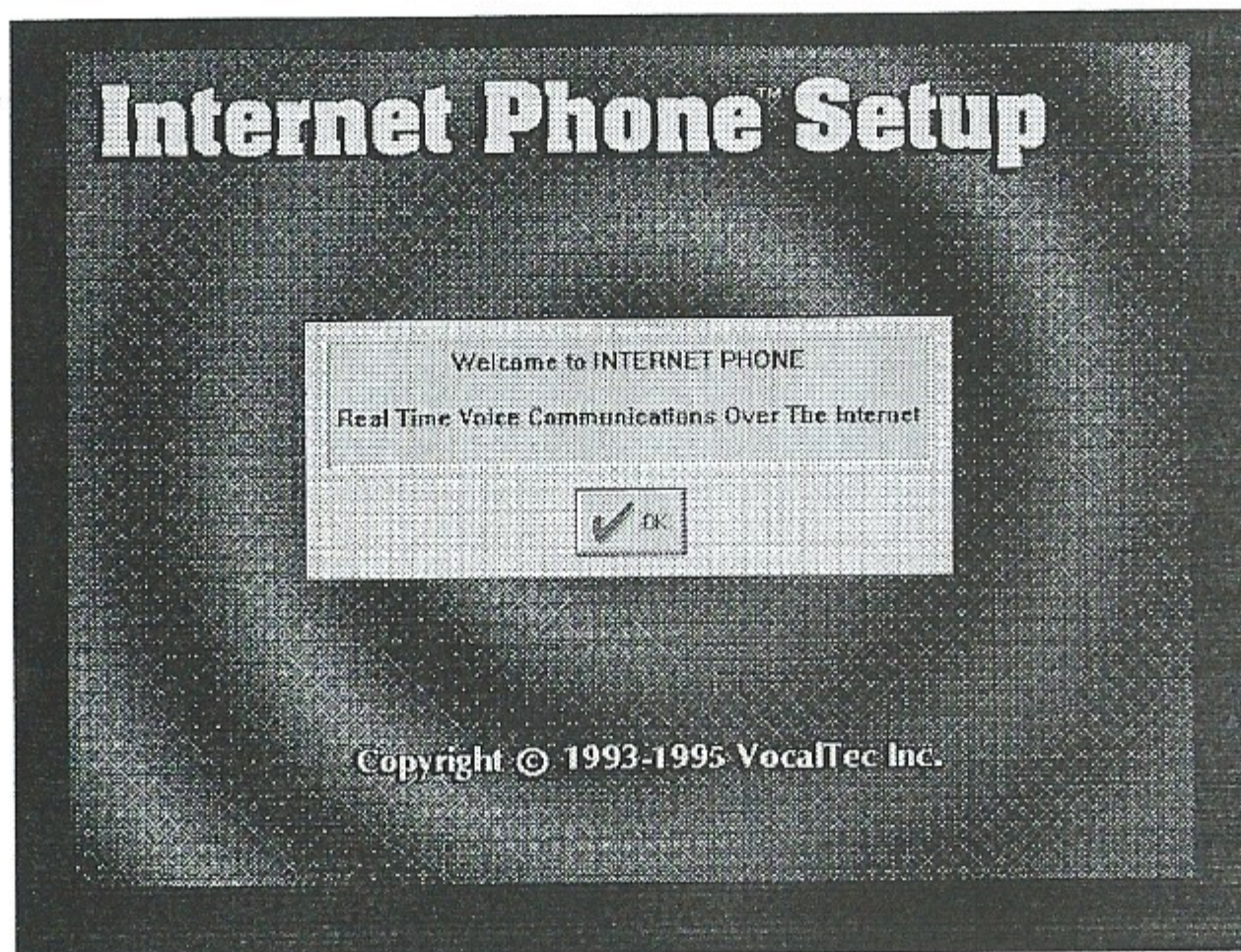


Figure 20 : Internet Phone installation

Click on the « OK » button shown in Figure 20 and then follow the instructions given by the installation program.

To run Internet Phone, you must have a modem and Internet access. Internet Phone allows full duplex, simultaneous two way conversation over the Internet.

See the Internet Phone « Quick Start Guide » for more information about installing or using this software.

4. USING MAXI FX GAME THEATER

This chapter contains important information concerning the operation of the Maxi Sound Game Theater 64 sound card. It is intended for both beginners and experienced users. You can however skip the sections specific to the functions of the card with which you are already familiar.

First let's look at the different sources of music available on your computer and that can be found in games :

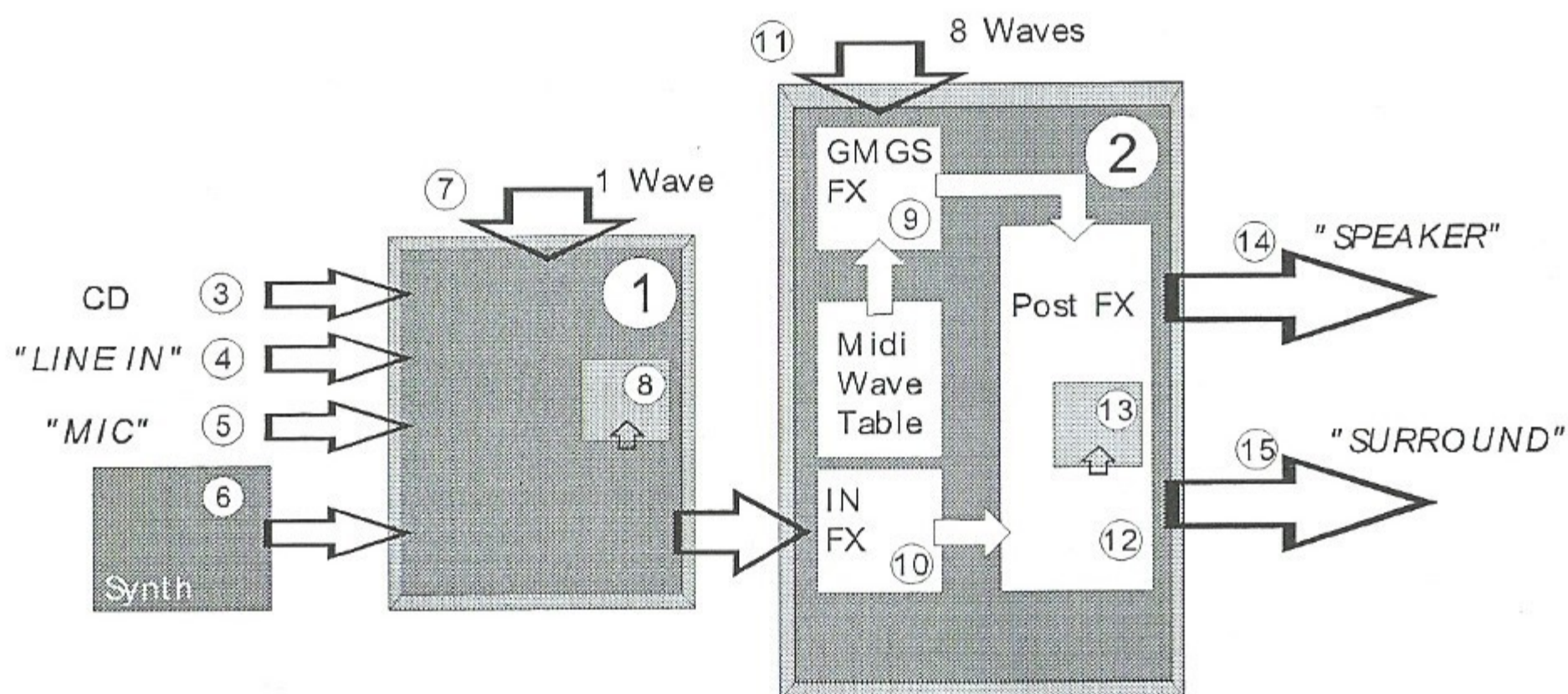
- The first source is MIDI music. MIDI music is to some extent a language of musical components which, when correctly programmed, allows you to make MIDI music compositions. To play MIDI music you need a synthesizer (an electronic chip which produces music), a sequencer (software which sends the MIDI commands to the synthesizer) and a MIDI file (a special format file written by yourself or a musician and which contains all the MIDI commands). Note that the sequencer also allows you to compose a piece by generating the relevant MIDI file.
- The second music source is the CD-ROM drive. In fact, although this reads CD-ROMs, it also allows you to read audio CDs (the ones you play on your laser deck).
- Wave files are the third music source. These are digital files stored on the hard disk. For example, you can save or digitize your voice using a microphone connected to the Maxi Sound Game Theater 64 card.
- Finally, you can listen to music or sounds from a microphone or from your Hi-Fi. To do this, connect the music source to your card's Mic or Line in input. This is the fourth music source.

The main functions of your Maxi Sound Game Theater 64 card are therefore firstly to manage all the music sources described above and then to generate MIDI music via a synthesizer chip.

You can skip the following chapter, but reading it, just briefly, will help you to understand how the card functions and therefore how the board and Maxi FX Game Theater software work.

4.1. Introduction : Card Architecture


Figure 21 represents the general functions of the Maxi Sound Game Theater 64 card.




①	Codec.....	
②	The Digital Signal Processor	/
③	Analog CD audio input.....	
④	Line In input.....	
⑤	Mic input.....	
⑥	MIDI input of the synthesizer daughter board.....	
⑦	Digital Wave input of the Codec (internal : Bus ISA).....	
⑧	The Codec Wave recording module	
⑨	GM/GS Effects generator (Chorus, Reverb).....	
⑩	Input Effects generator (Echo, Reverb)	
⑪	Processor's digital wave inputs (internal : Bus ISA)	/
⑫	Post effects generator (Equalization, Surround)	
⑬	Wave recording module of the processor	/
⑭	Speaker or Line output	/
⑮	Surround output.....	

Figure 21 : Maxi Sound Game Theater 64 card functions

The table describes the Maxi Sound Game Theater 64's hardware architecture.

You will be able to modify all the functions marked with a  label directly under Windows® 95 applications.

Those marked with a  label will be modified under special Maxi Sound Game Theater 64 applications (Maxi FX Game Theater).


Those marked with both of these labels will be accessible under both environments.

If you wish to make maximum use of the card's functionality, we would advise you to keep this diagram in mind. This is what will guide the choices that you will make from the different options that will be presented to you in Windows®.

The card's architecture is based on two main chips : a Codec (or mixer) and a Digital Signal Processor.



One of the primary functions of the *Codec* is to add the following music sources :

- music from an audio CD, the Line-in input, or a microphone.
- wave files read by the Codec (digitized sounds).
- MIDI music generated by the synthesizer on a daughter card connected to the wave connector (optional).

Those functions are labeled with the icon  on Figure 21.

The *Digital Signal Processor* has several functions :


- It generates MIDI music from a mid. file (MIDI instructions) from the wavetable samples (instrument sounds stored in memory).
- It serves as a processor for effects (Chorus, Reverb) and post effects (4-band equalization, Surround).
- It allows up to 8 wave files to be read simultaneously and for one of these to be recorded.

The functions are labeled with the icon  (use Maxi FX Game Theater) or with the icon  (use Windows® 95 software) on Figure 21.

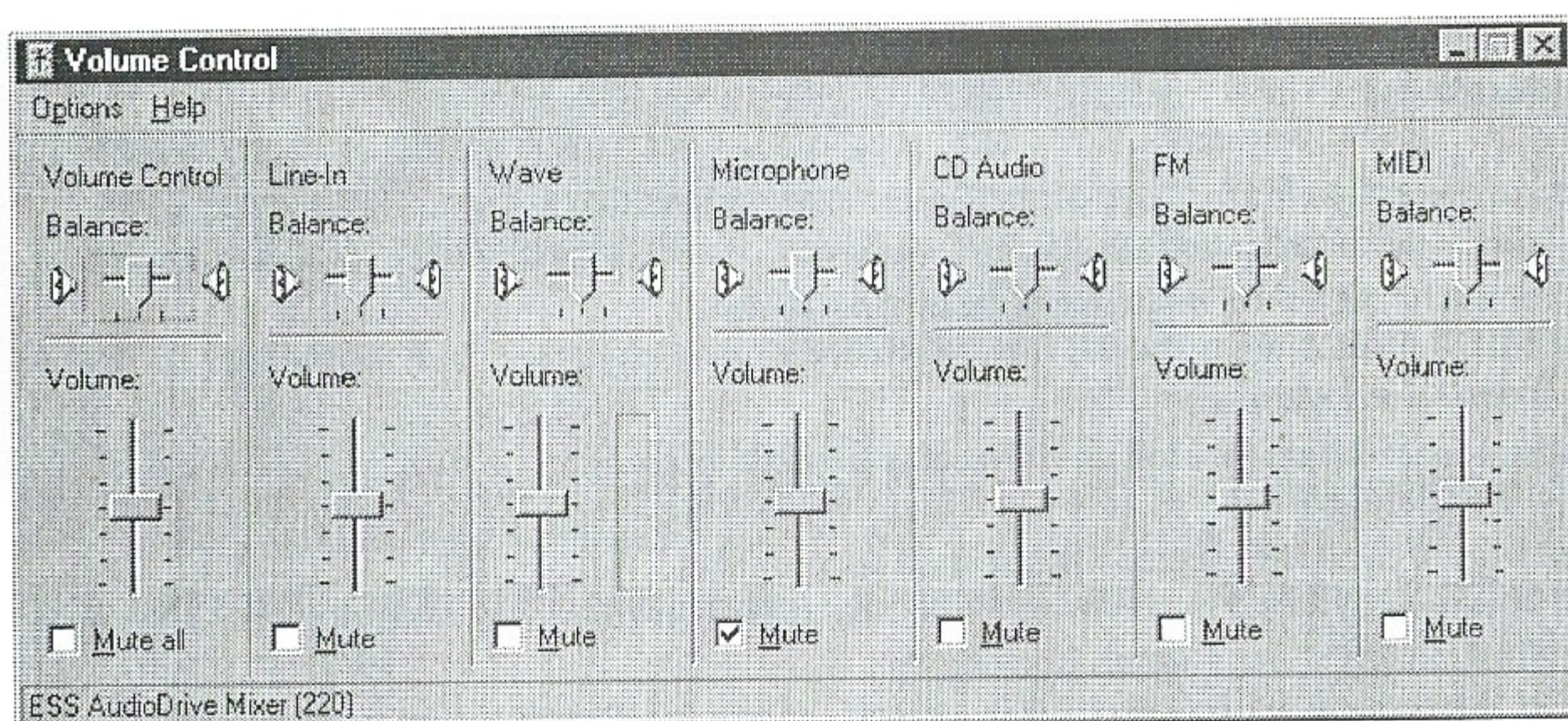
The Media Player is used to play these different types of music in Windows®. MIDI music can also be played by a MIDI sequencer (like Cakewalk Express, supplied with the card). You can compose your own MIDI pieces with the sequencer and use the effects and post effects generated by the Maxi Sound Game Theater 64 card. You can access the various effects via special commands, controllers or NRPN, sent to the synthesizer from the sequencer (MIDI musicians use this type of command; they are described in the Hardware Installation Guide of the card).

The following panels are used to control the different sources under Windows® 95. Please refer to chapter 5.2 for advanced system functions.

4.1.1. The Codec's Windows® 95 interface :

Figure 22 shows the Volume Control graphical interface under Windows® 95. To display it under Windows® 95, click the  icon on the taskbar and select « ESS AudioDrive Mixer » in the « Option / Properties / Mixer Device » menu.

The first window provides volume adjustment for all the music source inputs to the Codec. These sources are Audio CD, Line In, Microphone, Wave and MIDI. The second window lets you choose the recording source (CD audio, Line-in, Microphone, or a mix of those sources) and the recording level (digital wave file).



« Options / Properties » menu

- « Mixer Device » :
Select the « Playback » or « Record » control panel.
- Choose the driver :
« ESS AudioDrive Mixer » or « Dream Sound Studio Mixer ».

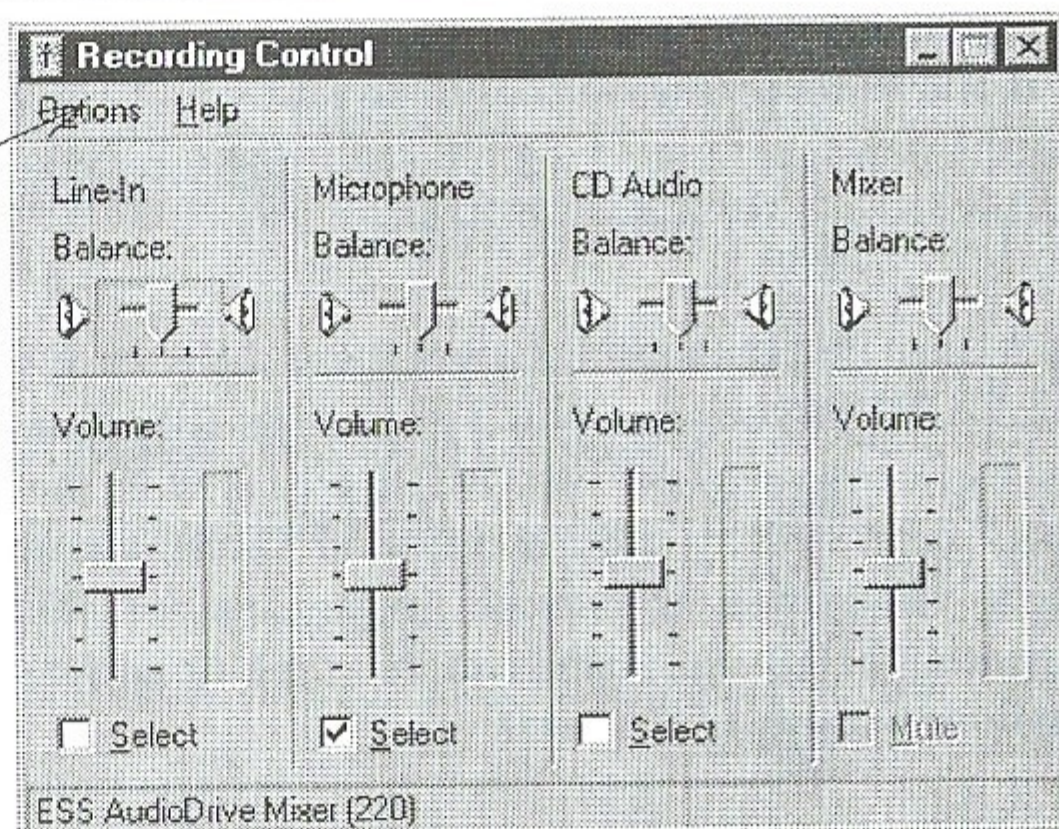


Figure 22 : Windows® 95 Volume Control of the Codec

The first panel is used to define all the « Playback » volumes. The second window controls the « Record » levels and sources.

4.1.1.1. Playback Volumes

The « Volume Control » slider is used to set the master volume of the Codec.

The « Line-in », « CD Audio » and « Microphone » sliders are used to control Line In, CD Audio and Microphone inputs.

The « Wave » is used to control the volume of the wave files read by the Codec.

The « FM » slider is used to control FM synthesized music.

The « MIDI » slider is used to control the volume of the MIDI music played by an additional MIDI daughter board (not included in the package).


4.1.1.2. Record Level

The « Line-in », « CD Audio » and « Microphone » sliders are used to control Line In, CD Audio and Microphone gains.

The « Mixer » slider is used to control the gain of the mix of all the sources defined with the Playback panel. It records what goes out of the playback.

All sources then enter the Digital Signal Processors.

4.1.2. Digital Signal Processor's Windows® 95 interface :

Figure 23 shows the Volume Control graphical interface under Windows® 95. To display this under Windows® 95, click the  icon on the taskbar and select « Dream Sound Studio Mixer » in the « Option / Properties / Mixer Device » menu.

The first window provides volume adjustment for all the music input sources to the Digital Signal Processor. These sources are audio coming from the Codec, wave and MIDI. The second window lets you choose the source when recording :

- Only inputs to the Digital Signal Processor originating from the Codec (default configuration).
- A mix of inputs to the Digital Signal Processor and all that is played through it.

You will also be able to adjust the recording level (digital wave file).

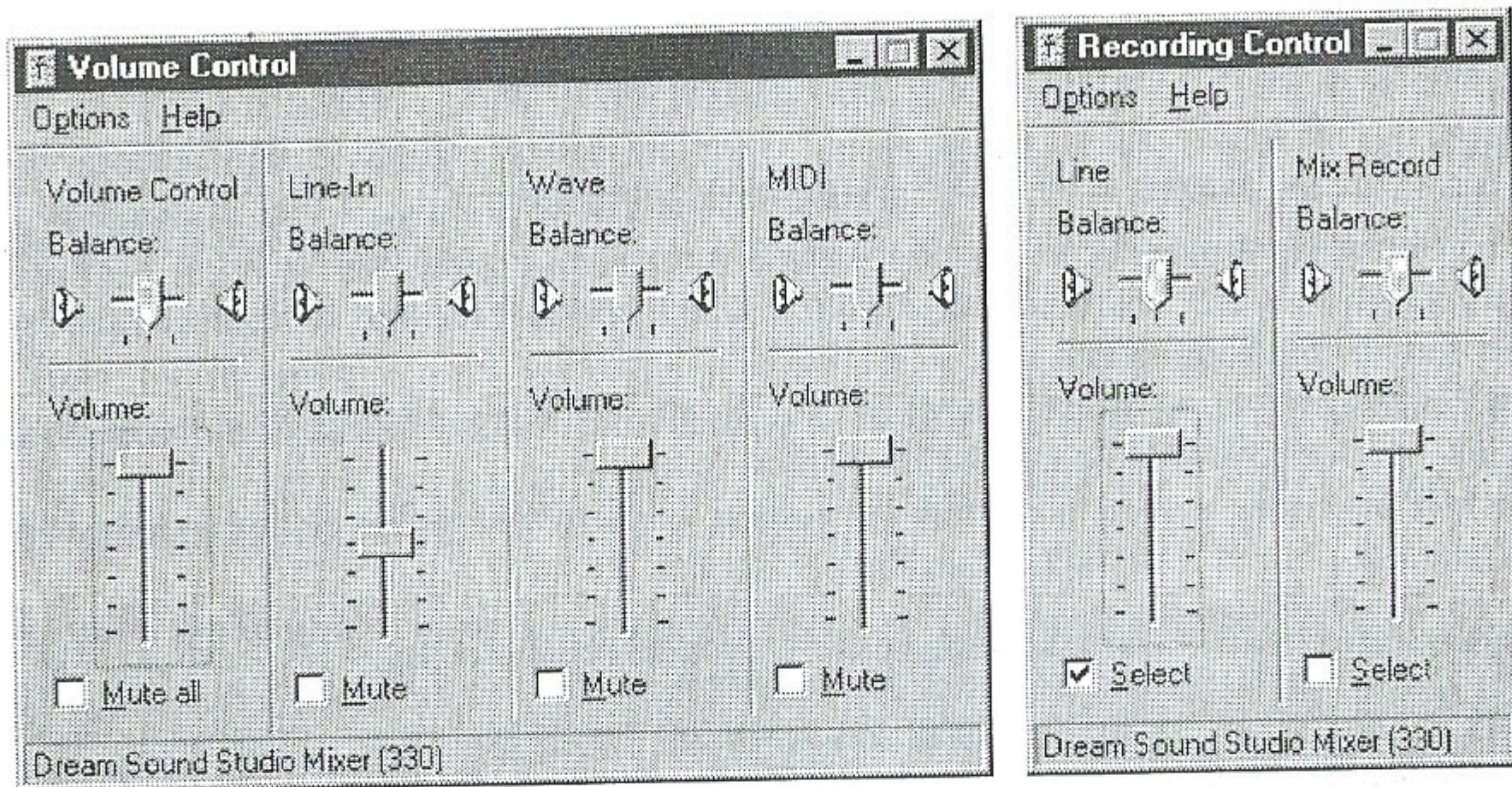


Figure 23 : Windows® 95 Volume Control of the Digital Signal Processor

The first panel is used to define all the « Playback » volumes. The second panel controls the « Record » gains and sources.

4.1.2.1. Playback Volumes

The « Volume Control » slider is used to set the master volume of the Digital Signal Processor.

The « Line In » slider is used to control volume of all sources coming from the Codec. The « wave » slider is used to control the volume of the waves files read by the Digital Signal Processor (up to 8 at the same time).

The « MIDI » slider is used to control the volume of the MIDI music played by Maxi Sound Game Theater 64's on-board synthesizer (the Digital Signal Processor).

4.1.2.2. Record Levels

The « Line » slider is used to control the sound level coming from the Codec.

The « Mix Record » slider is used to control the gain of the mix of all sources defined with the Playback panel. It records what goes out of the Codec (wave read by the Codec, CD Audio, Line In, External MIDI), waves and MIDI played by the Digital Signal Processor.

4.1.3. Card's architecture and Windows® 95 Volumes : Summary

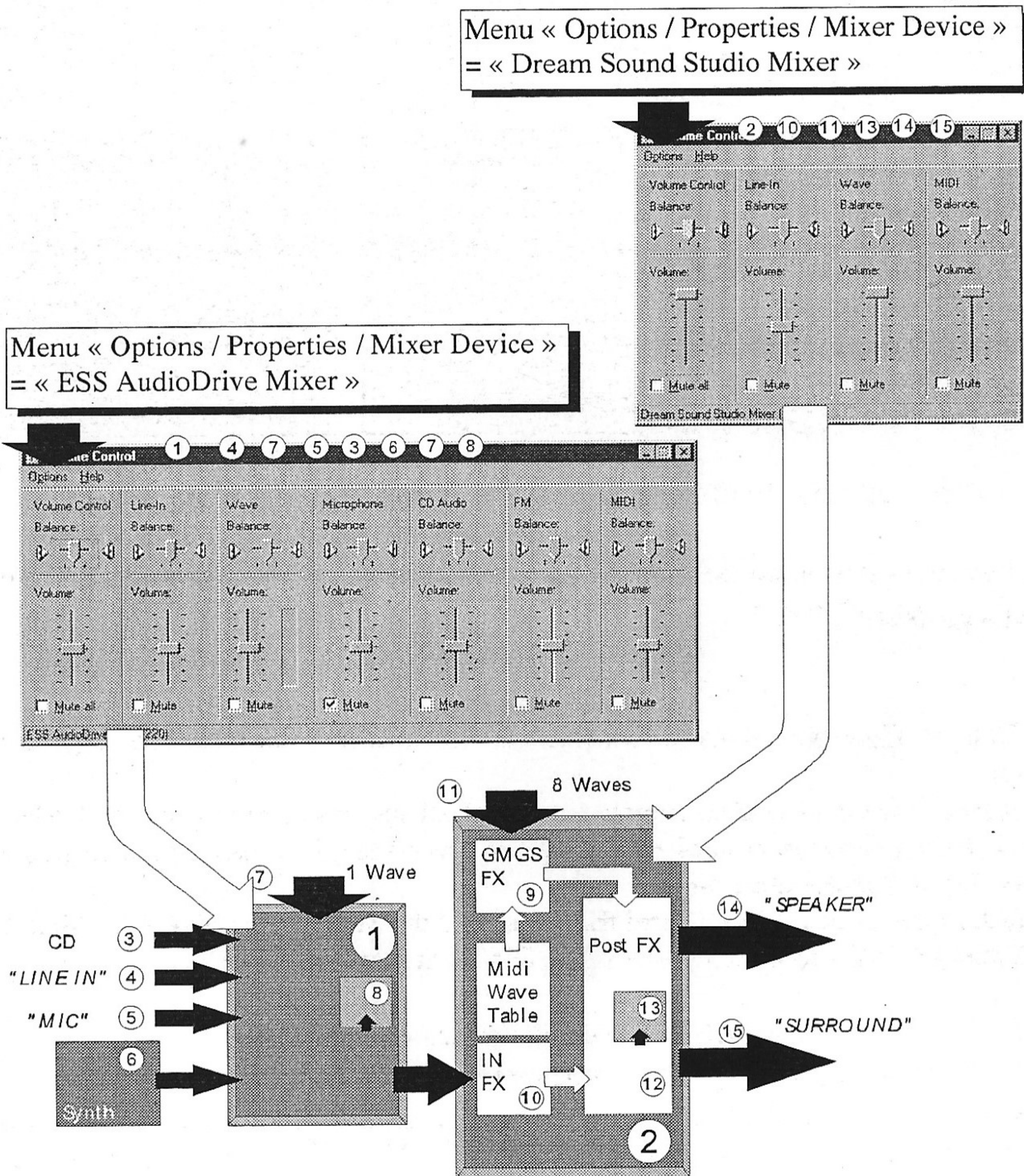


Figure 24 : Volumes and Architecture

Maxi Sound Game Theater 64 Software Installation Guide

4.1.4. Interfaces in Windows® 3.1X

The following panels are used to control the Codec's Playback and Record levels under Windows® 3.1X. Click on the « Volume Control » icon in « Maxi Sound Game Theater 64 » program group.

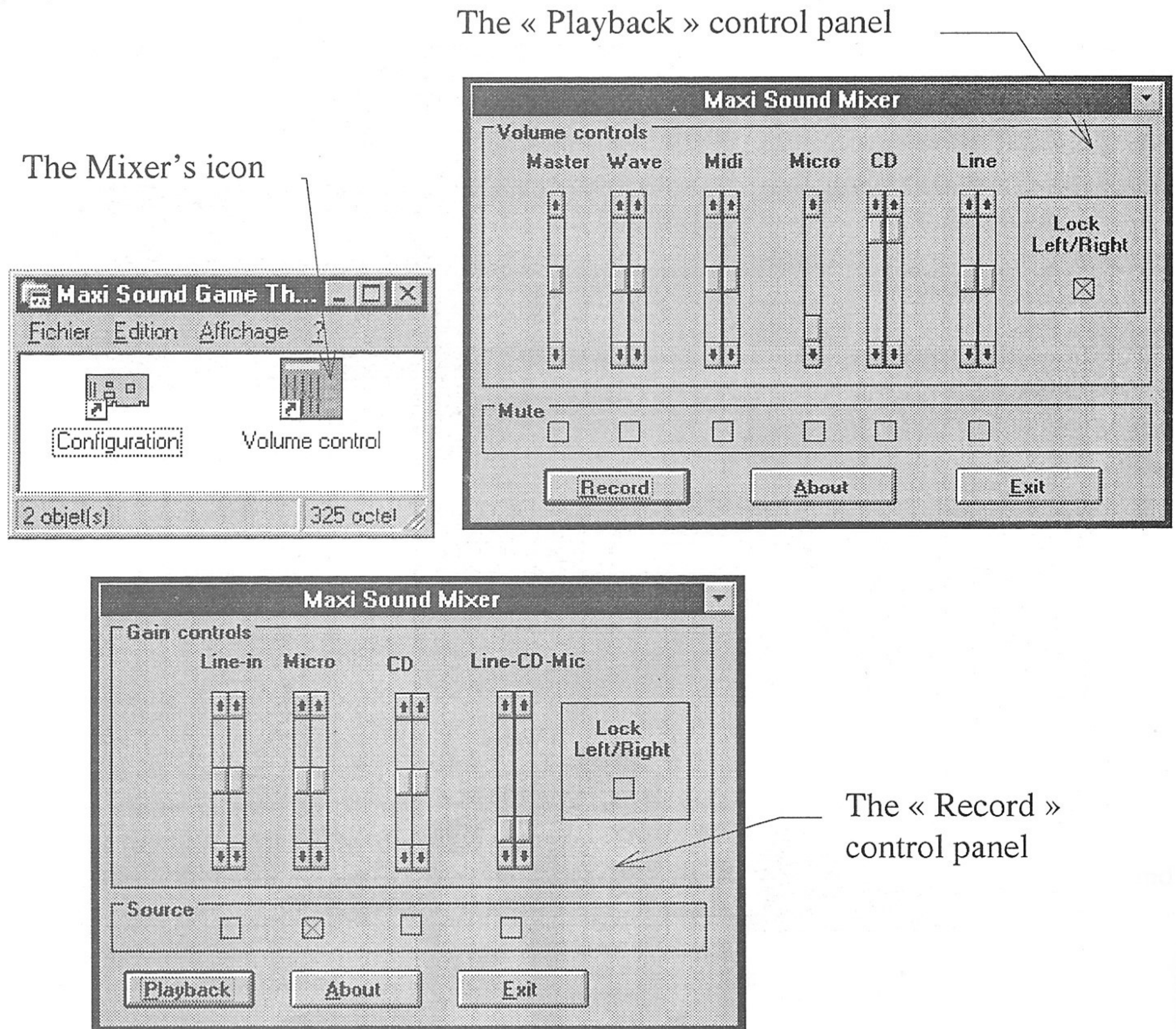


Figure 25 : Codec's interface in Windows® 3.1X

Use Maxi FX Game Theater software to control the Digital Signal Processor's levels in Windows® 3.1X.

4.1.5. The Maxi FX Game Theater Window

Maxi FX Game Theater, the specially programmed software for the Maxi Sound Game Theater 64 card allows you to control the MIDI volume, the volume of inputs to the Digital Signal Processor, and the Chorus, Reverb, Equalizer and Surround effects easily in your games. You can also create and save your own sound sequences. To run this software, select « Maxi FX Game Theater » in the « Maxi Sound Game Theater 64 » group. Figure 26 shows the main menu for this software and details about its use.

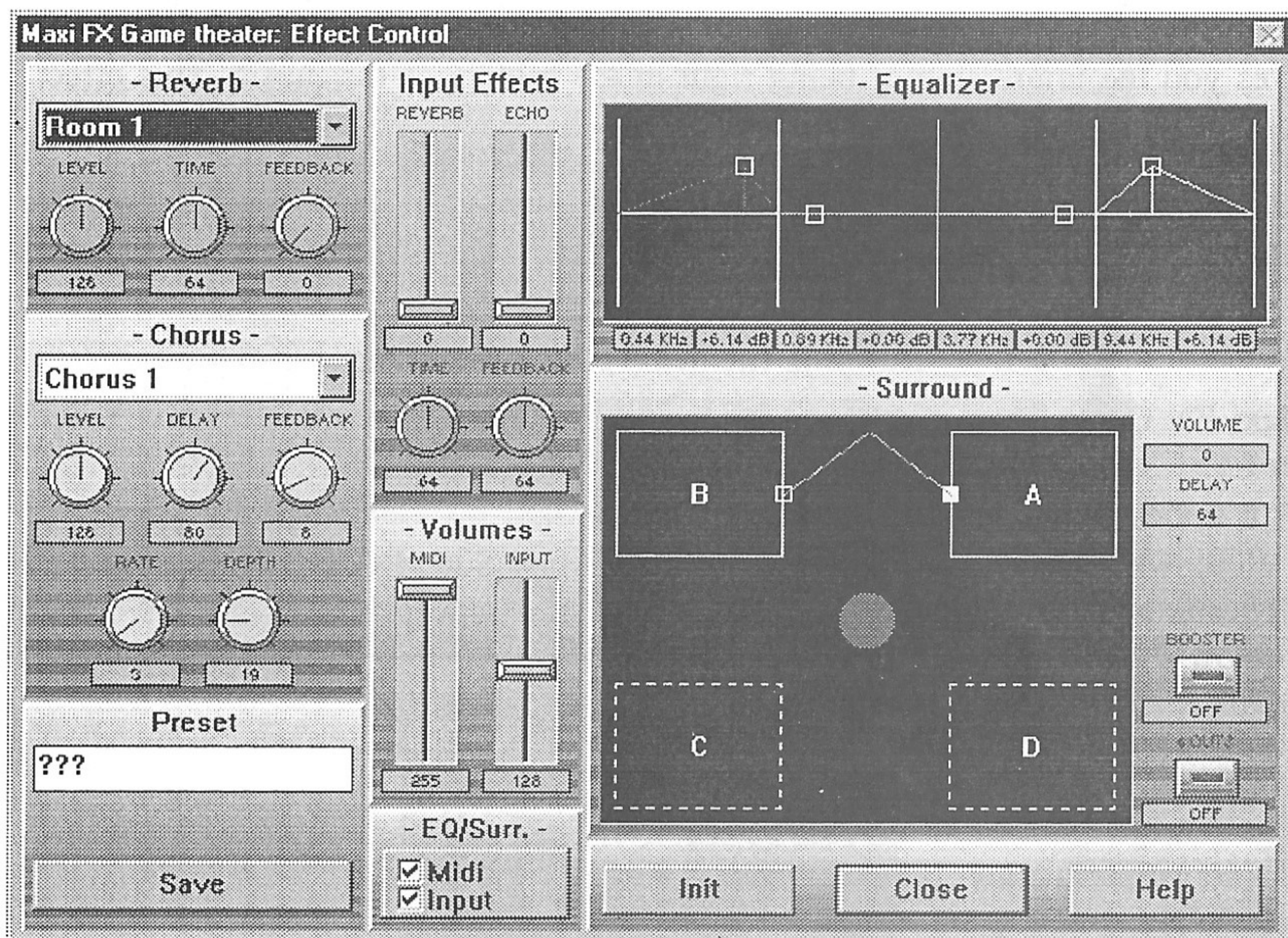


Figure 26 : The Maxi FX Game Theater main menu

4.2. The Maxi FX Game Theater Effects Menu

The Maxi Sound Game Theater 64 card can generate effects in real time. You can use these effects in games, when playing music under Windows® via the Media Player or audio CDs from your CD-ROM drive, to microphone inputs or « line-in », all in real time. You simply need to run Maxi FX Game Theater then the application which plays the piece or your favorite game.

Maxi Sound Game Theater 64

Software Installation Guide

For example you can add a Chorus or Reverb effect on MIDI music generated by the Digital Signal Processor. You can also add Reverb or Echo effects on wave files read by the Codec or on audio tracks (CD-ROM). This personalizes music in your game soundtracks. By applying Echo and Reverb to microphone inputs, you will be able to use the Maxi Sound Game Theater 64 as a real digital parametric Echo chamber.

You can also use Maxi Sound's 4-band paragraphic equalizer to increase or reduce bass, mid and treble to adjust equalization as you like. Your EQ adjustments will be applied to all sounds generated or passing through the sound board.

Finally you have a surround effect generator which considerably increases the sound field and gives you the impression of being right in the middle of the music. This effect is also available for all sounds generated or passing through the sound board.

If you want to use these effects in real time, use the Maxi FX Game Theater software supplied with the card. This gives you a graphical interface to control all these effects in real-time with just a click of the mouse.

4.2.1. Running the Maxi FX Game Theater Software

The Maxi FX Game Theater software is located in the program group « Maxi Sound Game Theater 64 ».

To run it under Windows® 3.1X, click on the « Maxi FX Game Theater » icon. To run it under Windows® 95, select « Start / Programs / Maxi Sound Game Theater 64 / Maxi FX Game Theater ».

The window shown on Figure 27 comes up. One mouse click anywhere in this window leads to the main Maxi FX Game Theater menu.

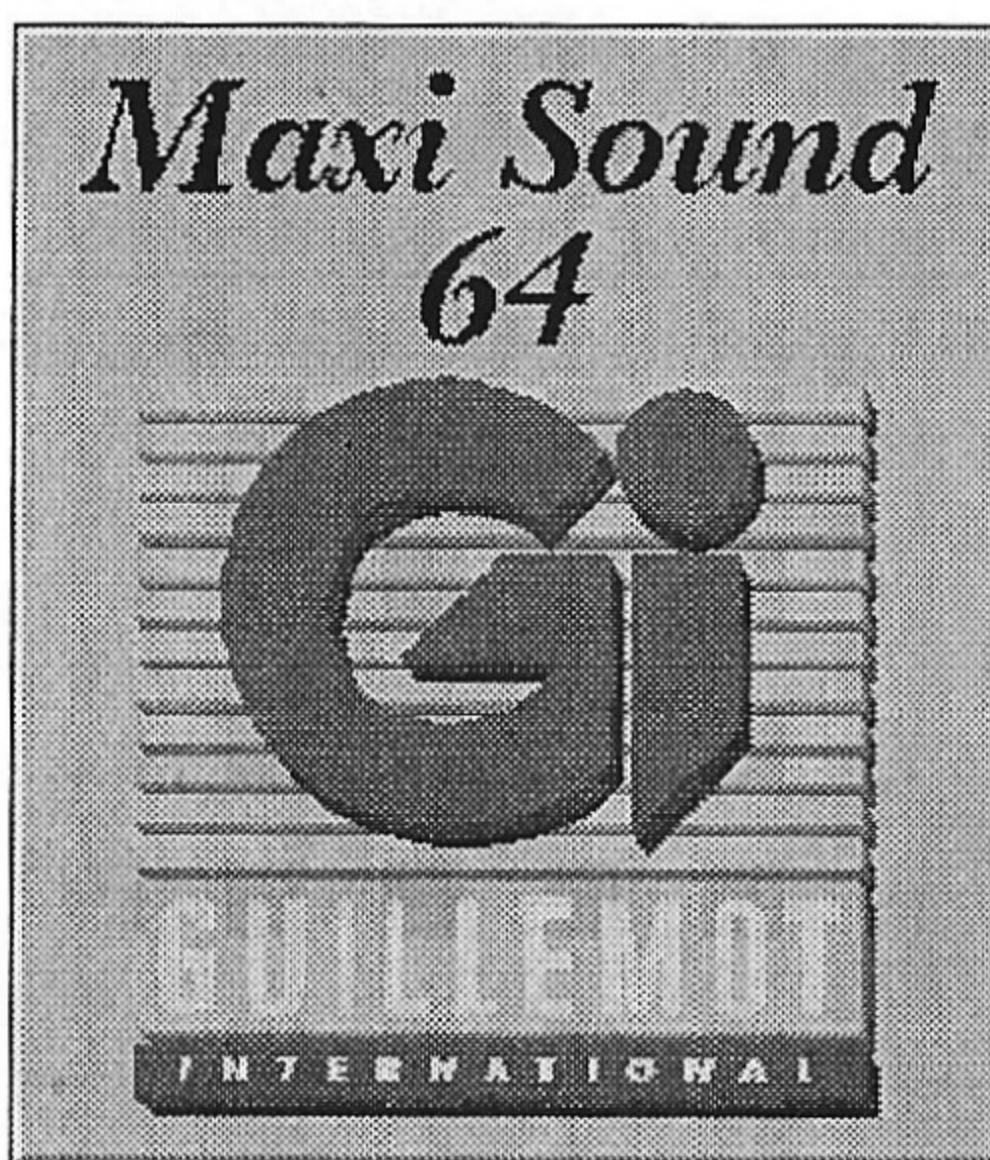


Figure 27 : The Maxi FX Game Theater window

4.2.2. The Main Maxi FX Game Theater Menu

When you click on the « Maxi Sound Game Theater 64 » window, the main Maxi FX Game Theater menu comes up. This is shown in Figure 15.

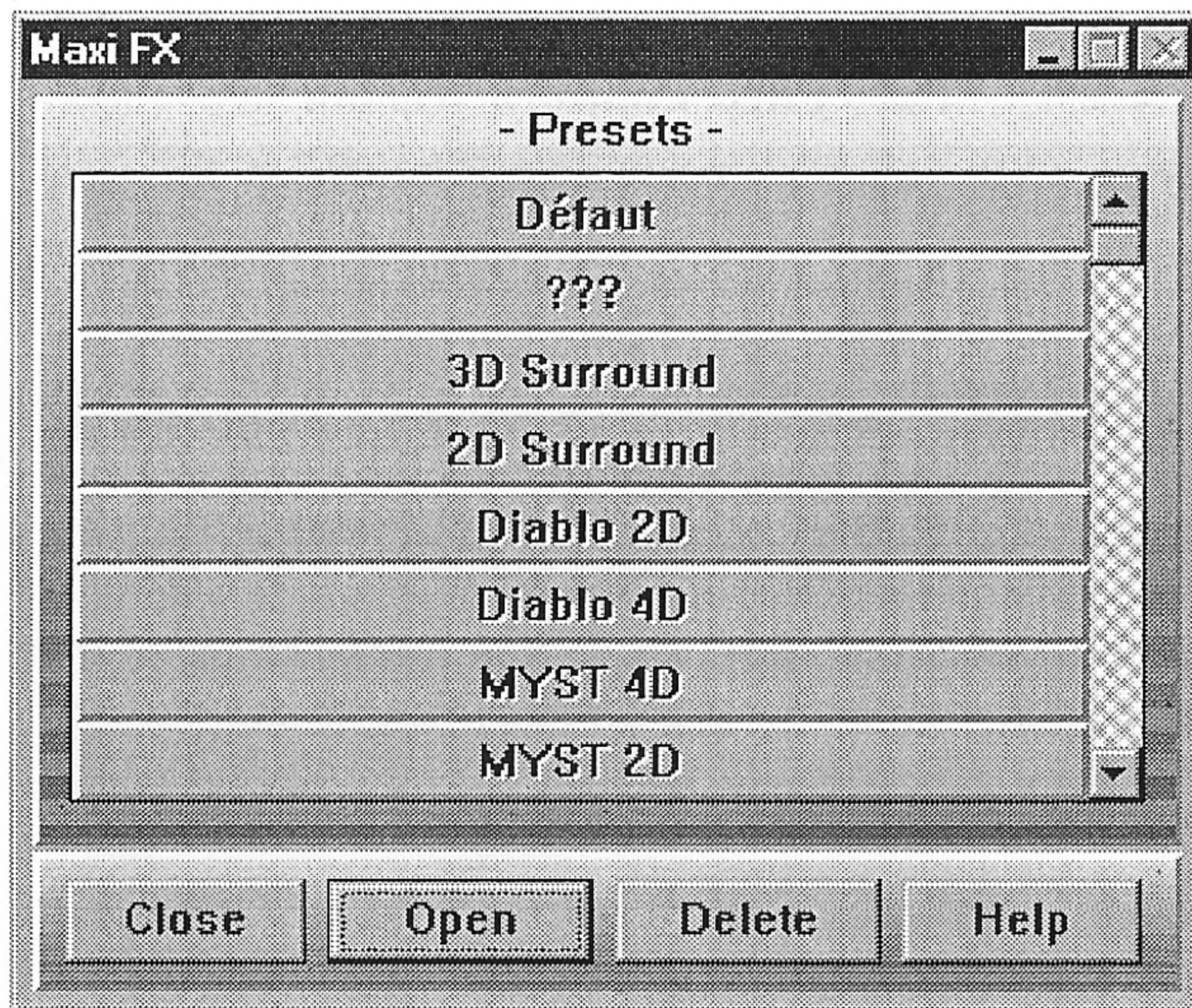


Figure 28 : The Maxi FX Game Theater main menu

Maxi FX Game Theater is supplied with 50 enhanced audio settings for the top selling games. Just click on any preset button. When the name appears in red, your preselection becomes current and the effects are applied in real time. If you click on the *3D Surround* button, the preselected effects under *3D Surround* are then applied in real time.

Each button provides a unique predefined audio effects setting. The *Default* button provides the lowest level of effects. There are pre-recorded settings providing a range of sound sequences which can be used as they are right from the start.

To delete a preset from the list, click on the button for the setting you wish to delete, then click on *Delete*.

The *Close* button takes you out of Maxi FX Game Theater software.

The *Help* button accesses the Maxi FX Game Theater on-line help software.

You can also edit your presets and save the parameters to create a new preset.

To edit an item, click on its button then click on *Open*. The « Maxi FX Game Theater Effect Control » window shown on Figure 29 appears. You can adjust the effects in your selected item. To save the new settings, click on « Save ».

4.2.3. The « Effect Control » Window

This window appears when you click on the *Open* button on the main Maxi FX Game Theater window. This is where you define your desired effects with a simple click of the mouse. Figure 29 shows the graphical interface for this window.

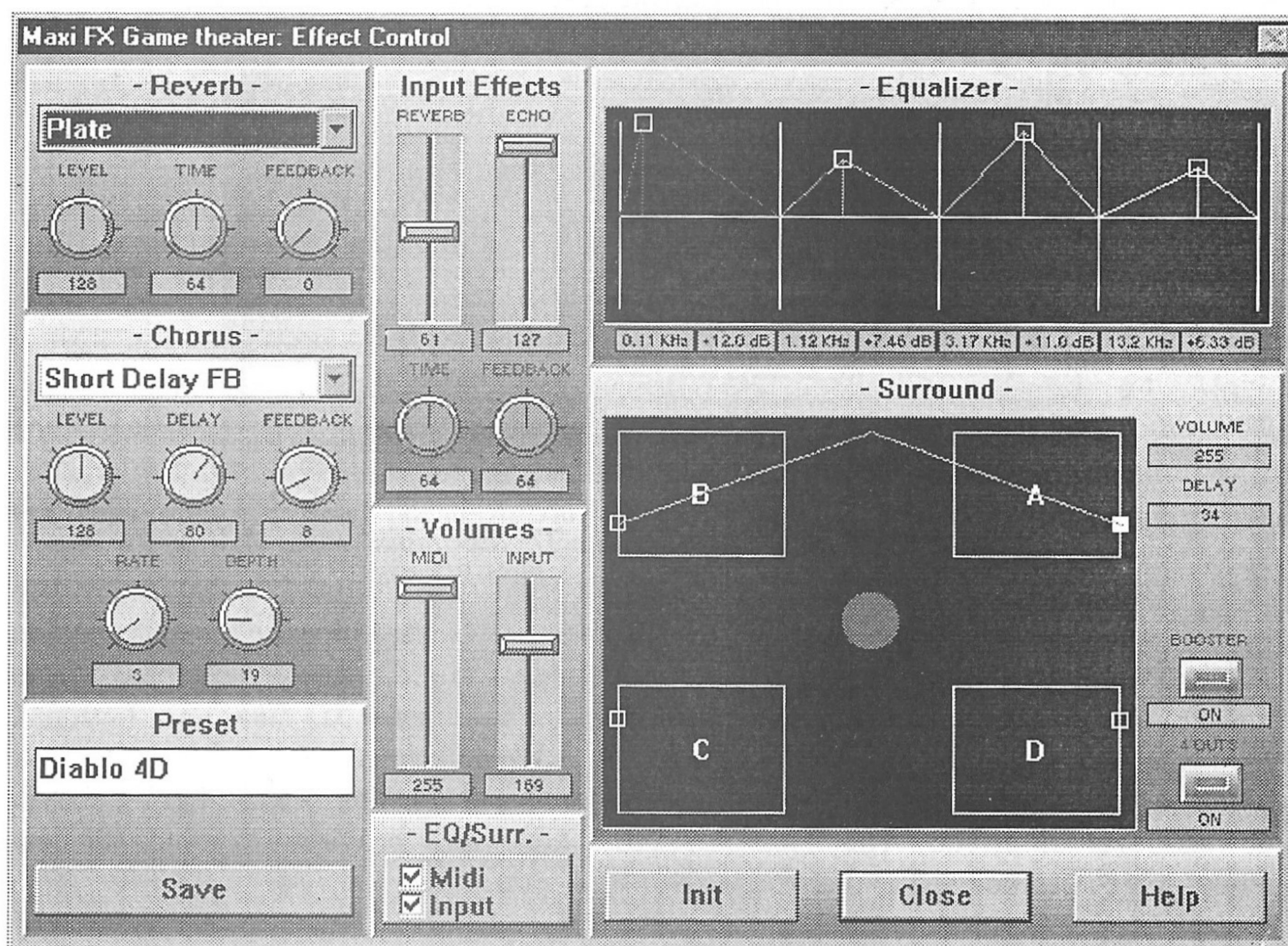


Figure 29 : The « Effect Control » window

The panel is divided into 9 sub-panels. Each of them corresponds to a particular function. The different settings for « Reverb », « Chorus », « Equalizer » and « Surround » effects, and the effects on input, volume controls and control buttons appear in these sub-panels.

4.2.3.1. The *Help*, *Initialize* and *Close* buttons

- *Init* re-initializes the effects and gives them default values. This button is useful for readjustment.
- *Close* closes this window.
- *Help* gives access to the Maxi FX Game Theater on-line help software.

4.2.3.2. The « EQ/Surr » panel

The « EQ/Surr » panel enables « Post Effects » to be activated or deactivated, like the Equalizer and the Surround generator for MIDI and the « Inputs ».

When the « Midi » box is checked, MIDI music generated by the Digital Signal Processor passes to the equalizer and surround modules, and these effects are applied. When the box is deactivated, the effects previously used before are no longer applied.

When the « Input » box is checked, everything that comes out of the Codec (see Figure 21), for example, microphone, CD, line input and MIDI music generated by a daughter board, goes into the equalizer and surround modules.

4.2.3.3. Volume Adjustments

The « Volumes » panel consists of two volume slide controls.

You can adjust the overall volume of the MIDI music generated by the Digital Signal Processor by changing the « MIDI » slide control. This affects the MIDI volume coming from the card's « Speaker » and « Surround » outputs.

The « Input » slide control enables the levels of inputs into the Digital Signal Processor to be adjusted (see Figure 21), controlling all sound sources used in games.

4.2.3.4. The Reverb and Chorus Effects

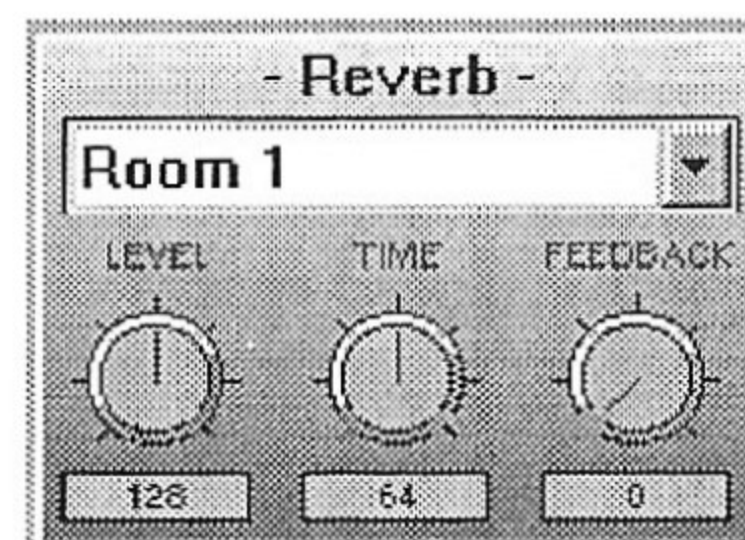
Reverb and Chorus effects are two special effects frequently used in the music world. They add a particular color to sound. The Reverb effect gives you the impression of being in a room of a selected size where there is an echo while the Chorus effect modulates the sound.

The best way of understanding what these two effects do is to change the different parameters and to listen to the effects in real time.

1. The Reverb Effect

This dialogue box provides four parameters:

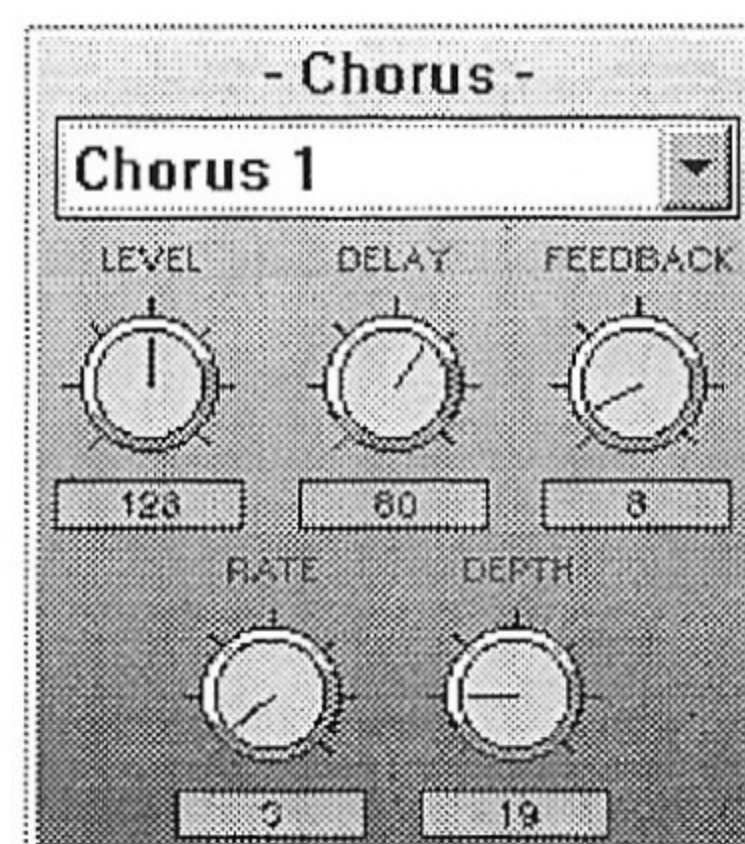
- **Reverb type** gives eight different types of Reverb:
 - Room 1
 - Room 2
 - Room 3
 - Hall 1
 - Hall 2
 - Plaque
 - Delay
 - Multiple Delay
- **Reverb level** alters the intensity of the effect.
- **Time** modulates the length of the piece with the Reverb effect. The higher this setting, the longer the reverberation echoes round the room.
- **Feedback** modulates the quantity of the Reverb effect. The higher this setting, the more the reverberation echoes round the room.



2. The Chorus Effect

This gives you six parameters:

- **Chorus type** provides access to eight types of Chorus:
 - Chorus 1
 - Chorus 2
 - Chorus 3
 - Chorus 4
 - Chorus Loop
 - Flanger
 - Short Delay
 - Short Delay with Loop
- **Chorus level** changes the intensity of the effect.
- **Delay** and **Feedback** control Chorus re-looping
- **Rate** and **Depth** control modulation parameters for the Chorus effects.



Note : Reverb and Chorus effects are standard for General MIDI and all the parameters are included on GM sequencers.

4.2.3.5. The panel for adding effects to input sound

This panel allows control of the effects module on what is input into the Digital Signal Processor (see Figure 21), for example, the microphone, CD, line input and MIDI music generated by a daughter card.

Figure 30 shows this panel's graphical interface.

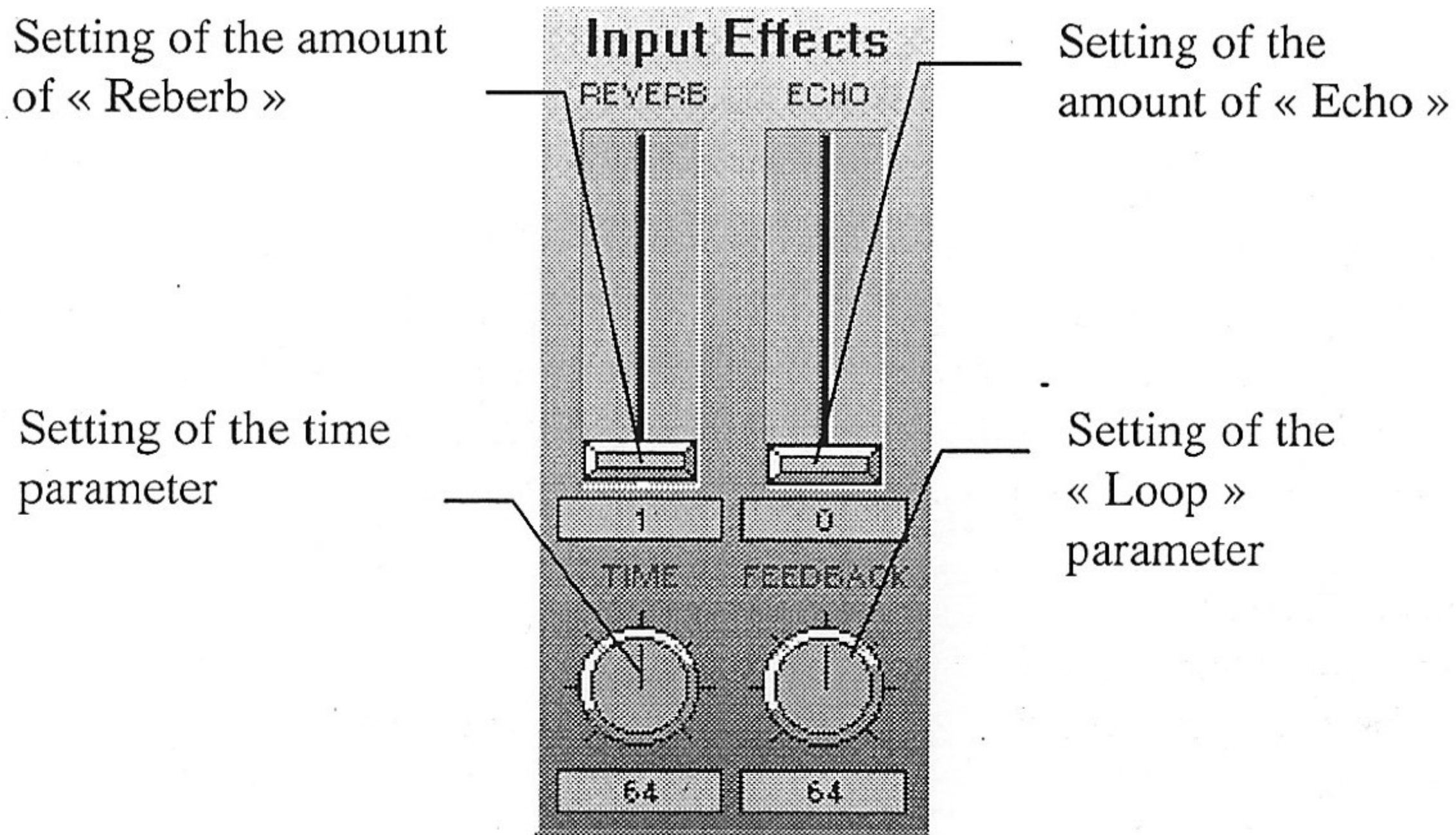


Figure 30 : Adding effects to inputs

This sound effects module comprises two types of sound effects which can be applied separately :

- **Reverb effect :**

The slide control allows the amount of reverb applied to the inputs to be adjusted. To define the type of Reverb, you can also use the parameters accessible on the « Reverb » panel (this « Reverb » controls the Reverb applied to MIDI sound as well as to that applied to the inputs).

- **Echo effect :**

Echo allows a signal to be repeated in time. There are three control parameters :

- The « Echo » slide control defines the amount of echo.
- The « Time » potentiometer defines the interval between two repetitions of the signal. The higher it is, the longer the interval will be.
- The « Feedback » potentiometer defines the number of repetitions of the signal. The higher it is, the longer this interval will be.

4.2.3.6. The « Equalizer » panel

The equalizer is the first of the « Post Effects » (for example, an effect applied to everything that comes out of the Digital Signal Processor).

This panel is a 4-band parametric equalizer. An equalizer modifies the music's sound spectrum. The ear has a very precise range (a frequency range) from 20 Hz to 20 kHz. But when the music is in the lower range, for example, low frequency, the ear perceives it differently from when it plays the high notes, i.e. in the high frequencies. It is an advantage to be able to boost or mute some of the music frequencies.

The 4-band equalizer makes it possible to boost or mute 4 different frequencies in the sound spectrum. Figure 31 shows the equalizer on the Maxi Sound Game Theater 64.

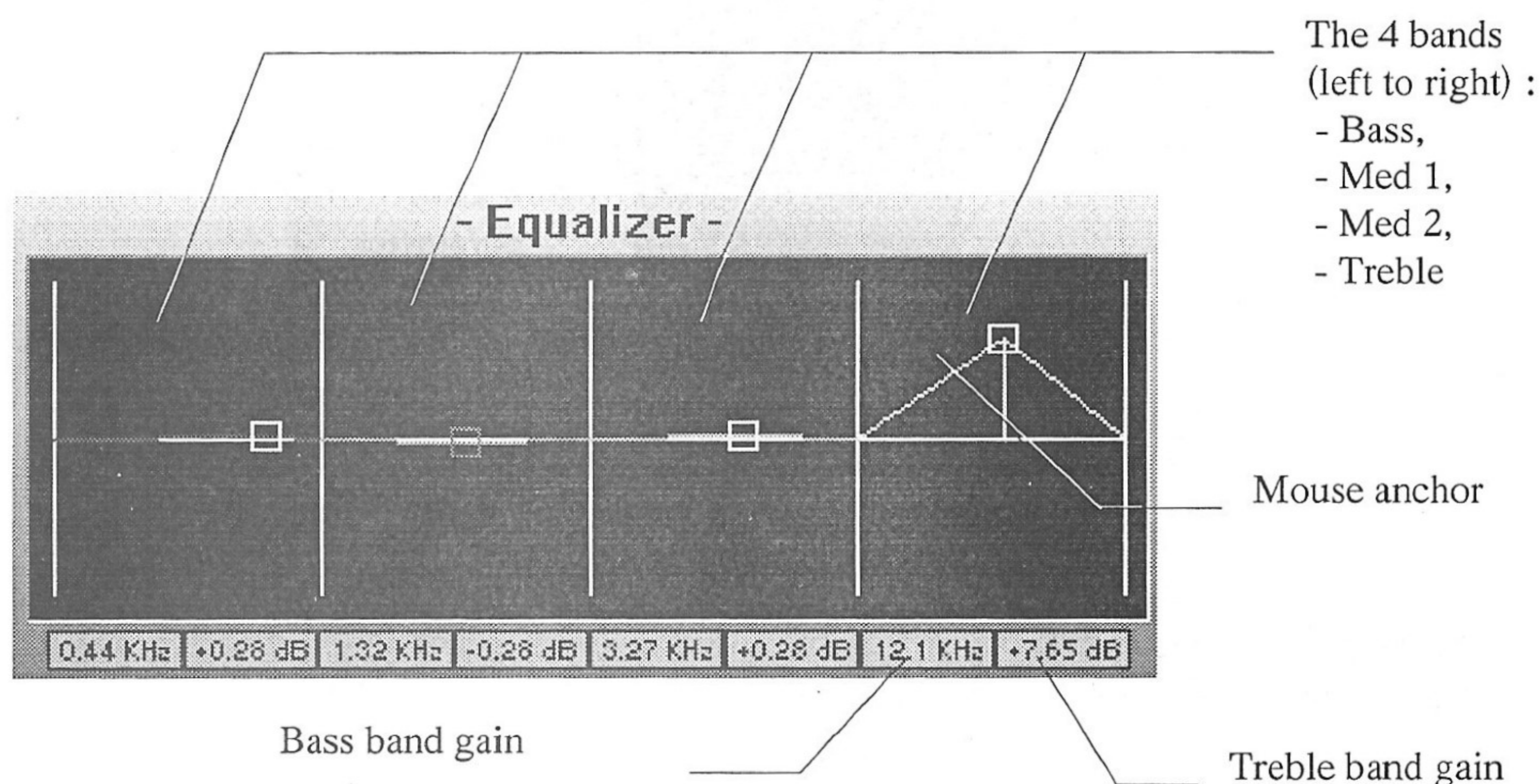


Figure 31 : The Equalizer window

Each frequency is represented by a white square which you can move with the mouse. You can adjust the four bands by moving the white squares. To move a white square, click on it and move it, keeping the left mouse button down. Horizontal movement changes the frequency of that band (the frequency is simultaneously displayed below). Vertical movement accentuates or attenuates the signal in that band (the changes are displayed simultaneously below).

Adjust the four squares representing the four bands until you are satisfied with the result.

4.2.3.7. The Surround Window

Surround is the second « Post Effect » generated by the card.

Maxi Sound Game Theater 64 has a Surround effect which will give you a real 3D effect for the first time. It considerably extends the sound field and gives the impression that you are in the middle of the music.

The Surround effect has several parameters. The Maxi FX Game Theater Surround window provides access to these. Figure 32 shows this window.

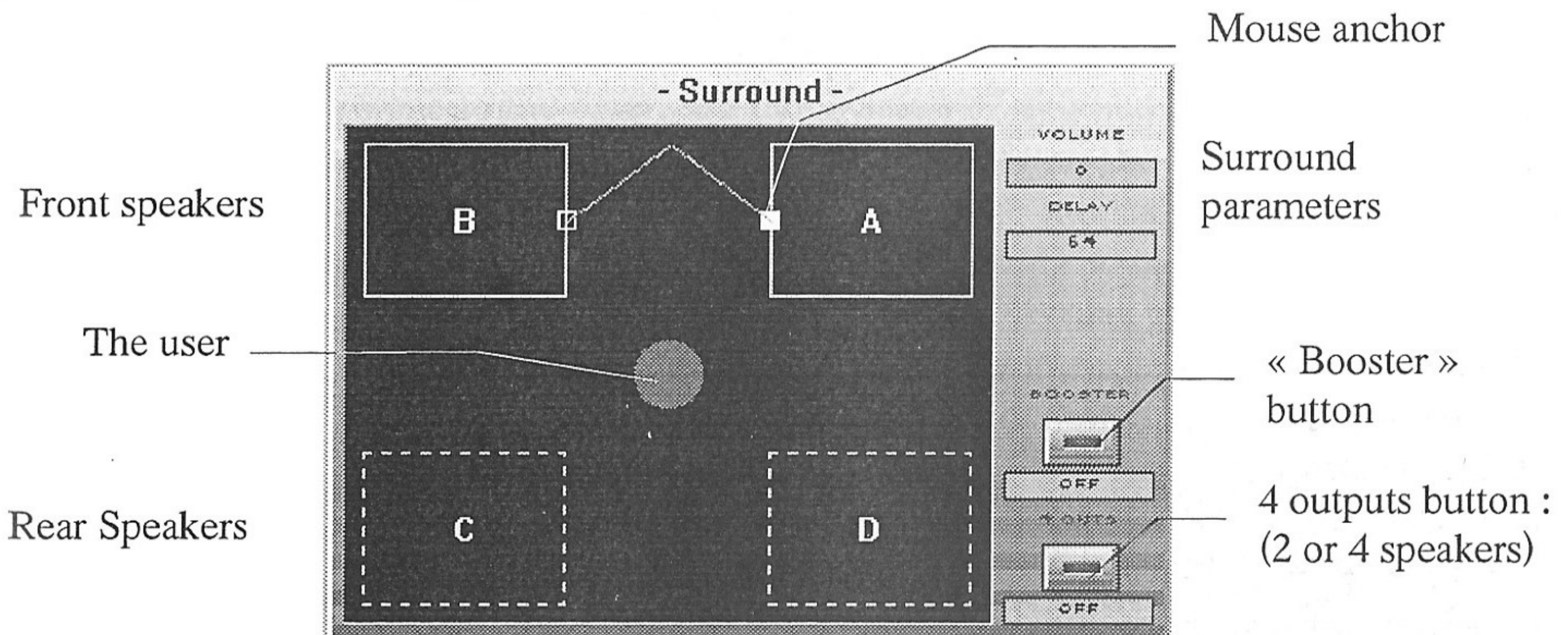


Figure 32 : The Surround window

A and B represent the two front speakers and C and D the two rear speakers. The listener is therefore surrounded when all four speakers are selected.

The *Surround* effect can already be heard using the front speakers. If you connect a second pair of speakers behind you, you greatly increase the surround sensation. You can alternate from 2 to 4 speakers by clicking the *4 OUTS* button. When you activate this button the dotted lines round C and D become continuous.

When the *Booster* button is activated, the surround effect increases. It propels you right inside the sound. You can deactivate this if you prefer a less obvious, more subtle surround effect.

Finally, the white square located on speaker A allows the following effects to be adjusted, which are automatically carried over to speaker B (in 2-speakers or 2-outputs mode) or over to speakers B, C and D (in 4-speakers or 4-outputs mode).

- *Volume* : this parameter corresponds to the amount of the effect. You can change it by moving the slide bar horizontally. The further the slide bar is moved to the right, the greater the amount of the effect.

- *Delay* : you can change the delay of the effect by moving the square mouse vertically. The higher up it is moved, the greater the delay.
- *Widening or narrowing* of the sound field : this parameter is defined when the slide bar is moved horizontally and vertically at the same time. When the slide bar is located next to the red circle representing the user, the sound field is « narrow ». It is widened to its maximum when the slide bar is located in the upper right corner of the area representing speaker A.

In 4-outputs mode, volume and delay parameters correspond to the volume and delay of the rear speakers in relation to the front speakers.

If you are used to the sounds on your games coming from a sound card without the Surround effect, take the following action:

- Open the Maxi FX Game Theater window. The default surround setting is for 2 outputs, narrow sound, booster inactive.
- Run a game or just a piece music via the Windows® player.
- Set the mouse anchor button to the bottom left of speaker A.
- Click on *Booster*.
- Progressively move the anchor button upwards and to the right. You already feel the surround effect is in 2 outputs mode.
- Reposition the anchor button to the bottom left of speaker A.
- Click on *4 OUTS*.
- Progressively increase the sound intensity by moving the anchor button up and right. When it is top right you will have the maximum of 4 output surround effect.

4.2.3.8. Save your Presets

Once you have set the effects, you can save the parameters. This means you can retrieve the sound you created by clicking on the button you assigned for it in the Maxi FX Game Theater main menu (see paragraph 4.2.2).

To do this, enter a name and then click on *Save*. The new item will then appear on the Maxi FX Game Theater main menu.

You can use the 50 presets supplied and create up to 750 more audio configuration settings for games or special sound sequences.

4.3. How to add effects to games

The Maxi FX Game Theater software lets you control the Maxi Sound Game Theater 64 card sound effects. As Windows® is a multi-window environment, you can run Maxi FX Game Theater in one window and open your game in another one. This way you control the sound effects.

4.3.1. In Windows® 95

To use the card's real time effects, first run the Maxi FX Game Theater software, then your game. To move from one to the other, use the Windows® shortcut « Alt » + « Tab ». Figure 33 shows the window you use to switch from one application to another by using the « Alt » + « Tab » keys.

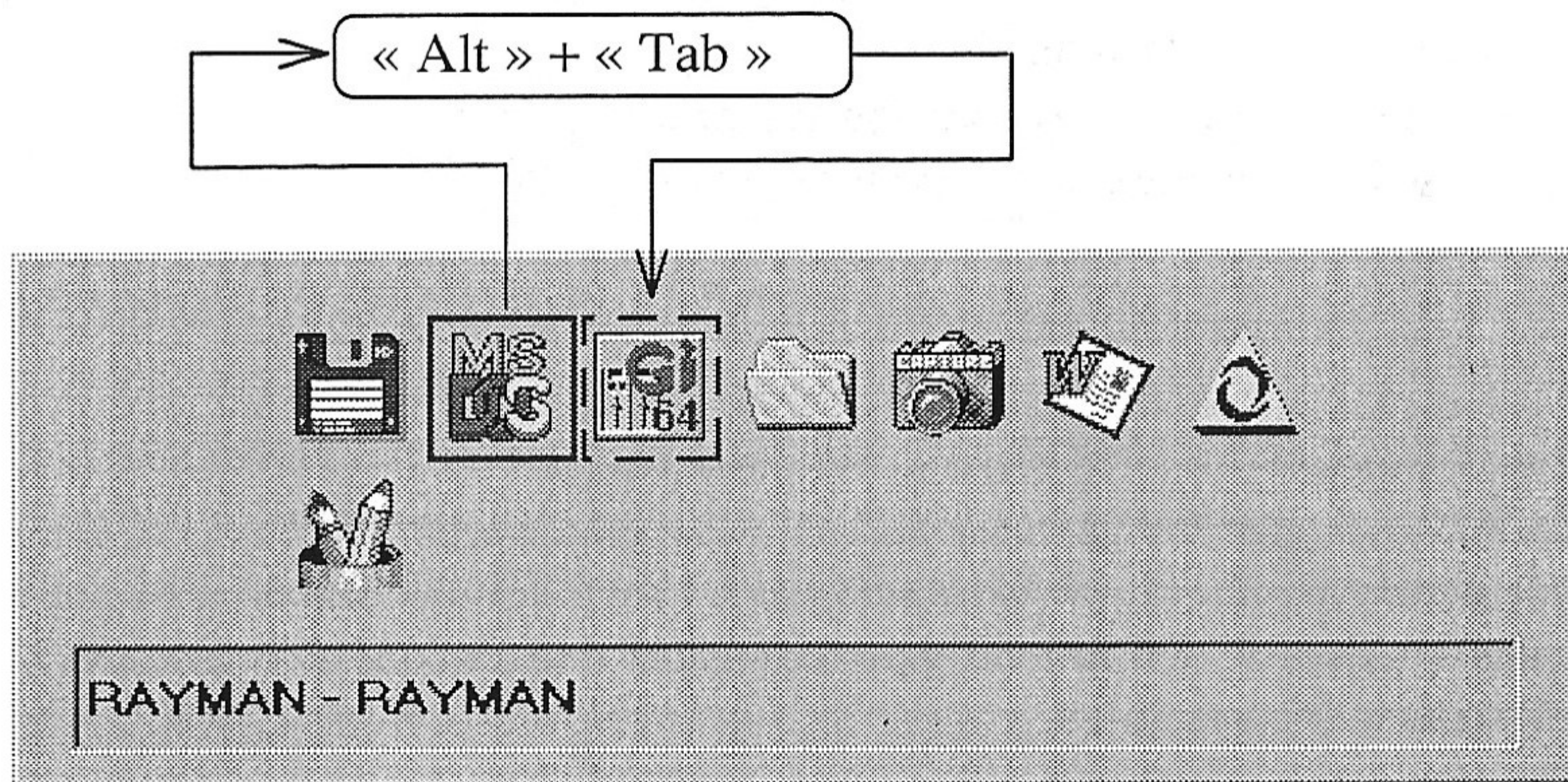


Figure 33 : Switching from one application to another

The process is as follows:

- Run Maxi FX Game Theater by selecting « Maxi FX Game Theater » in the « Start / Programs / Maxi Sound Game Theater 64 » menu in Windows® 95.
- Select the sounds you want by clicking a preselection (see paragraph 4.2.2) or create your sounds (see paragraph 4.2.3) and close the control window.
- Click on the special Windows® 95 button to minimize the Maxi FX Game Theater main window (see Figure 34).

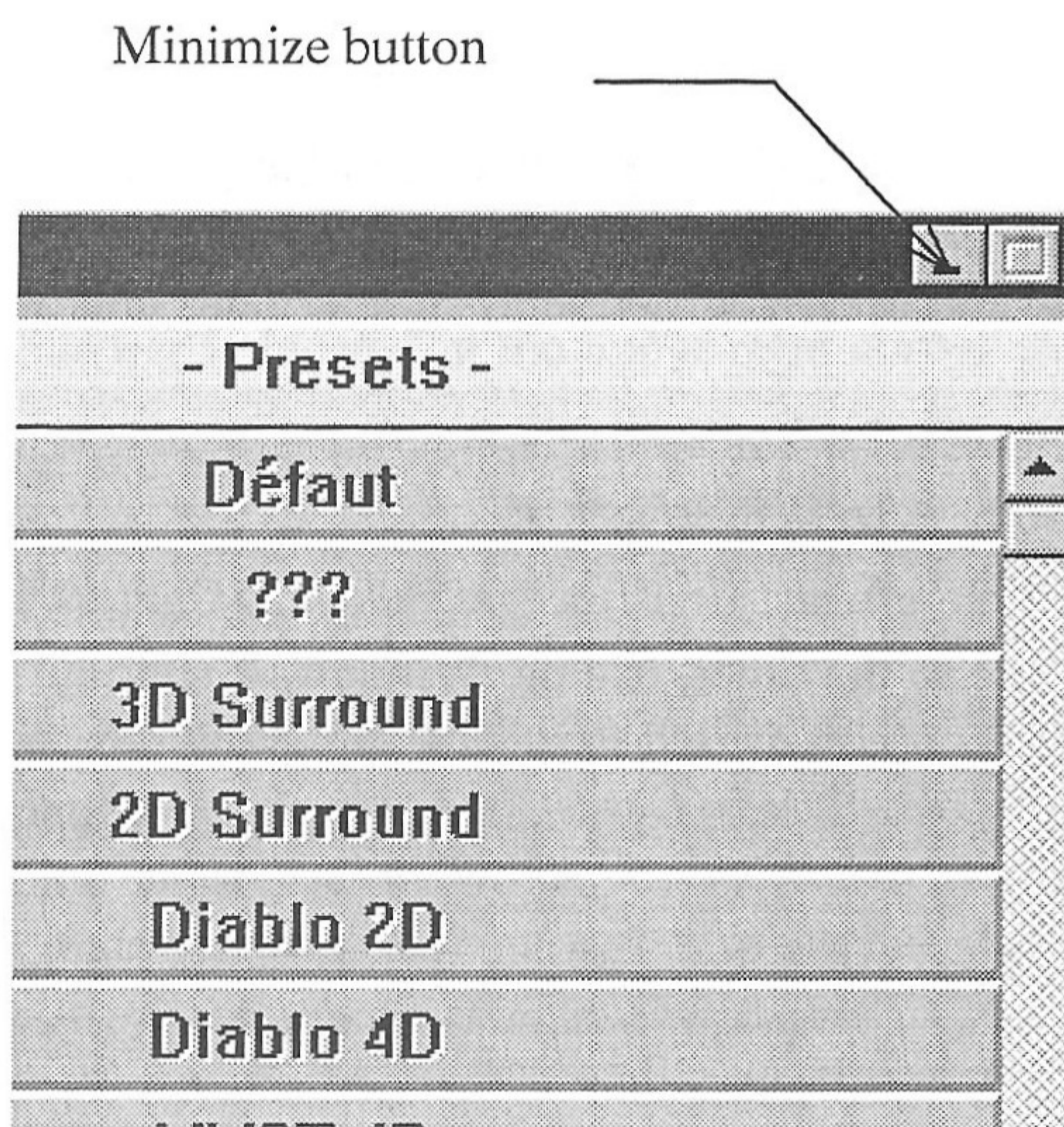


Figure 34 : Minimize button on the main window.

- Run your Windows® or DOS game in Windows®.
- If you want to change the games sound effects again, switch to Maxi FX Game Theater. Put your game on « Hold » (each game has its own key combination to put it on hold) then press « Alt » + « Tab » on your keyboard until Windows® displays « Maxi FX Game Theater » (Figure 35).

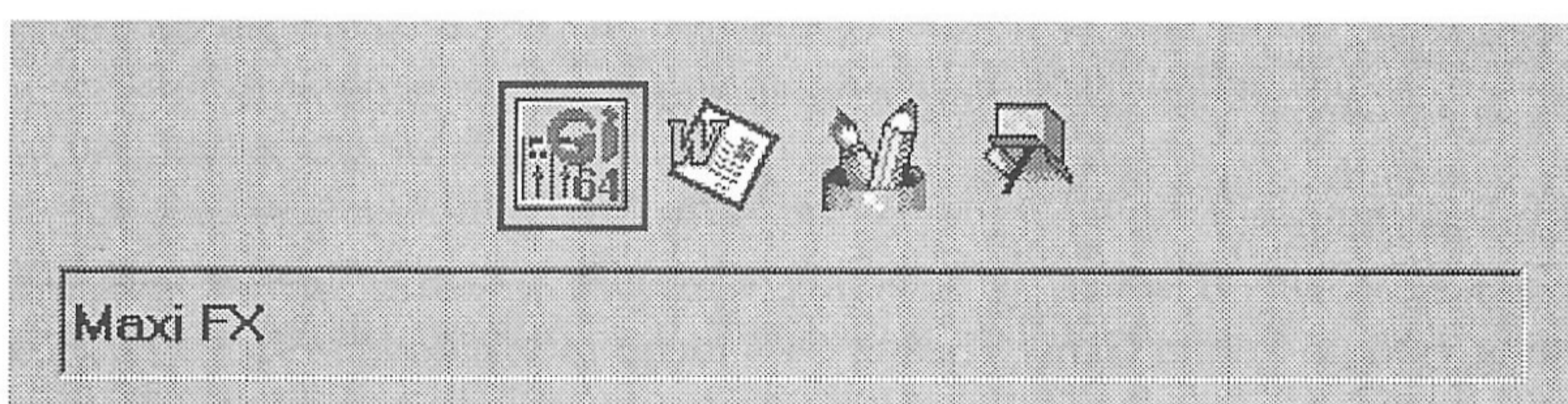


Figure 35 : Switching to Maxi FX Game Theater

- You have now switched again from your game to Maxi FX Game Theater. You can change the sound effects via the main menu or you can create new effects via the effects window as described paragraph 4.2.3.
- To return to the game, press the « Alt » + « tab » keys on your keyboard once more until Windows® asks you to carry on with the game (see Figure 36).

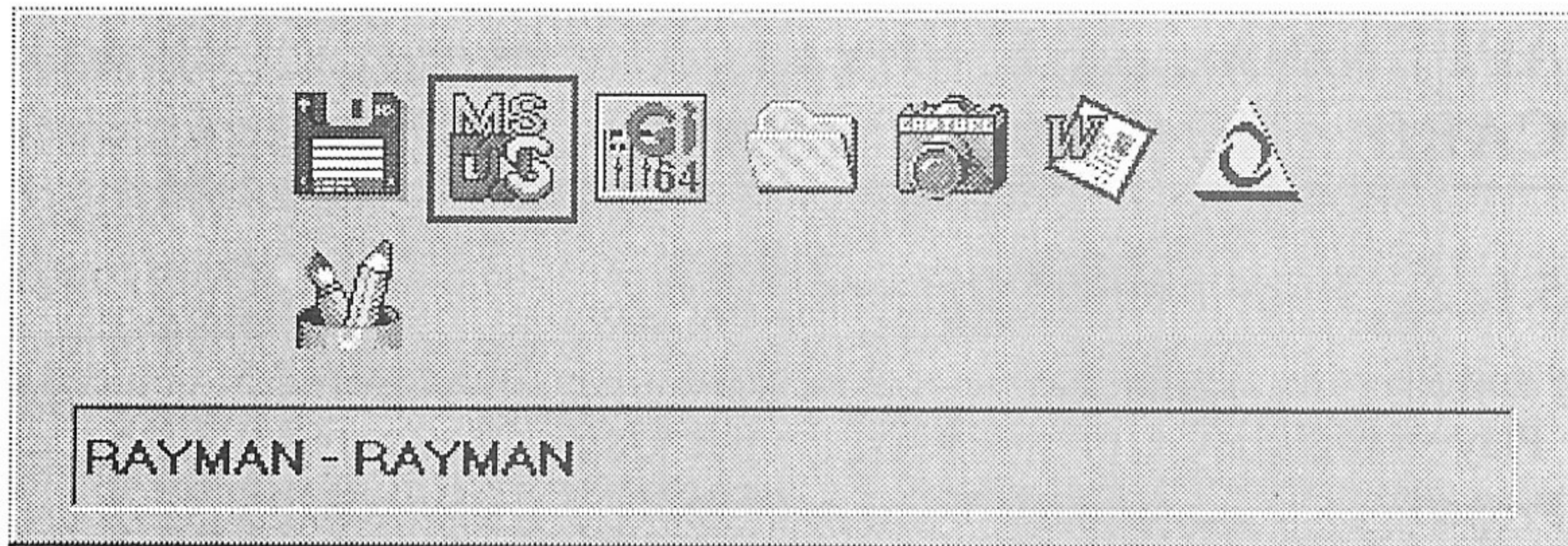


Figure 36 : Going back to your game

4.3.2. In Windows® 3.1X

The specific way in which games are programmed in DOS 4G protected mode do not allow the sound effects in your games to be controlled within Windows® 3.1X. To benefit from this functionality, we advise you to install Windows® 95.

5. APPENDIX : THE « SYSTEM » SOFTWARE FOR THE CARD

5.1. Windows® 95 Drivers

Once Plug and Play installation has been completed under Windows® 95, you can modify the Plug and Play configuration of the Maxi Sound Game Theater 64 card by entering the « System Properties » window under Windows® 95.

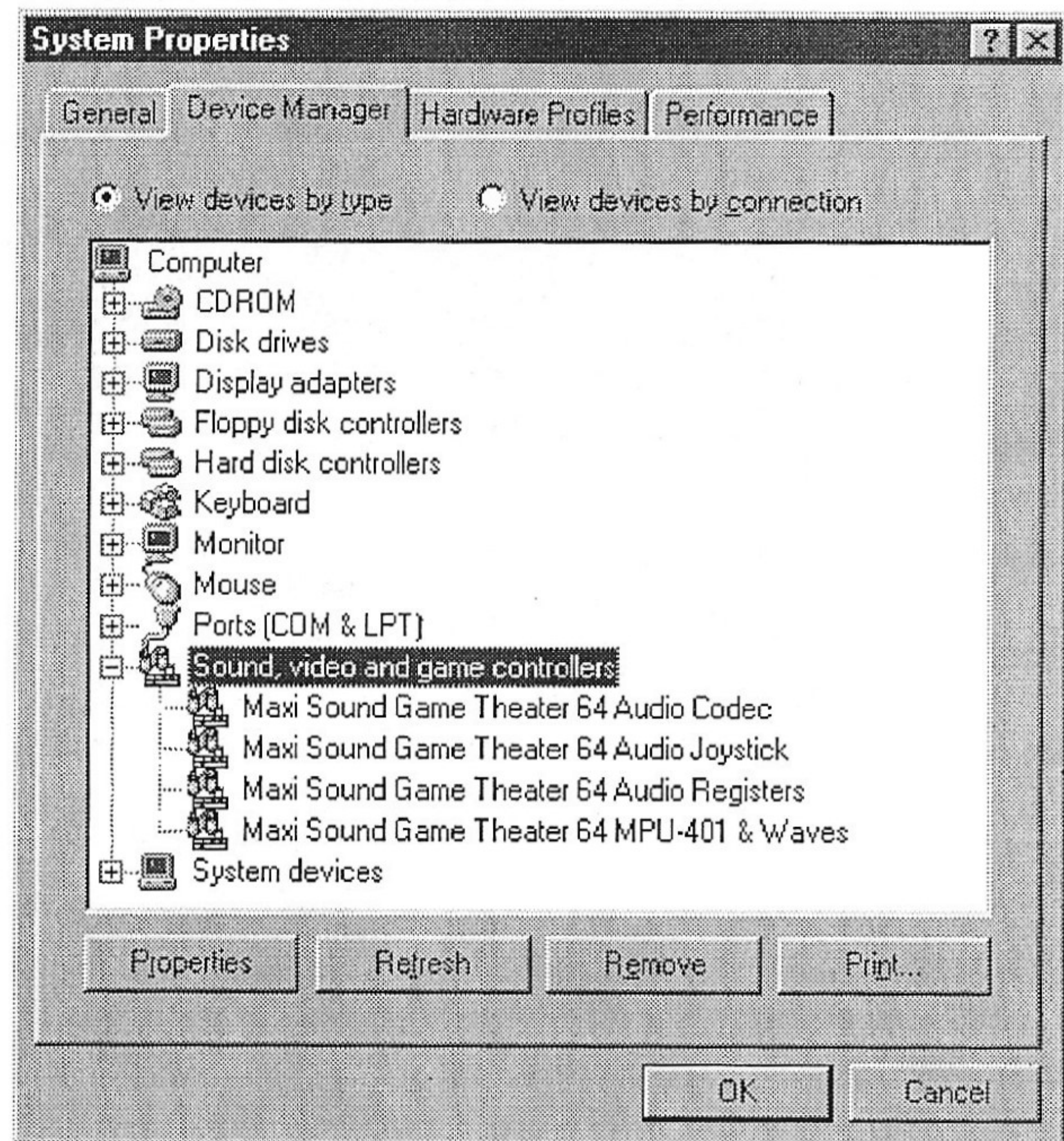


Figure 37 : Modifying the resources under Windows® 95

Select « Sound, video, and game controllers » to view a list of the sound drivers installed. You can modify each of the resources attributed to the Maxi Sound Game Theater 64 card to resolve any conflicts not resolved by Plug and Play installation. Therefore, click on the driver you want to modify resources and on « Properties ». The Figure 38 shows the interface.

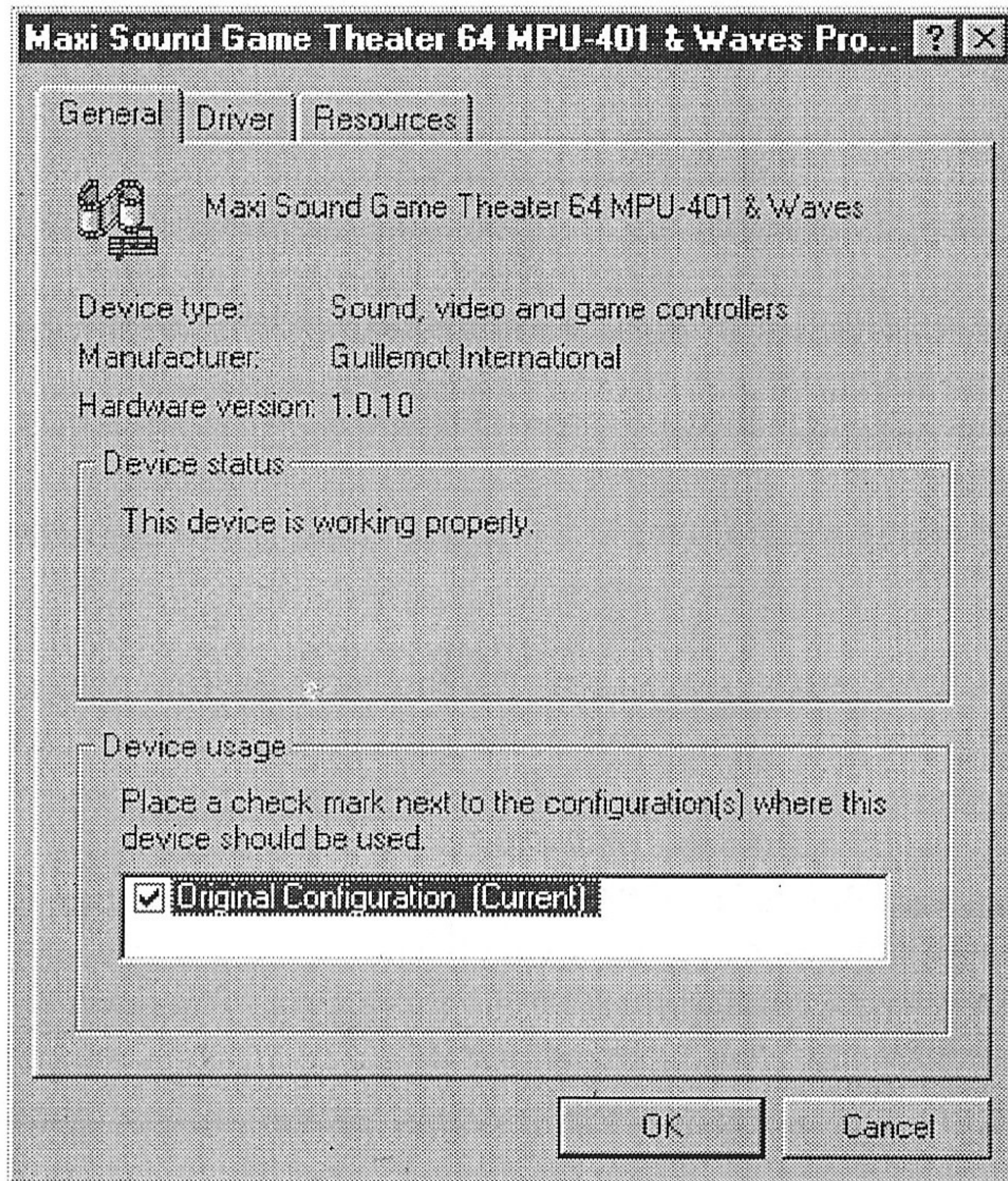


Figure 38 : Changing the Plug and Play configuration

The « General » panel shows general information concerning the driver.

The « Driver » section shows all the files used by the system to enable this driver.

The « Resources » section will be used to change the resources used by the driver.

5.2. Advanced options under Windows® 95

Important: These options are intended for use by experienced users.

If you do not have a good understanding of how the card functions, you will find that you are confronted by two types of problem:

- You risk not being able to adjust the volume settings of the different sources and recording levels.
- If you change the default installation configuration, some applications (e.g. games that only run in Windows® 95) will no longer be able to find volume controls.

If you decide to change these parameters, we advise you to put them back to their default value afterwards (see the two following paragraphs).

Always keep in mind the card's architecture shown on Figure 21 while making any change. Keeping this in mind will help you troubleshoot any conflicts that arise.

5.2.1. « Wave » drivers in Windows®

As you will have seen, the two chips located on the card have, in some cases, similar functions. Indeed, they are both capable of playing back and recording wave files (digitized sound). The mixer can read one wave file and record one simultaneously (Full Duplex function) whilst the Digital Signal Processor is capable of reading up to 8 wave files and recording one simultaneously.

It must be noted that :

- The recording quality will be better if the Digital Signal Processor rather than the Codec is used.

The different Windows® wave drivers allow you to choose the chip with which you wish to read or record wave files.

5.2.1.1. Windows® 3.1X

For system applications, the choice of the driver is transparent to the user. Other applications may allow the user to choose between different drivers.

5.2.1.2. Windows® 95

In Windows® 95, the user can choose his driver for system or other applications. The two drivers are present and accessible within the system. When an application gives the choice, the user can decide which of the two drivers to use. Take the Windows® 95 Multimedia driver for example. To reach it, click on « Start / Control Panel / Multimedia ». You will see the panel shown in Figure 39.

Windows 95
« wave mapper »

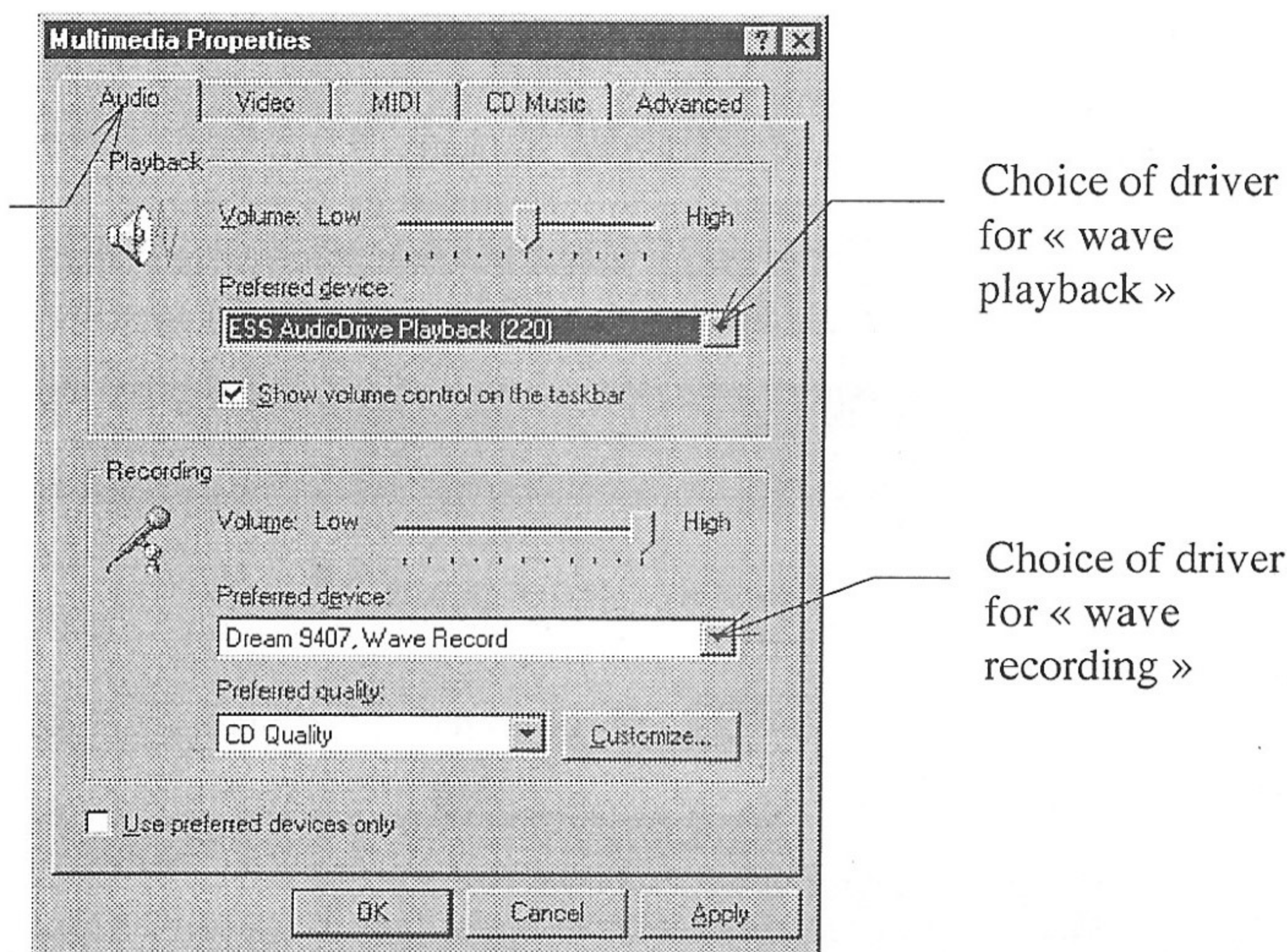



Figure 39 : The « Wave Mapper »

Click on « Audio ». This « Wave Mapper » allows you to specify the driver to be used by all Windows® 95 « system applications » such as the multimedia reader  obtained in « Start / Programs / Accessories / Multimedia / Sound Recorder ».

For playback, you can choose a driver from the eight controlled by the Digital Signal Processor (« Dream 9407, Wave nb X », X=1,2,3...8) and that of the Codec (« ESS AudioDrive Playback »). see Figure 40.

The « ESS AudioDrive Playback » is the driver installed by default.


This choice will also set the mixer displayed when clicking the  icon on the taskbar : « Dream Sound Studio Mixer » or « ESS AudioDrive Mixer » (also in « Option / Properties / Mixer Device » menu)



Figure 40 : Wave playback drivers

For recording, you can choose the Digital Signal Processor's driver (« Dream 9407, Wave Record ») or the Codec's driver (« ESS AudioDrive Record »), see Figure 41. The « ESS AudioDrive Record » is the one installed by default.

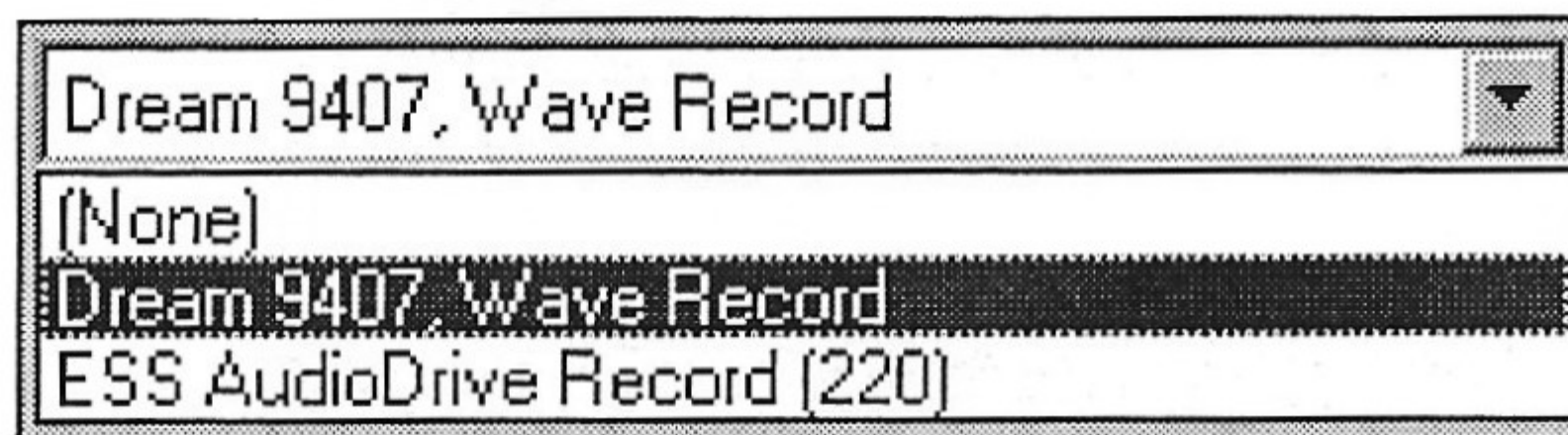



Figure 41 : Wave recording drivers

Note : The multimedia reader  is obtained in « Start / Programs / Accessories / Multimedia / Sound Recorder ».

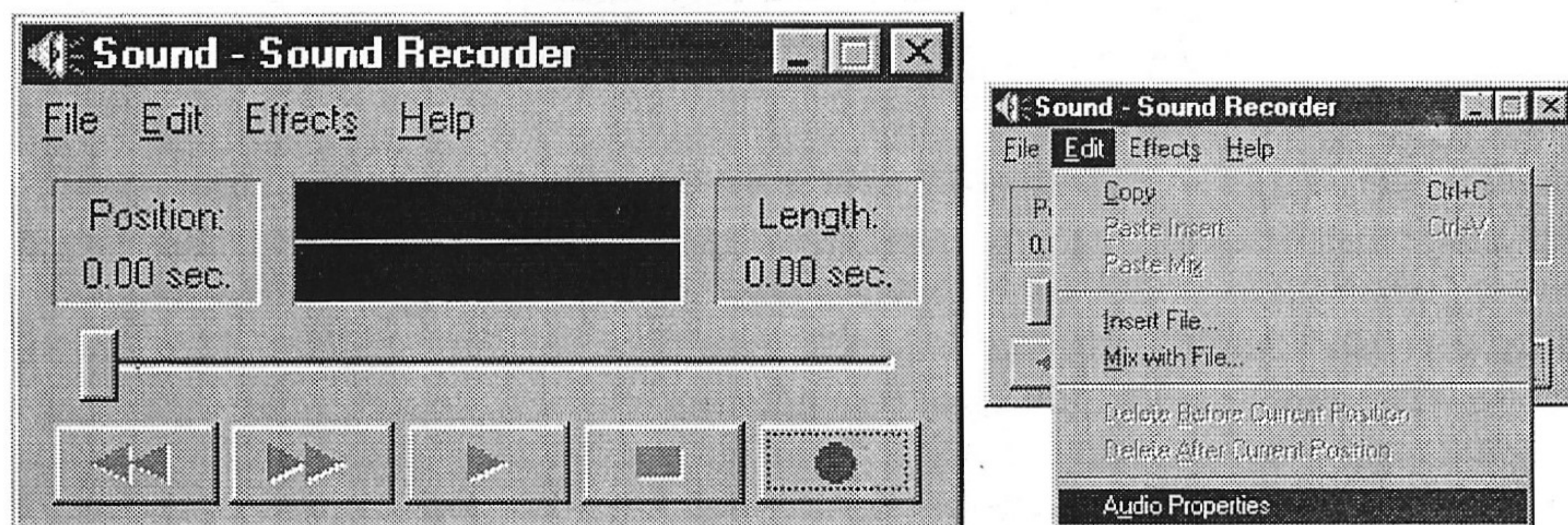


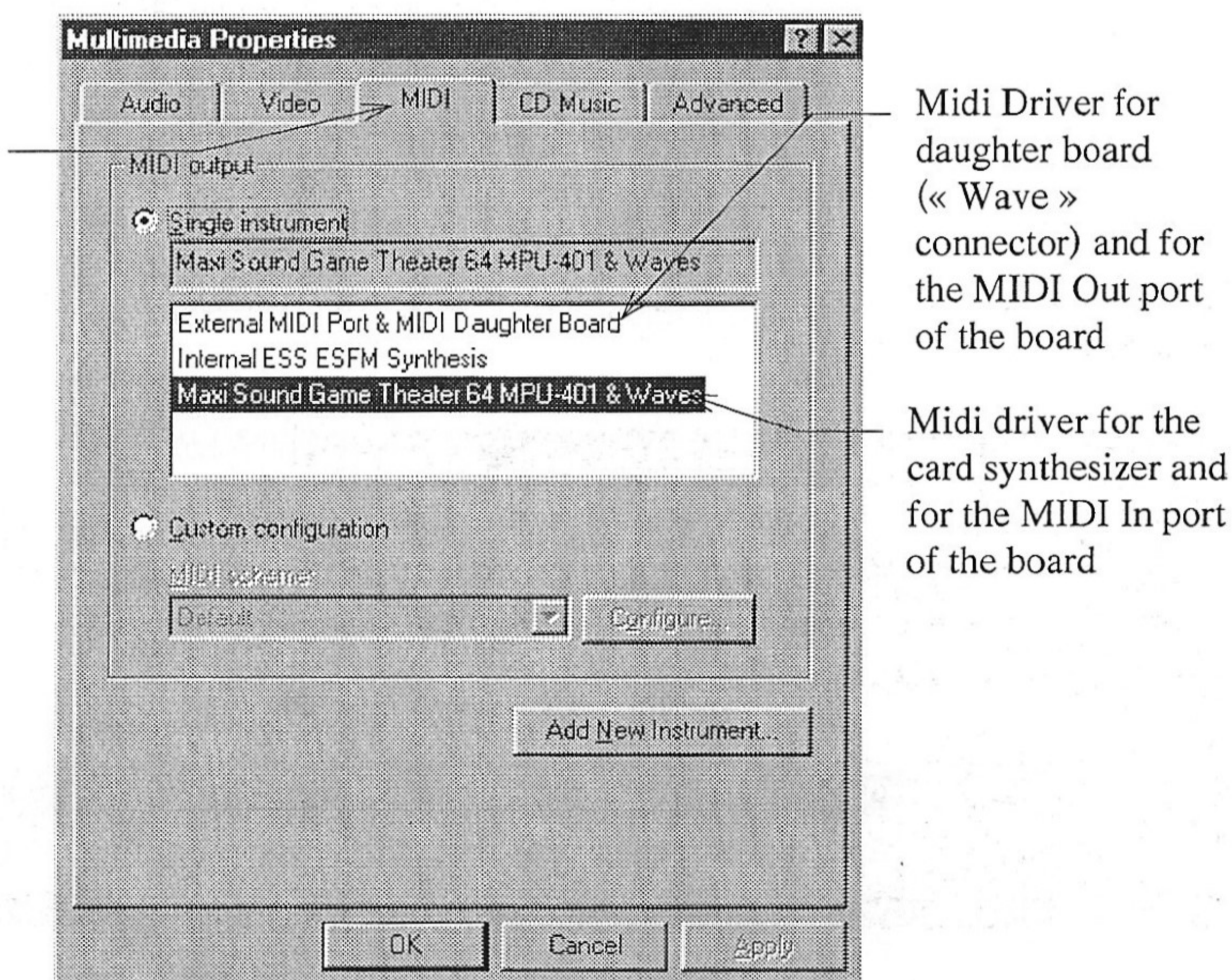
Figure 42 : Windows® 95's Sound Player / Recorder

You can use this software to play or to record wave files under Windows® 95. The drivers used for playback and record are defined in the « Wave Mapper ». You can also configure the Wave Mapper in the « Edit / Audio Properties ».

5.2.2. Windows® 95 « MIDI » drivers

The « MIDI Mapper » in Windows® 95 enables configuration of the MIDI driver to be used by system applications (media diffuser, etc.). To reach this, click on « Start / Control Panel / Multimedia ». If you click on « MIDI » you will see the panel shown in Figure 43.

Windows 95
« MIDI Mapper »



Midi Driver for
daughter board
(« Wave »
connector) and for
the MIDI Out port
of the board

Midi driver for the
card synthesizer and
for the MIDI In port
of the board

Figure 43 : The « MIDI Mapper »

The « Maxi Sound 64 Home Studio Pro MPU 401 & Waves » is the driver for the Maxi Sound Game Theater 64 internal synthesizer.

The « ESS External MIDI Port & MIDI Daughter Board » driver is the one to choose to use the synthesizer sounds from a daughter board connected to the wavetable connector of the sound card.

In a sequencer, these two drivers are accessible simultaneously. You will therefore be able to allocate one channel to instruments from the Maxi Sound Game Theater 64 card's synthesizer and another to instruments from the synthesizer on the daughter board connected to the card's wave connector, just choosing between one of the two MIDI drivers.

5.3. . Changing the configuration under Windows® 3.1X

You may be willing to modify the resources used by the Maxi Sound Game Theater 64 card under Windows® 3.1X. The software allowing you to change the configuration is installed in the Maxi Sound Game Theater 64 program group. Double-click on the « Configuration » icon to modify the resources.

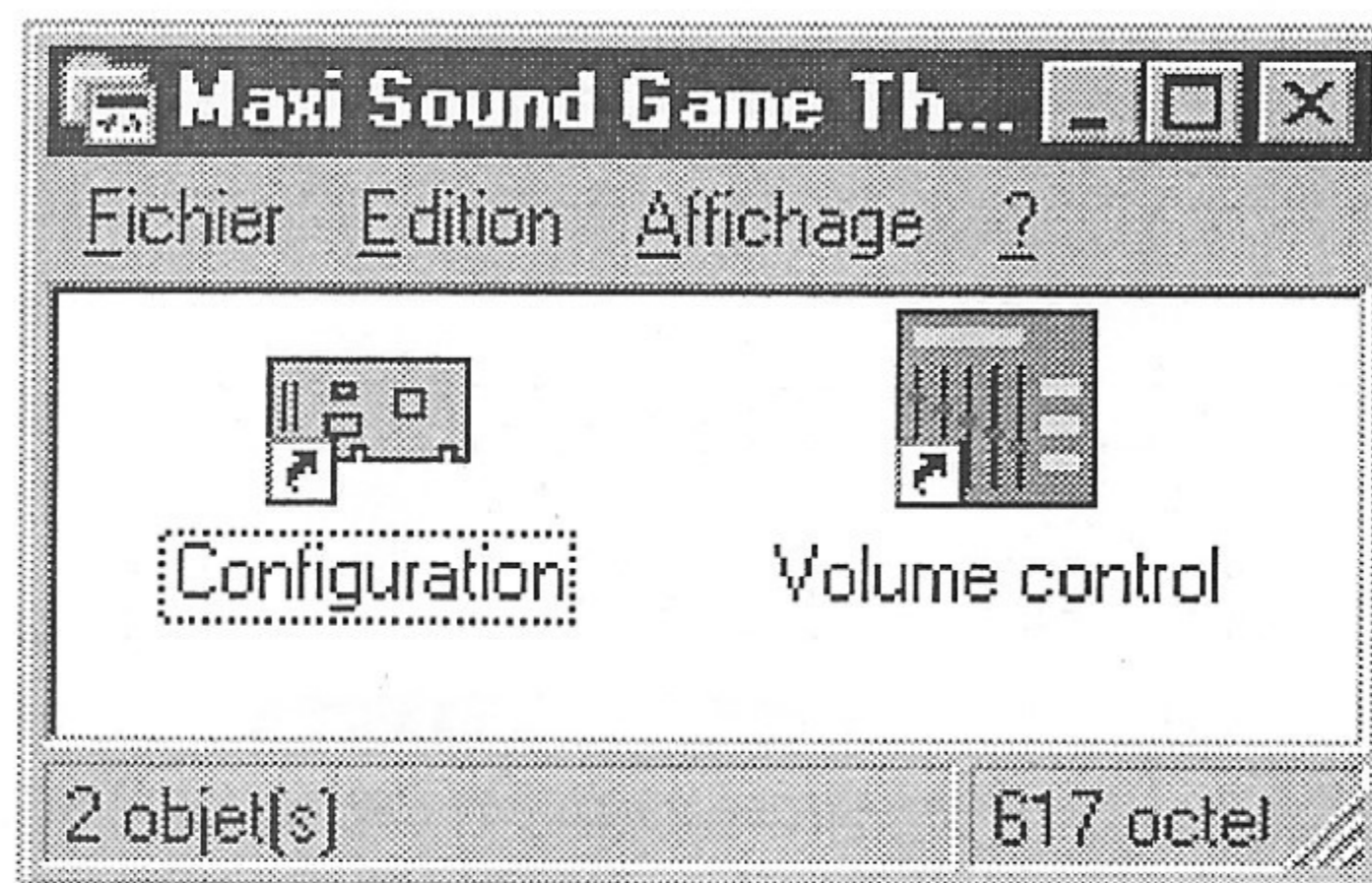


Figure 44 : The Maxi Sound Game Theater 64 program group under Windows® 3.1X

You then see the following window :

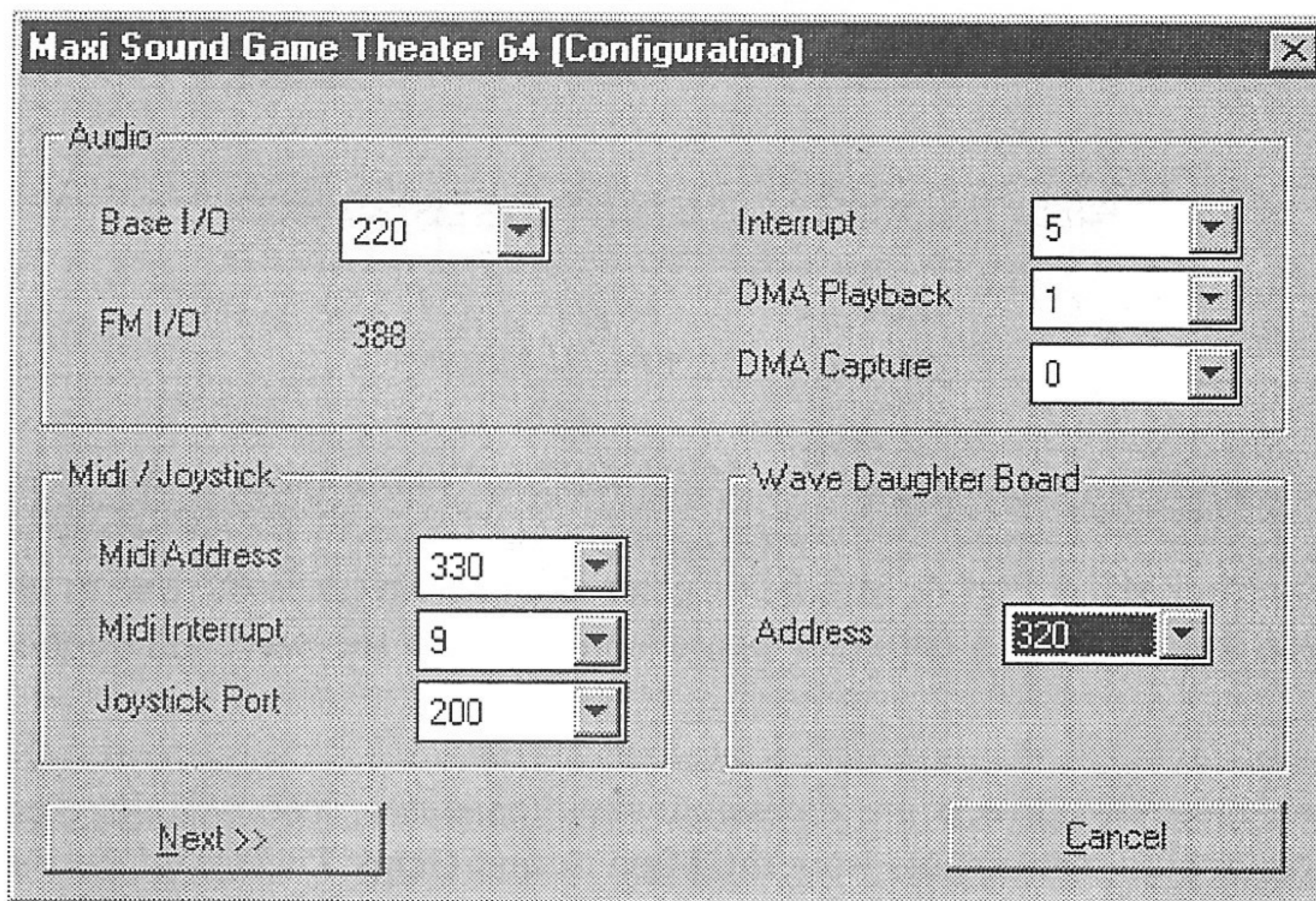


Figure 45 : Reconfiguring resources under Windows® 3.1X

You can then modify the following resources :

Input of window	Resource
Audio	
Base I/O	Address of SBPRO™ I/O port
Interrupt	Interrupt in SBPRO™ mode
DMA Playback	DMA used to play back digitized sounds in SBPRO™ and Windows® Sound System™
DMA Capture	DMA used to record digitized sounds.
MIDI / Joystick	
MIDI address	I/O address of the MIDI port of the Maxi Sound Game Theater 64 card
MIDI interrupt	Interrupt used in MIDI by the Maxi Sound Game Theater 64 card
Joystick port	I/O address of the I/O port of the Maxi Sound Game Theater 64 card
Wave Daughter Board	
Address	Address of the MIDI port of the daughter board

Figure 46 : The card resources

The system will then ask you to reboot the computer so that the new resources may be recognized.

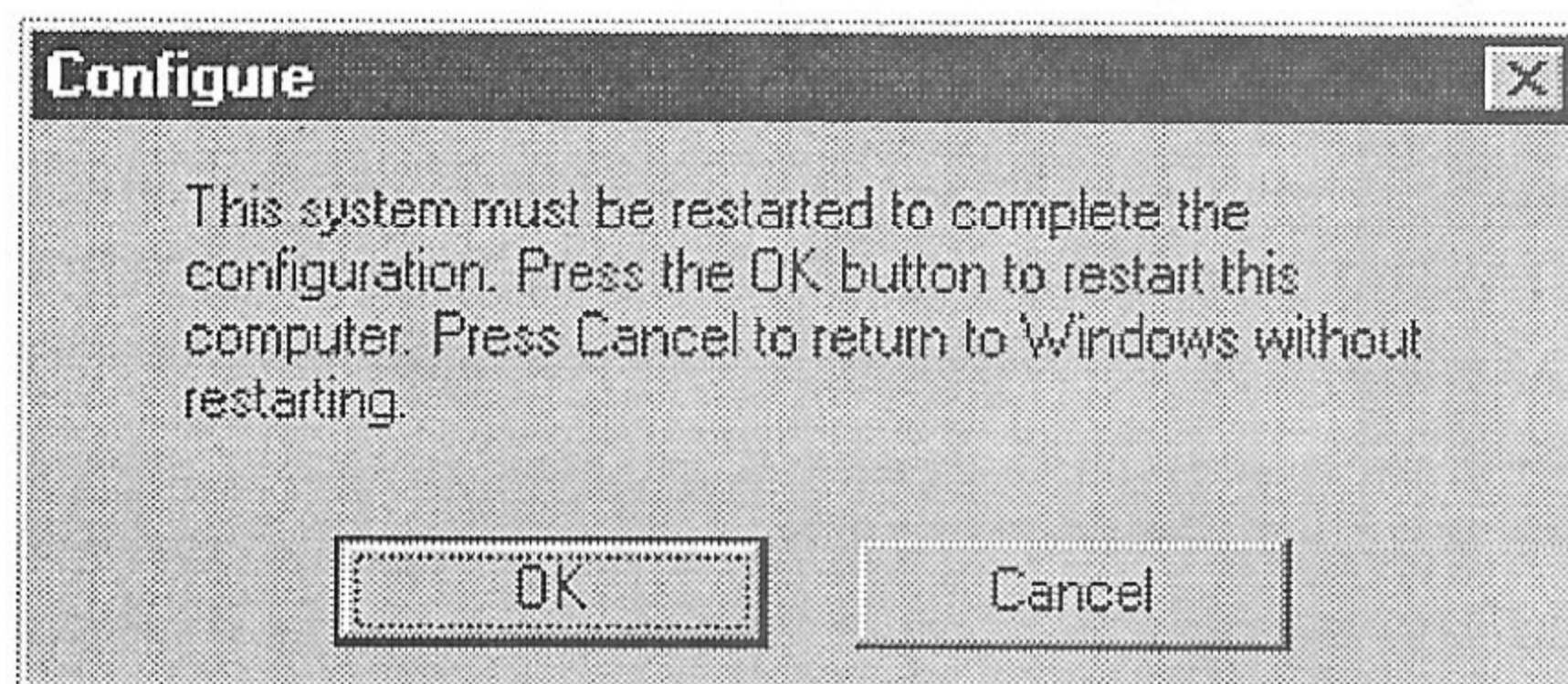


Figure 47 : Rebooting the system after changing the resources

5.4. Automatic Uninstallation

5.4.1. Hardware Uninstallation

If the board has been installed with a Plug and Play Installation procedure in Windows® 95, you will be able to uninstall it. Click in the « Start / Settings.../ Control Panel » menu, then click on the « Add / Remove Programs » icon. The following panel appears :

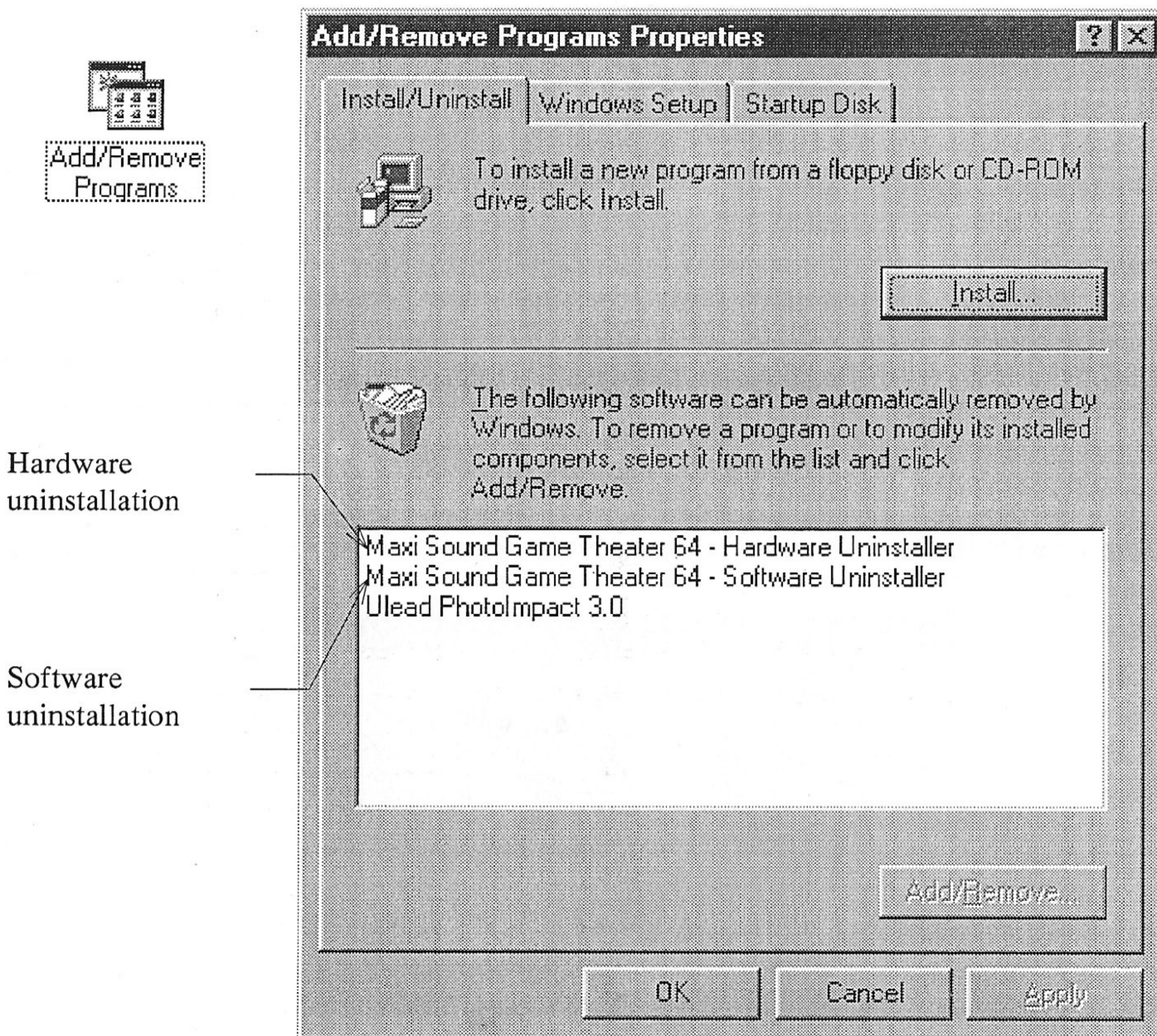


Figure 48 : Hardware and Software uninstallation in Windows® 95

Click on « Maxi Sound Game Theater 64 Hardware Uninstaller » then on « Add / Remove » button to uninstall the board.

5.4.2. Software Uninstallation

To uninstall all the Maxi Sound software, click on « Maxi Sound Game Theater 64 Software Uninstaller » then on « Add / Remove » button.

You can also launch the Uninstallation program with the « Un-installation » icon in the « Maxi Sound Game Theater 64 » program group. This method of uninstalling can be used in Windows® 95 or in Windows® 3.1X.



Figure 49 : The « Un-installation » icon in Windows® 95 and Windows® 3.1X

WARNING : This procedure will uninstall *ALL THE SOFTWARE* unless you choose the « Custom » mode (once you've double clicked on the « Un-installation » icon) and select the files you want to delete in the list.

