
VX cards installation and set-up

Table of contents

General information	1
Supported cards	1
System requirements	1
Macintosh	1
PC.....	1
Included drivers	2
VX kit 3.1c (recommended for VXpocket v2 and VX222)	2
VX kit 4.0b (required for VXpocket 440).....	2
Driver history	2
Release Notes for VX driver for Mac v2.8.0.....	2
Release Notes for VX driver for Mac v2.7.4.....	2
Release Notes for VX driver for Mac v2.7.3.....	2
Release Notes for VX driver for Mac v2.6.0.....	3
Release Notes for VX driver for Mac v2.5.3.....	3
Release Notes for VX driver for Mac v2.3.3.....	3
Release Notes for the VX kit 4.0b for PC.....	4
Release Notes for the VX kit 3.1c for PC.....	4
Release Notes for the VX kit 3.0g for PC.....	4
Release Notes for the VX kit 3.0c for PC.....	5
Release Notes for VX driver for PC v2.30c & Asio v1.3.0	6
Release Notes for VX driver for PC v2.20b + ASIO v 1.2.1	6
Release Notes for VX driver for PC v2.20b + ASIO v 1.0.5.....	6
Release Notes for VX driver for PC v2.14c + ASIO	6
Installation, update, un-installation	8
Installing the card in the computer	8
Installing a VXpocket v2/440.....	8
Installing a VX222 PCI bus card	8
Installing the VX kit for MacOS.....	9
General information.....	9
Installing the VX kit for MacOS	9
Copying the ASIO driver for MacOS	9
Removing the VX kit for MacOS	9
Installing the VX kit for Windows 95/98/Millennium.....	10
General information.....	10
Installing the VX kit for Windows 95/98/ME	10
Installing the ASIO driver for Windows 95/98/ME	12
Updating the VX kit for Windows 95/98/ME	12
Removing the VX kit for Windows 95/98/ME	15
Installing the VX kit for Windows NT	16
General information.....	16
Installing the VX kit for Windows NT	16
Removing the VX kit for Windows NT	17
Updating the VX kit for Windows NT	17
Installing the VX kit for Windows 2000.....	18
General information.....	18
Installing the DirectSound & ASIO driver for Windows 2000	18
Installing the Wave driver for Windows 2000	20

Removing the VX driver for Windows 2000	23
Updating the VX driver for Windows 2000	24
Installing the VX kit for Windows XP (beta).....	25
General information.....	25
Installing the DirectSound & ASIO driver	25
Installing the Wave driver	25
Removing the VX kit for Windows XP	25
Updating the VX kit for Windows XP	26

Use 27

On Mac platforms	27
Using the Sound control panel	27
Digigram VX Control.....	27
Dealing with digital signal	30
On PC platforms	31

General information

Supported cards

The VX kit supports VXpocket v1 and v2, VX222 and VX820 (OEM product only) sound cards and, since version 4.0b, the VXpocket 440.

System requirements

MacIntosh

System requirements for VXpocket

- Apple MacOS 8.1 or higher. Not ready yet for Mac OS X.
- Apple Sound Manager 3.3 or higher
- Apple PowerBook 2400, 3400, G3 and G4.
- One standard type II card slot, PC-Card compliant.

System requirements for VXpocket 440

- Apple MacOS 9.1 or higher. Not ready yet for Mac OS X.
- Apple Sound Manager 3.3 or higher
- Apple PowerBook G3 and G4.
- One standard type II card slot, PC-Card compliant.

System requirements for VX222

- Apple MacOS 8.1 or higher. Not ready yet for Mac OS X.
- Apple Sound Manager 3.3 or higher
- One free PCI slot

PC

System requirements for VXpocket

- Windows 95/98, Windows ME, Windows NT 4, Windows 2000.
- One standard type II card slot, PC-Card compliant.
- One available IRQ line (level sensitive).

System requirements for VXpocket 440

- Windows 98SE, Windows ME, Windows NT 4, Windows 2000.
- One standard type II card slot, PC-Card compliant.
- One available IRQ line (level sensitive).

System requirements for VX222

- Windows 95/98, Windows ME, Windows NT4, Windows 2000.
- One card slot, PCI 2.1 compliant.

Included drivers

VX kit 3.1c (recommended for VXpocket v2 and VX222)

Mac platform

- Sound Manager 2.7.4 driver (requires Sound Manager 3.3 or higher)
- ASIO 2.7.4 driver (compliant to ASIO 2.0 specifications)

PC platform

- Wave for VX driver 2.40b for Windows 95/98, Windows NT4, Windows 2000 and Windows Me
- ASIO2.0 driver 2.0e for Windows 95/98, Windows 2000 and Windows Me
- Direct Sound driver 4.42a for Windows 2000 only.

VX kit 4.0b (required for VXpocket 440)

Mac platform

- Sound Manager 2.8.0 driver (beta)
- ASIO 2.8.0 driver (beta, compliant to ASIO 2.0 specifications)

PC platform

- Wave for VX driver 2.40c build 1 for Windows 98 SE, Windows NT4, Windows 2000 and Windows Me
- ASIO2.0 driver 2.0e for Windows 98 SE, Windows 2000 and Windows Me
- Direct Sound driver 5.00a build 13 for Windows 2000 only.

Driver history

Release Notes for VX driver for Mac v2.8.0

What's new ?

- Supports VXpocket 440 (beta). VX222 and VXpocket owners shall use the VX driver for Mac v2.7.4.

Improvements

- New ASIO driver offering the possibility to optimize performance by selecting the active I/O.
- New control panel.

Known issues

- The refreshment of the VX control panel is visible.

Release Notes for VX driver for Mac v2.7.4

What's new ?

- The functionality remains unchanged.

Improvements

- The random level bug of the hardware monitoring is now fixed.

Known issues

- The refreshment of the VX control panel is still visible.

Release Notes for VX driver for Mac v2.7.3

What's new?

- Comprehensive management of the levels
- Special advanced option for Pro Tools Free compatibility

Fixed bugs and improvements

- More accurate ASIO latency compensation
- Reduced ASIO CPU consumption
- Sound Manager vumeter: flashing behaviour fixed
- Bit copyright bug in the AES/EBU stream fixed

Known issues

- Visible refreshment of the VX control

Release Notes for VX driver for Mac v2.6.0

What's new?

- LTC support for ASIO2 compliant programs.
- Access to buffer size for latency time improvements
- Easier ASIO driver installation process.

Fixed bugs and improvements

- Recording in 24 bit format with Digital Performer 2.7

Known issues

- No input level management
- Problems recording with ProTools 5.0.1 (free version)

Release Notes for VX driver for Mac v2.5.3

Fixed bugs and improvements

- Full 24 bit support.
- Playback synchronization support on S/P-DIF.

Known issues

- If VXpocket card is removed, then inserted, while VX Control panel is open, the computer may hang.

Release Notes for VX driver for Mac v2.3.3

Fixed bugs and improvements

- VXpocket initialization problem. This driver must be used with VXpocket cards, which have been modified for the following reason: if the card is inserted prior to power up, the card may not be recognized. It is then necessary to remove the card before restarting the machine. This problem concerns VXpocket cards which serial number ends in 01039240562 or less, and can only be solved by a hardware modification.
If you experience such a problem, please contact your dealer.

Known issues

- If VXpocket card is removed, then inserted, while VX Control panel is open, the computer may hang.

Limitations

- Full 24 bit support will be available in driver 2.5.x.
- Playback synchronization support on S/P-DIF will be in driver 2.5.x

Release Notes for the VX kit 4.0b for PC

What's New?

- Supports Vxpocket 440 only. Vxpocket v2 and VX222 owners shall use VX Kit 3.1c.
- The Windows 2000 version is usable as beta driver under Windows XP (for all VX cards).

• DirectSound 5.00a build 13

What's New?

- Supports Vxpocket 440
- **ASIO PC 2.0e**
- **Wave driver version 2.40c build 1**

What's New?

- Supports Vxpocket 440

Improvements

- Minor bug fixes and improvements.

Release Notes for the VX kit 3.1c for PC

DirectSound 4.42a build #18

Improvements

- Minor bug fixes and improvements.

Wave driver version 2.40b build #4

What's new?

- 32-bits linear format is now supported by Wave driver (left alignment).
- Data mode is now available. In Data mode, all digital level processing is disabled in the driver to ensure a digital stream free of any sample modification. This mode allows perfect data transfers (used for AC-3 signals playback, for instance). It is selectable from the Digigram mixer, by clicking on the Advanced button.

Improvements

- Compatibility of Media Player and other DirectSound compliant software with DirectSound emulation has been improved. Playback launch responds much faster and underruns with low frequency sound formats are avoided.
- The playback loop feature has been implemented in the Wave driver. In the Wave API, the waveOutWrite function has been brought into line with WHDR_BEGINLOOP and WHDR_ENDLOOP flags.

ASIO 2.0e:

What's new?

- New ASIO control panel : board selection, full Input & Output Level management

Improvements

- Improvement of the ASIO driver performances.
- Underruns when starting Play/Record are avoided. Play and Record streams are now properly synchronized.

Known issues

- B4 software causes an internal error when modifying the frequency settings, the application shuts down.

Release Notes for the VX kit 3.0g for PC

What's New?

- Installation through a new setup program (NT4/Win 2000)

Fixed bugs and improvements

- CHKDSK under NT4 fixed

- **DirectSound 4.41m**

Fixed bugs and improvements

- The copyright bit on the digital output of the VX card was set so that a digital recorder connected to the VX could not record: fixed.
- The control "Mute all" of the Microsoft mixer was taken into account only after restarting the playback: fixed.
- The fader "Volume control" could not be set at full scale: fixed.
- The following problem is also fixed: after a digital recording through the Microsoft wave emulation*, the following playbacks through DirectSound still use the frequency that was used during the recording. (*:the wave emulation is used when a wave application uses a DirectSound device instead of a wave device. E.g.: wave application + device "VX 222 Audio Card (WDM)" selected).

- **ASIO PC 1.3.0r**

- **Wave driver version 2.31**

What's New?

- Optimization under 9x/ME

Fixed bugs and improvements

- Bug of the lost devices fixed (NT4)
- Release of the Wave devices after a process incidently stops (NT4/Win2000)
- Max. speed of scrub (2.0) and related controls fixed
- Other minor corrections and improvements

Release Notes for the VX kit 3.0c for PC

- **DirectSound 4.41k**

What's New?

- Support of the VX222 and VXPocket boards under Windows 2000 only.

Limitations

- Recording is not available with VXPocket cards (input not accessible).
- Control "Mute all" on the Microsoft mixer is taken into account only after restarting the playback.
- The fader "Volume control" cannot be set at full scale.
- After a digital recording through the Microsoft wave emulation* (wave application+device "VX222 Audio Card (WDM)" selected + digital clock), the following playbacks through DirectSound still use the frequency that was used during the recording.
- Workaround 1: Install the wave driver in addition to the DirectSound driver.
- Workaround 2: Record again with the Microsoft wave emulation, but using the analog input.
- The 'wave emulation' is used when a wave application uses a DirectSound device instead of a wave device.

- **Wave driver version 2.30f**

What's New?

- Support of the VX222 and VXPocket boards under Windows 2000.
- On some PCs and under Windows 9x and Millenium, after the driver's installation, the VX222 is visible but cannot be used (no interruption). In such case, "PCI IRQ #0" is mentioned in the file "SystemDisk:\PCXNP\VXVX95Driver.log".
- Workaround: Double click on the file "patch.reg" , reinstall the VX222 (use "Add New Hardware", when the O/S states the driver is not for this card, choose to use it).
- Note: to install the wave driver under Windows 2000, the DirectSound driver must be installed first.

- **ASIO PC 1.3.0**

What's New?

- Support of the VX222 and VXPocket boards under Windows 2000.
- The VX card must not be selected in the Windows 2000 Sound & Multimedia control panel to enable the use of the ASIO driver.

Limitations

- When synchronizing on the LTC input, a phase shift may result from an underrun (break in the flow). It has been experienced with Cubase and Nuendo.

Release Notes for VX driver for PC v2.30c & Asio v1.3.0

Fixed bugs and improvements

- A spurious warning was displayed during the removal process of driver 2.30b.
- Asio driver installation was not correct : a key was missing.

Known issues

- None

Release Notes for VX driver for PC v2.20b + ASIO v 1.2.1

Fixed bugs and improvements

- Full 24 bit support for Wave and ASIO programs

Known issues

- When installing Vxpocket on Windows NT platforms, a 'Cannot load the Digigram Wave for VX 2.20 build 7 driver' error message may occur before completing the installation process. In this case, please check page 16 for detailed installation instructions.

Limitations

- No known limitations

Release Notes for VX driver for PC v2.20b + ASIO v 1.0.5

Fixed bugs and improvements

- Full 24 bit support for wave programs (24 bit support for ASIO under development)
- Playback synchronization clock selection (internal or digital input) done from the mixer
- SIA/Smaart compatibility issues fixed

Known issues

- When installing Vxpocket on Windows NT platforms, a 'Cannot load the Digigram Wave for VX 2.20 build 7 driver' error message may occur before completing the installation process. In this case, please check page 16 for detailed installation instructions.

Limitations

- No known limitations

Release Notes for VX driver for PC v2.14c + ASIO

Fixed bugs and improvements

- ASIO 2.0 support.
- Problem of playback during recording. With some applications, there was an error with the following sequence while recording: play, stop play, start play.
- Includes the patch to version 2.11a, which fixed the SPDIF output format problem.
- Includes a mixer version, which fixes input levels handling (access to nominal level and headroom settings).
- Vxpocket initialization problem. This driver must be used with Vxpocket cards which have been modified for the following issue:
If the card is inserted prior to power up, the card may be not recognized, and it may then happen that the whole PC-Card slot is ignored until the next power up. It is then necessary to remove the card before restarting the machine.
- The card is recognized but an error 'MMSYSTEM 001 Undefined External Error' systematically occurs when starting a playback or recording on a laptop PC. In that case a solution may be to stop the Vxpocket in control panel, PCMCIA, then to remove it and insert it again.
This problem concerns Vxpocket cards which serial number ends in 01039240562 or less, and can

only be solved by a hardware modification.

If you experience such a problem, please contact your dealer.

Known issues

- If after having played a file which sampling frequency is lower than 32 KHz (typically a Windows system sound), the application switches the card to digital mode (to lock it on the digital input), the frequency used by the card will be half the digital input frequency!
A new version coming soon will solve this problem.
A solution consists in playing a 48, 44.1, or 32 KHz file before switching the card to digital mode.

Limitations

- Full 24 bit support will be available in driver 2.20.
- Playback synchronization support on S/P-DIF will be in driver 2.20.

Installation, update, un-installation

Installing the card in the computer

Installing a VXpocket v2/440

Installing a VXpocket sound card is a very easy task, just insert the card into any free PC-Card slot. The card is now installed, you may now proceed to the driver's installation.

Please refer to the driver installation specific to your operating system. If you are running a Plug and Play operating system, the Plug and Play wizard will automatically detect the card and start as the card is inserted for the first time.

Installing a VX222 PCI bus card

Installing a VX222 sound card is a very easy task:

- Open your computer,
- locate a free PCI slot,
- insert the card into an available PCI slot,
- close and restart the computer.

The card is now installed, you may now proceed to the driver's installation.

Please refer to the driver installation specific to your operating system. If you are running a Plug and Play operating system, the Plug and Play wizard will automatically detect the card and start as the card is inserted for the first time.

Installing the VX kit for MacOS

General information

The VX kit for MacOS shipped with your board or downloaded from the Internet supports:

- v3.1c (and earlier): Vxpocket and VX222 soundcards
- v4.0b: Vxpocket 440 (beta)

Installing the VX kit for MacOS

Note: disabling the Extensions to install the VX driver for MacOS is not necessary.

- The Sound control panel must be copied from the Apple Extras folder into the System:Control Panel folder.
- Insert the VX kit CD-ROM. The CD-ROM can be browsed using your usual web browser. Go to your soundcard's page and then to its drivers page. Click on the Mac driver's name to launch the installer.
- If the driver has been downloaded from the Digigram web site, it will need to be expanded prior to the driver's installation. Use Stuffit Expander to expand the files properly (Stuffit Expander is installed by default on new computers. If you do not have this expander, please download it from the following web site <http://www.aladdinsys.com>, version 5.5 or higher required). Double click on the Installer icon and follow the instructions.
- Since driver version 2.6.0, the Digigram ASIO driver can be automatically installed for every ASIO compliant application. The installer will ask you to confirm this step.
- Restart the computer upon driver installation completion.

The installed files are:

- VX driver (copied into System:Extensions)
- VX enabled (copied into System:Extensions)
- VX library (copied into System:Extensions)
- VX control (copied into System:Control Panel)
- Digigram VX ASIO Driver (copied into Digigram VX f:ASIO)

Copying the ASIO driver for MacOS

Since version 2.6.0 the above task can be automatically completed. However, if you install an ASIO compliant application after the VX driver, you will have to copy the ASIO driver as described below.

Upon completion of the VX driver installation, the ASIO driver for MacOS is copied into the **Digigram VX f:ASIO** folder located in the root folder. **In order to be properly loaded by your ASIO compliant program, this file needs to be copied into the folder where all the ASIO drivers are stored.** This location is application dependent but usually is ASIO Drivers in the folder where the program is installed. For further information, please refer to the documentation of your program.

Removing the VX kit for MacOS

To remove the VX driver for MacOS, remove the following files:

- VX driver (located in System:Extensions)
- VX enabler (located in System:Extensions)
- VX library (located in System:Extensions)
- VX control (located in System:Control Panel)
- Digigram VX ASIO Driver (located in Digigram VX f:ASIO and in every ASIO drivers subfolder of the installed ASIO compliant software)
- VX settings (located in System:Preferences)

and restart your computer.

As MacOS is not a plug and play operating system, the card may be removed at any time.

Installing the VX kit for Windows 95/98/Millennium

General information

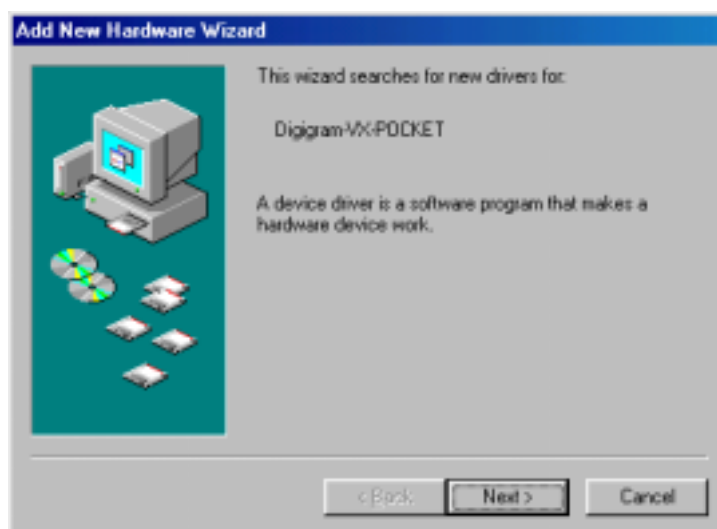
The VX kit 3.1c for Windows 95/98/ME shipped with your board or downloaded from the Internet supports both VXpocket and VX222 cards. It includes an ASIO 2.0 driver, which is automatically installed. VXpocket 440 users must install the VX kit **4.0b** for Windows 98SE and Millennium.

Installing the VX kit for Windows 95/98/ME

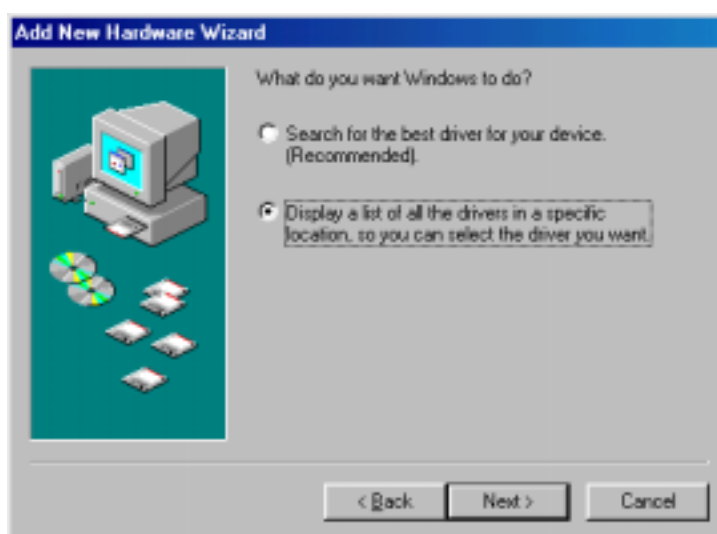
As Windows 95/98/ME are Plug and Play operating systems, they will automatically detect the card upon next start-up and will run the hardware installation wizard as follows (Be aware that some differences may occur depending on the various versions of Windows.).

If the driver has been downloaded from our web site, it will be expanded prior to the driver's installation. Double-click on the downloaded file to launch the auto-extracting utility. You can use the default destination location (Windows temporary folder) or select another one.

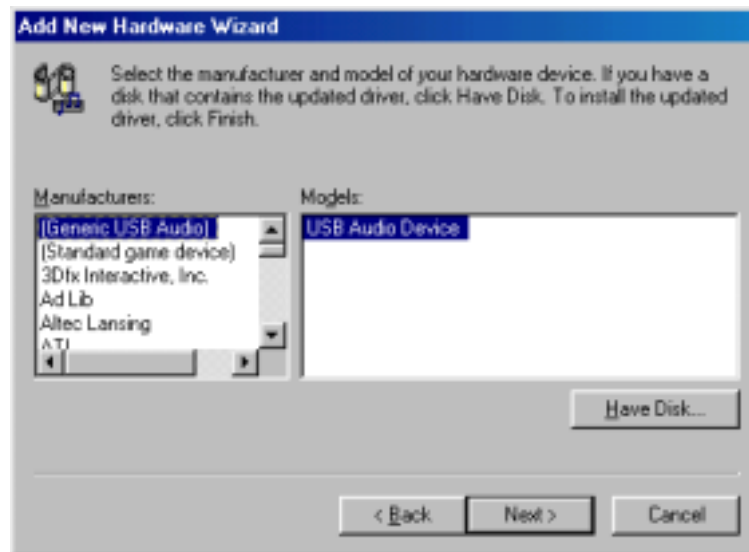
The wizard will first detect the card and prompt for a new driver



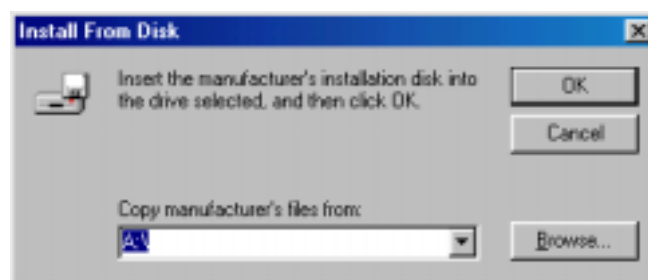
Click **Next** to start the driver installation.



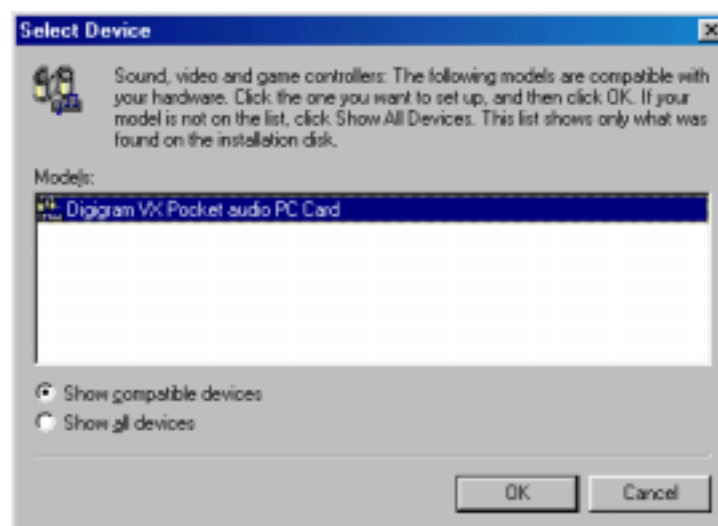
Select **Display a list of all the drivers...** to select a specific driver and click **Next**.
Select the **Sound, video and game controllers** category and click **Next**.



Click on the **Have Disk** button. The following dialog box will be displayed.



Browse to the drive where the installation files are located (on the CD-Rom or in the extracting destination folder; on the CD-ROM, the driver is located in /download/win9x-winme<kit>, where <kit> should be replaced by the number of the VX kit you wish to install) and click **OK**.



The wizard should display the proper driver. Click **OK** to continue.



Click on the **Next** button to start copying the driver files.

Click on the **Finish** button to finalize the driver installation. No reboot should be necessary at this time.

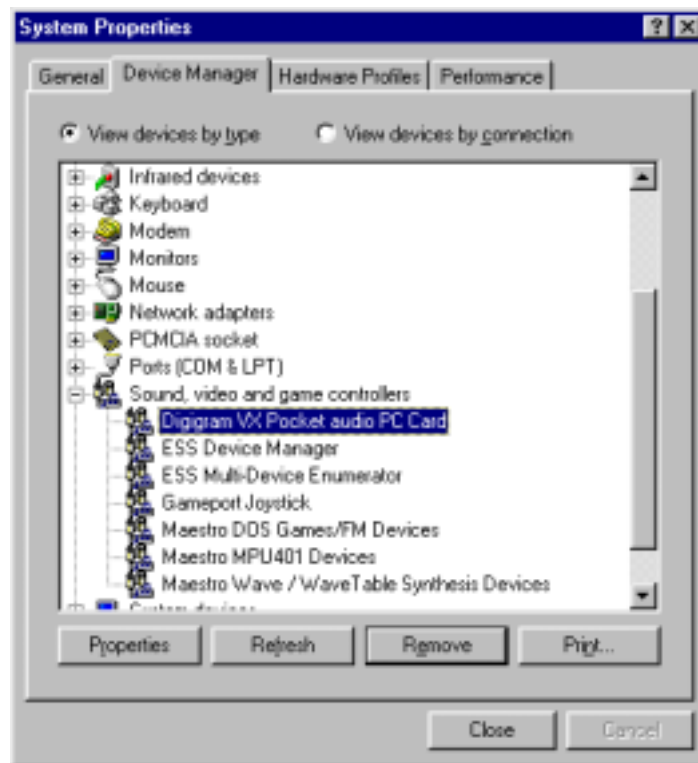
Installing the ASIO driver for Windows 95/98/ME

The ASIO driver for Windows 95/98/ME is automatically installed during the VX driver installation process. No specific installation is required. The registry information is updated in order to the ASIO compliant programs to show the Digigram VX ASIO driver in the list of available ASIO drivers. The Digigram VX ASIO driver only needs to be selected from the application program's specific audio I/O settings.

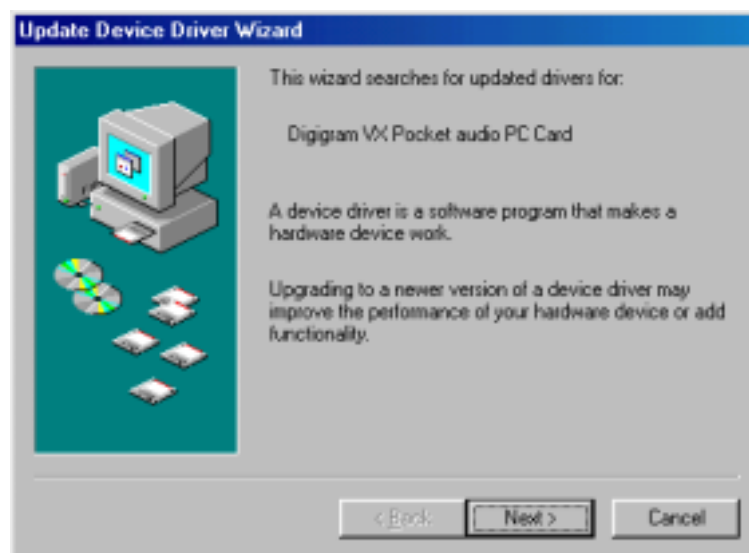
Updating the VX kit for Windows 95/98/ME

To update the VX driver for Windows 95/98/ME (Be aware that some differences may occur depending on the various versions of Windows.),

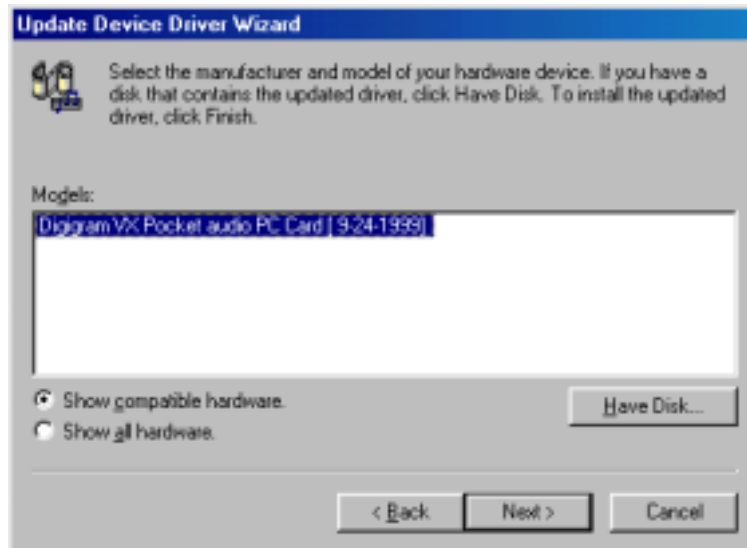
- From the **Start** menu, click on the **Settings:Control Panel** command.
- Open the System control panel.
- Select the **Device Manager** tab.



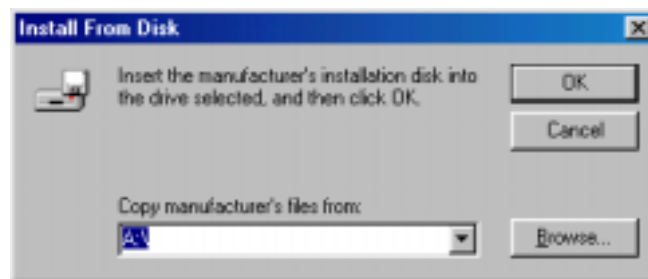
- Open the **Sound, video and game controllers** category.
- Select the Digigram VX Pocket audio PC Card item.
- Click on the **Properties** button.
- Select the **Driver** tab.
- Click on the **Update driver** button.



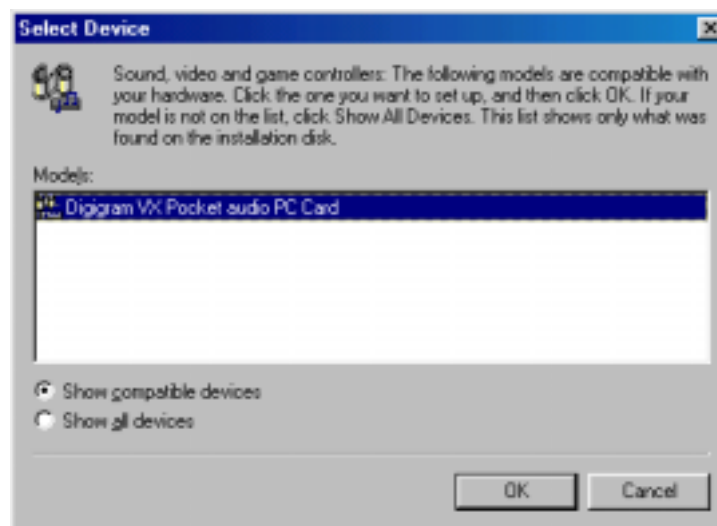
Click **Next**.
 Select **Display a list of all the drivers...** to select a specific driver and click **Next**.



Click on the **Have Disk** button. The following dialog box will be displayed.



Browse to the drive where the installation files are located (on the CD-Rom or in the extracting destination folder) and click **OK**.



The wizard should display the proper driver. Click **OK** to continue.



Click on the **Next** button to start copying the driver files.

Click on the **Finish** button to finalize the driver installation. No reboot should be necessary at this time.

Removing the VX kit for Windows 95/98/ME

To remove the VX driver for Windows 95/98/ME, make sure the card is present before starting the following procedure:

- From the **Start** menu, click on the **Settings:Control Panel** command.
- Open the **Add/Remove Programs** control panel.
- Select Digigram VX kit (remove only) in the list.
- Click on the **Remove** button.

The card may now be removed at any time.

Installing the VX kit for Windows NT

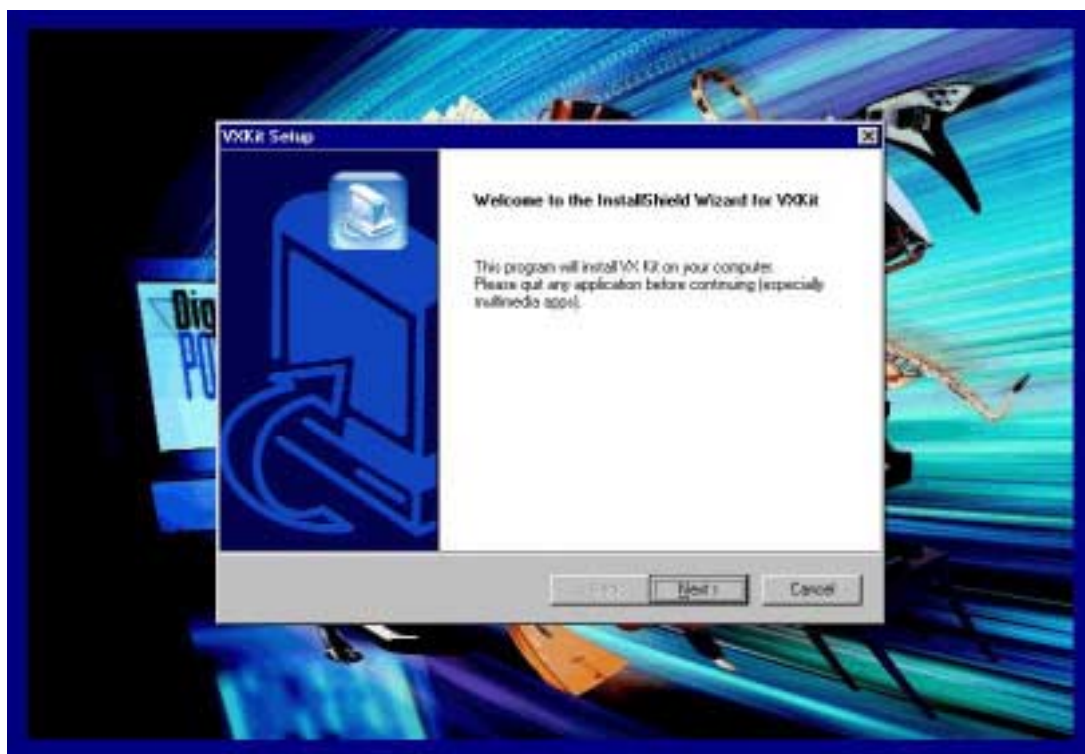
General information

The VX kit 3.1c for Windows NT shipped with your board or downloaded from the Internet supports both VXpocket and VX222 cards. This driver does not include an ASIO driver. VXpocket 440 users must install the VX kit **4.0b** for Windows NT.

Installing the VX kit for Windows NT

As Windows NT is not a Plug and Play operating system, installation has to be run interactively.

- If the driver has been downloaded from our web site, it will be expanded prior to the driver's installation. Double-click on the downloaded file to launch the auto-extracting utility. You can use the default destination location (Windows temporary folder) or select another one. The setup program will automatically run after the extraction.
- Otherwise, insert the VX kit CD-ROM. The CD-ROM can be browsed using your usual web browser. Go to your soundcard's page and then to its drivers page. Click on the Windows NT driver's name to launch the installer..



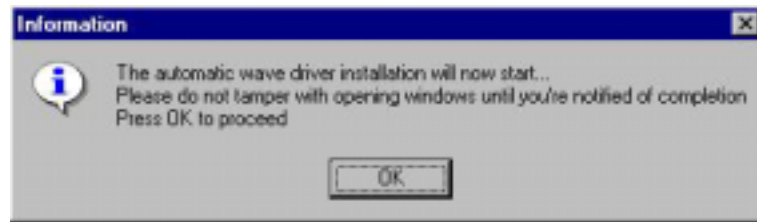
Click on the **Next** button.

Click on **Yes** to confirm the License agreement.



If you're installing a VXPocket, check the 'VXPocket supported' box and modify the parameters if needed. Click on the **OK** button. If any conflict occurs, run the Conf_VX.exe file located in the C:\PCXNP\VX directory.

The automatic installation of the Wave driver will follow:



Click on **OK** and leave the installer finish and close.

The wave driver is now installed. No reboot is necessary.

Removing the VX kit for Windows NT

The VX kit for Windows NT is easy to remove:

Go to the 'Add/Remove Programs' located in the Windows Control Panel, select the 'Digigram VX Kit (remove only)' and remove it. Follow the instructions of the Installshield wizard.

To remove older versions than VX Kit 3.0g for NT:

- From the **Start** menu, click on the **Settings:Control Panel** command.
- Open the Multimedia control panel.
- Select the **Devices** tab and open the **Audio Devices** category.
- Select the Digigram VX driver item and click on the Remove button.
- Then go to the 'Add/Remove Programs' located in the Control Panel
- Select the 'Digigram Wave driver for VX' and remove it.

The VX card may be removed at any time.

Updating the VX kit for Windows NT

To update the VX kit for Windows NT:

- From the **Start** menu, click on the **Settings:Control Panel** command.
- Remove the driver as described above.
- Run the installation program of the new driver as described earlier.

Installing the VX kit for Windows 2000

General information

The VX kit 3.1c for Windows 2000 shipped with your board or downloaded from the Internet supports both VXpocket and VX222 cards. It includes a Direct Sound driver, a Wave driver and an ASIO 2.0 driver. VXpocket 440 users must install the VX kit **4.0b** for Windows 2000.

WARNING:

- Recording on VXpocket v2/440 is not accessible under Windows 2000 with the DirectSound driver (under the DirectSound standard, Microsoft's SDK does not allow implementing a Record function in a DirectSound driver for PC-Card cards).

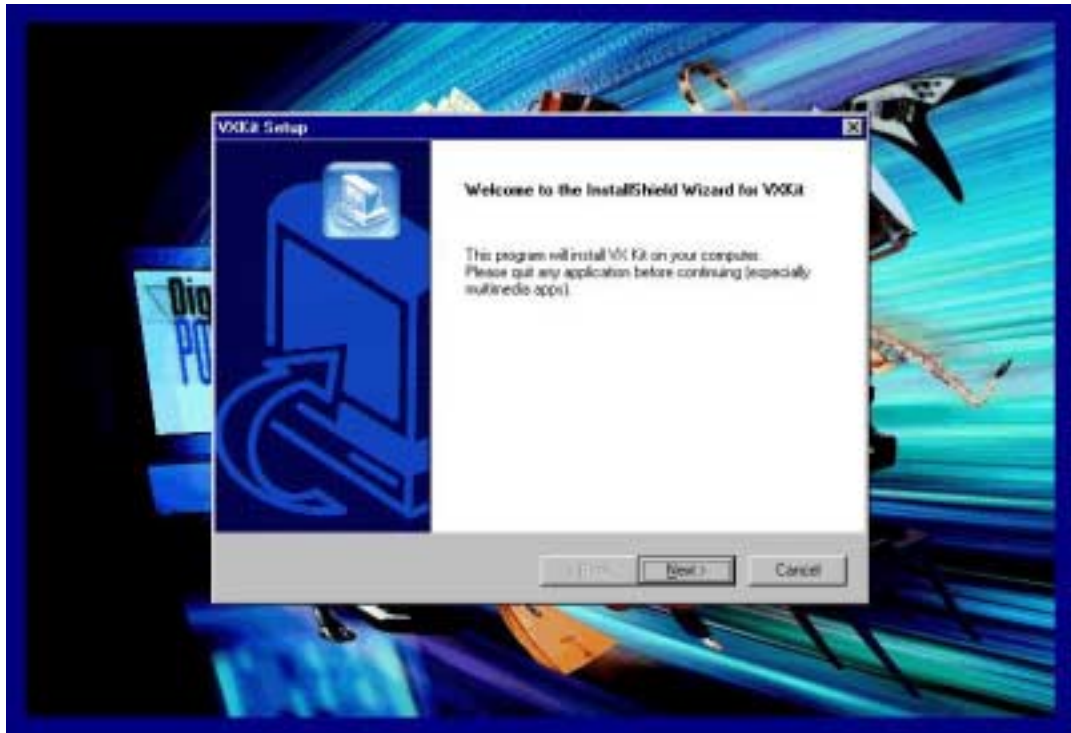
Installing the DirectSound & ASIO driver for Windows 2000

- Insert the card.
- The Windows Plug and Play wizard will detect the card and ask for a driver.



- As the installation must be done using the provided setup program, click on **Cancel and close the Windows Plug and Play wizard**.
- If the driver has been downloaded from our web site, it has to be expanded prior to the driver's installation. Double-click on the downloaded file to launch the auto-extracting utility. You can use the default destination location (Windows temporary folder) or select another one. The setup program will automatically run after the extraction.
- Otherwise, insert the VX kit CD-ROM. The CD-ROM can be browsed using your usual web browser. Go to your soundcard's page and then to its drivers page. Click on the Windows 2000 driver's name to launch the installer.

The InstallShield wizards will run.



Follow the instructions and click on the **Next** button.
 Click on **Yes** to confirm the License agreement.
 The following window may be displayed after a while:



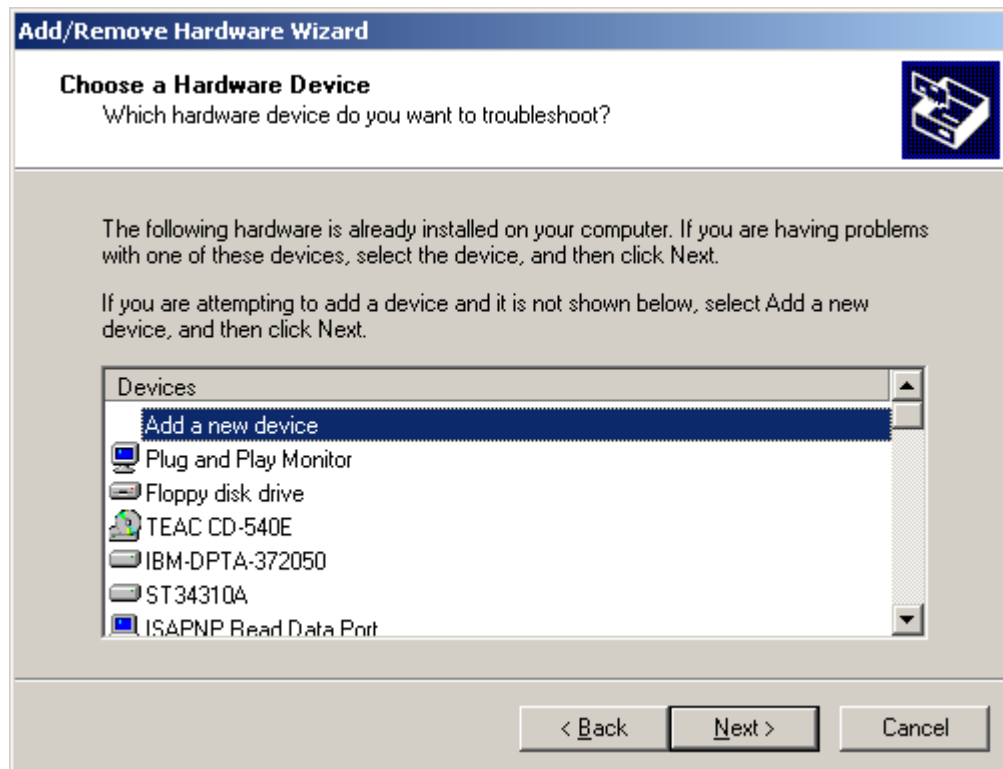
Click on **Yes**.
 Click on **Finish**, and let the computer reboot. The DirectSound and the ASIO driver are now installed. **The next step must be performed to install the Wave driver.**

Installing the Wave driver for Windows 2000

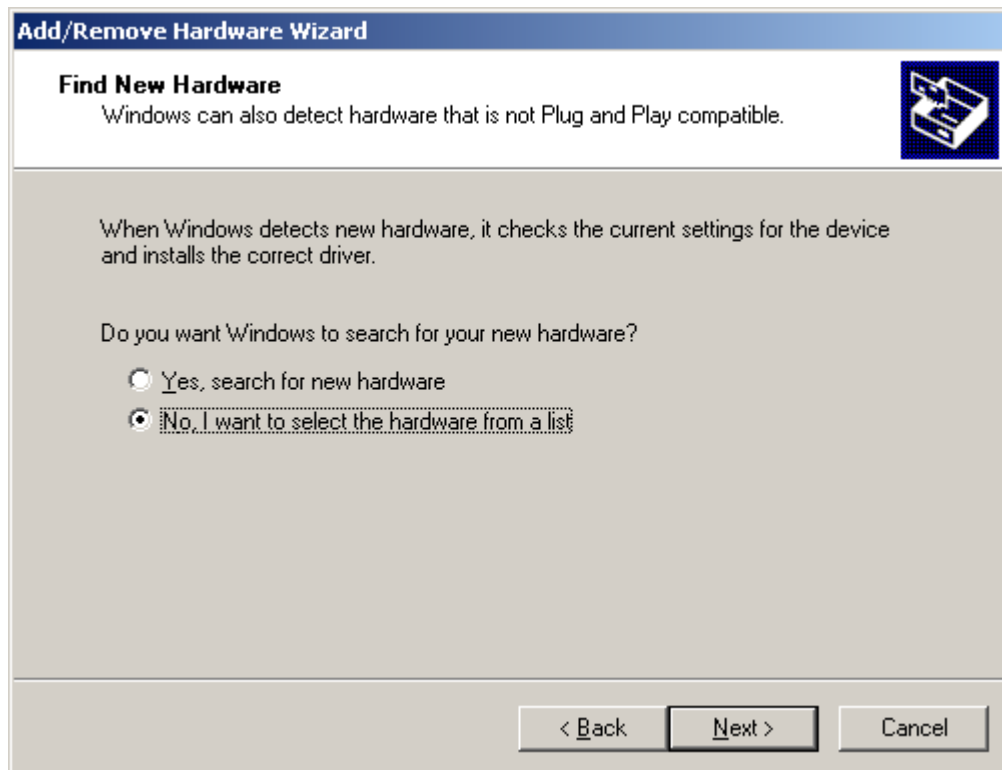
To install the wave driver (this must be done after the installation of the DirectSound driver):
Open " **Add/Remove Hardware** " in the control panel.

Click on **Next**.

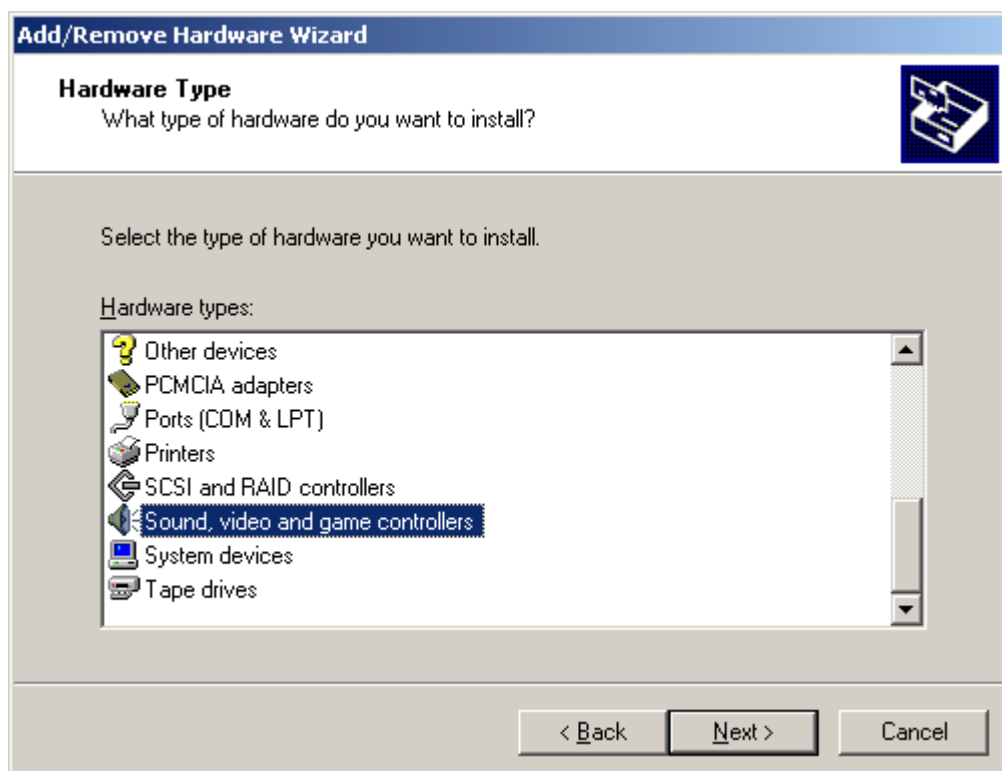
Select **Add/Troubleshoot a device**. Windows is now looking for PnP devices.



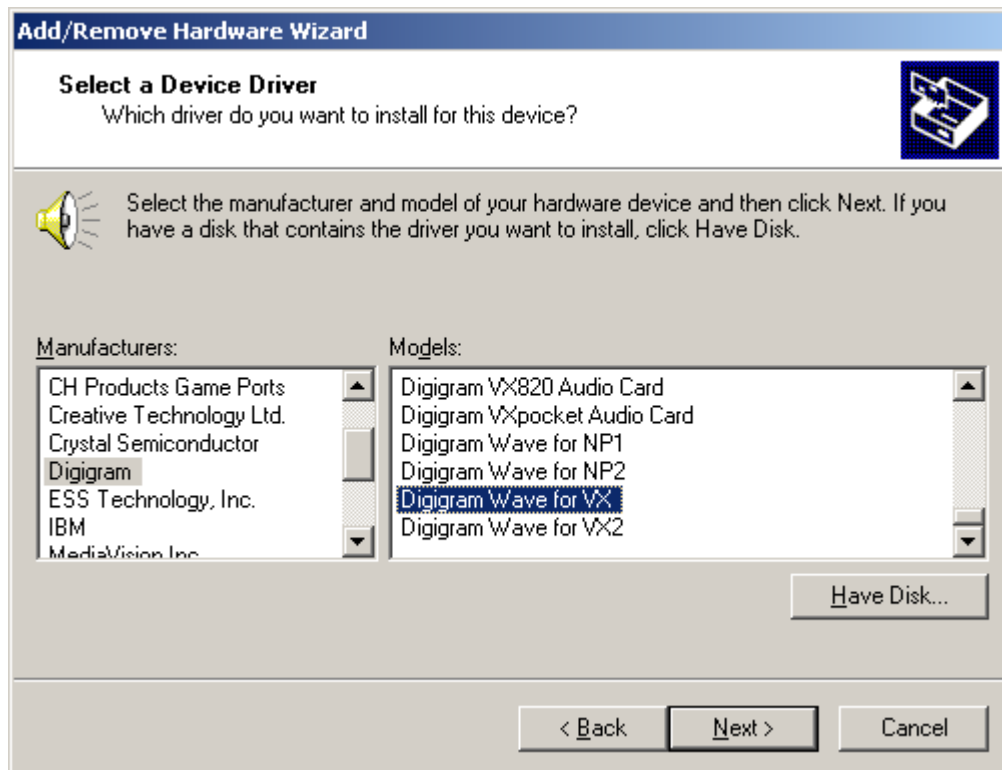
Again, select "Add a new device" in the list, and click **next**.



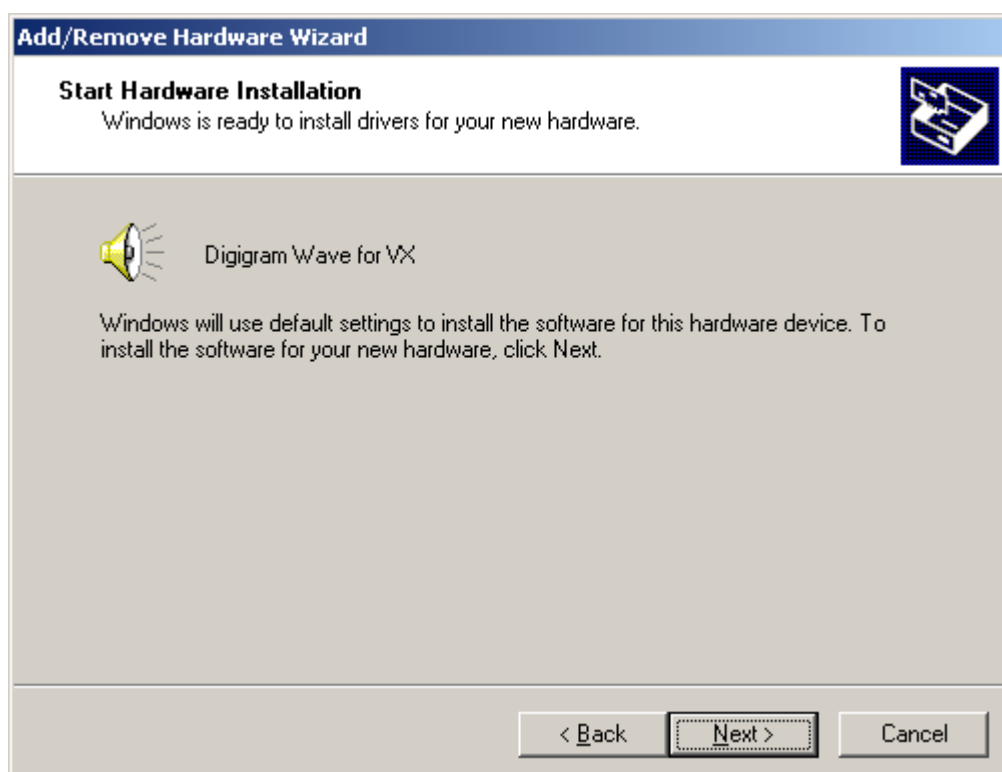
Select "No, I want to choose the device in a list", and next



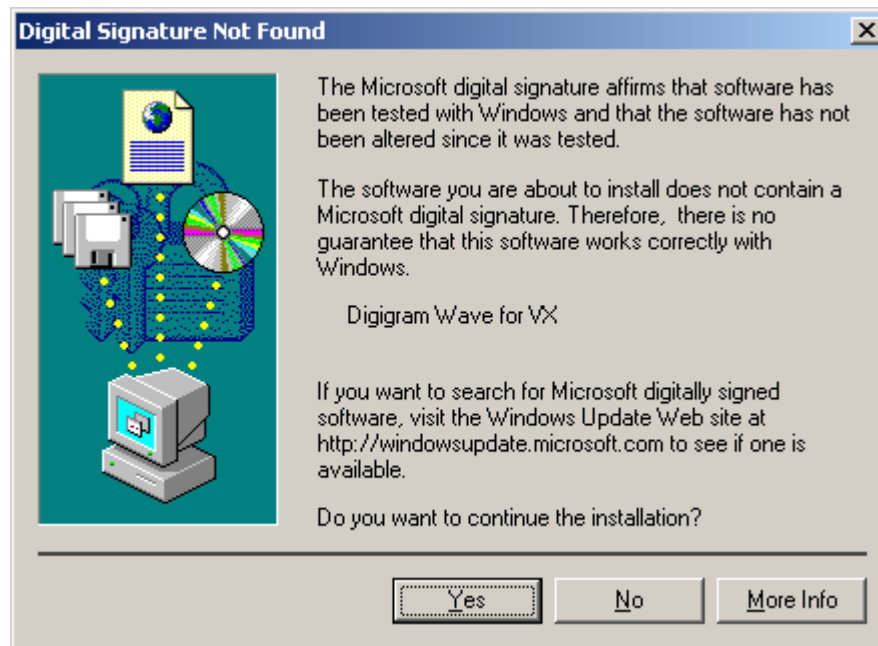
Select **sound video and game controller** in the type list.



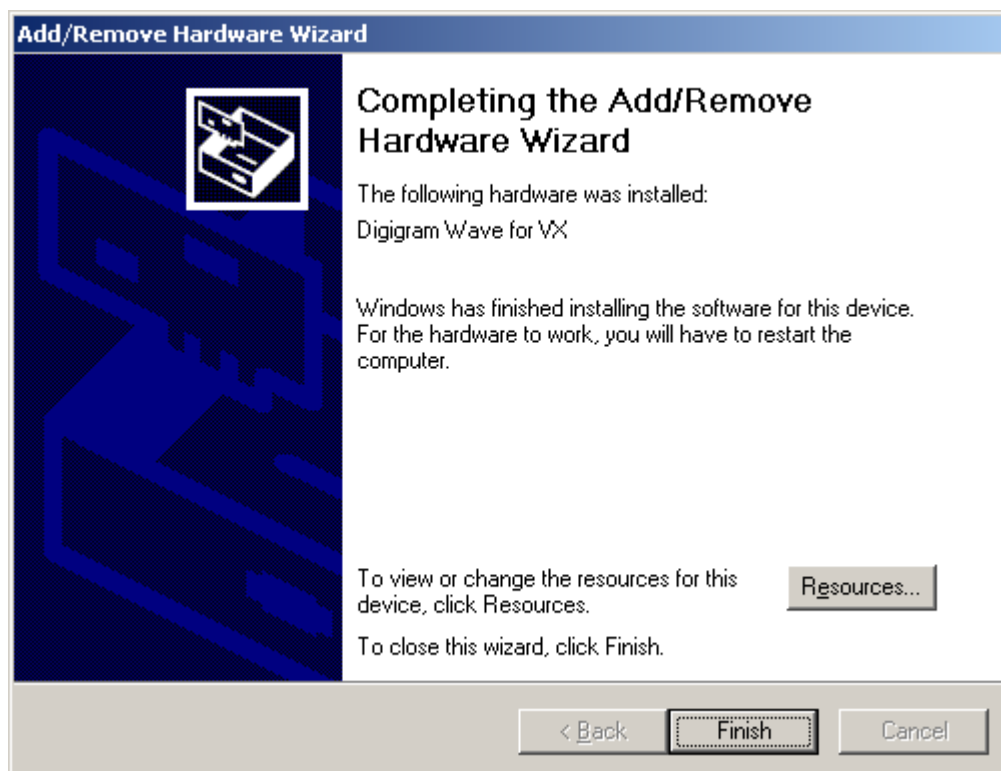
Select **Digigram** in the manufacturer list and **Digigram Wave for VX** at the end of the other list. Click on **next**.



Click on **next**. The following window may be displayed after a while:



Click on **Yes**



Click on **Finish** to complete the installation and restart the computer.
This has installed the wave driver.

Removing the VX driver for Windows 2000

The VX kit for Windows 2000 is easy to remove:
Go to the 'Add/Remove Programs' located in the Windows Control Panel, select the 'Digigram VX Kit (remove only)' and remove it. Follow the instructions of the InstallShield wizard.

To remove the VX driver for Windows 2000 of the VX Kit **3.0c (old version)**:

First of all, you must remove the wave driver if it has been installed. Go to the 'Device Manager', select the **Digigram wave for VX** and click on 'Uninstall'. Reboot and delete the **vxnt.dll** file located in the \winnt\system32 folder. Then you can proceed to the Direct Sound and ASIO drivers' removal.

To remove these drivers, go back to the 'Device Manager' select your Digigram sound card and click on 'Uninstall'. You can then delete the complete **vxwdm** directory located in \winnt\system32\drivers\ and the \winnt\system32\drivers\vxwdm.sys file.

You also need to delete the corresponding .INF file, otherwise Windows will reinstall the VX card (if inserted) next time you use your computer. The .INF file to delete is located in the \winnt\inf folder. It looks like: oem*.inf where * is a number. To find this file, you can use Windows Explorer and make a 'Search'.

Search for files named: *.inf

Containing text: Digigram

Look in: C:\

Assuming Windows 2000 has been installed on the C drive.

Updating the VX driver for Windows 2000

To update the VX driver for Windows 2000:

- From the **Start** menu, click on the **Settings:Control Panel** command.
- Remove the driver as described above.
- Run the installation program of the new driver as described earlier.

•

Installing the VX kit for Windows XP (beta)

General information

The VX kit 4.0b for Windows 2000 shipped with your board or downloaded from the Internet can be used as VX beta driver for Windows XP, supporting all VX soundcards. It includes a Direct Sound driver, a Wave driver and an ASIO 2.0 driver.

WARNING:

Recording on VXpocket is not accessible under Windows XP with the DirectSound driver (under the DirectSound standard, Microsoft's SDK does not allow implementing a Record function in a DirectSound driver for PC-Card cards).

Installing the DirectSound & ASIO driver

- Insert the card.
- The Windows Plug and Play wizard will detect the card and ask for a driver.
- As the installation must be done using the provided setup program, click on **Cancel and close the Windows Plug and Play wizard**.
- If the driver has been downloaded from our web site, it has to be expanded prior to the driver's installation. Double-click on the downloaded file to launch the auto-extracting utility. You can use the default destination location (Windows temporary folder) or select another one. The setup program will automatically run after the extraction.
- Otherwise, insert the VX kit CD-ROM. The CD-ROM can be browsed using your usual web browser. Go to your soundcard's page and then to its drivers page. Click on the Windows XP driver's name to launch the installer.
 - Follow the instructions and click on the **Next** button.
 - Read the License agreement and click on **Yes** to confirm it.
 - Select "continue anyway" if Windows displays the following message: "The software has not passed Windows Logo testing".
 - Click on **Yes** and **Finish** in the following windows, and let the system reboot.

The DirectSound and ASIO drivers are now installed.

Click on **Finish**, and let the computer reboot. The DirectSound and the ASIO driver are now installed. The next step must be performed to install the Wave driver.

Installing the Wave driver

Open " **Add Hardware**" in the control panel.

Click on **Next**

Select "Yes, I have already connected the hardware". **Next**.

Select "Add a new hardware device", and **Next**.

Select "Install the hardware that I manually select from a list (Advanced)", and **Next**.

Select **Sound, video and game controllers** from the list, and **Next**.

Select **Digigram** from the manufacturer list and **Digigram Wave for VX** from the list displayed on the right. **Next**.

Click on **Next** in the following window to start installing the hardware.

Select "continue anyway" if Windows displays the following message: "The software has not passed Windows Logo testing".

Click on **Finish** to complete the installation, and restart the computer.

The wave driver is installed.

Note: To install the Wave driver, DirectSound must have been successfully installed on the system before

Removing the VX kit for Windows XP

The VX kit for Windows XP is easy to remove:

Go to the 'Add/Remove Programs' located in the Windows Control Panel, select the 'Digigram VX Kit (remove only)' and remove it. Follow the instructions of the InstallShield wizard.

Updating the VX kit for Windows XP

To update the VX driver for Windows XP:

- From the **Start** menu, click on the **Settings:Control Panel** command.
- Remove the driver as described above.
- Run the installation program of the new driver as described earlier.

Use

On Mac platforms

Using the Sound control panel

In order to allow proper selection of the sound card, the Sound control panel must be installed in the Control panel folder. If not present, it needs to be copied from the Apple Extras folder into the System folder:Control panel folder. This control Panel allows proper selection of the installed card.

The card should not be selected if using the ASIO driver. This ensures that the card will be free for the ASIO application when it loads.

Select the **Sound In** tab to select the default sound input of your system.

Select the **Sound Out** tab to select the default sound output of your system. Some programs may require that both, input and output, be selected to the same device for clock synchronization issues.

Digigram VX Control

Located in the Control Panels folder, the VX Control provides some information about the board and allows fine-tuning of some input and output settings.

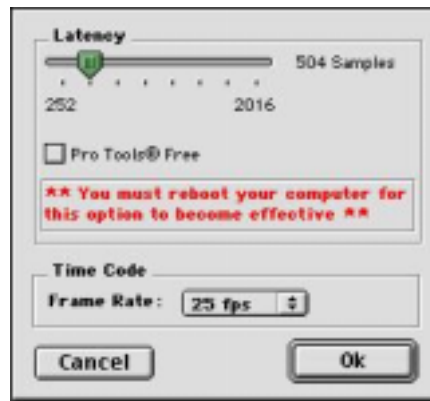
The VX Control Panel provides information about:

- the number of cards installed,
- the card's serial number,
- the PC-Card or PCI slot where the card is inserted.

The VX Control Panel allows selection of:

- sampling frequency among 32 kHz, 44.1 kHz or 48 kHz (other sampling frequency are not supported on the Mac platform),
- input type: available settings are microphone level (VX pocket only)/line level/digital input/line with digital clock/micro with digital clock (VX pocket only); the selection of the digital input for recording excludes the selection of any of the analog inputs. On the VXpocket 440, recording at the same time from the second analog input will possibly be implemented in a future driver version.
- ASIO sample depth (16 or 24 bits). **Changing this setting requires you to restart the ASIO compliant program.**
- digital data output format consumer (SPDIF) or professional (AES/EBU).
- Advanced Options: buffer size adjustment, for latency time improvement. **Changing this setting requires you to restart the computer. Warning!!! When set to a low value, the computer may become instable.** With driver 2.7.4, 504 is a good compromise between low latency and stability.
- Check the Pro Tools Free box to enable a full compatibility with this software. Otherwise, record is not possible with Pro Tools Free. If you don't use Pro Tools Free, it is recommended not to check this box for better performance.

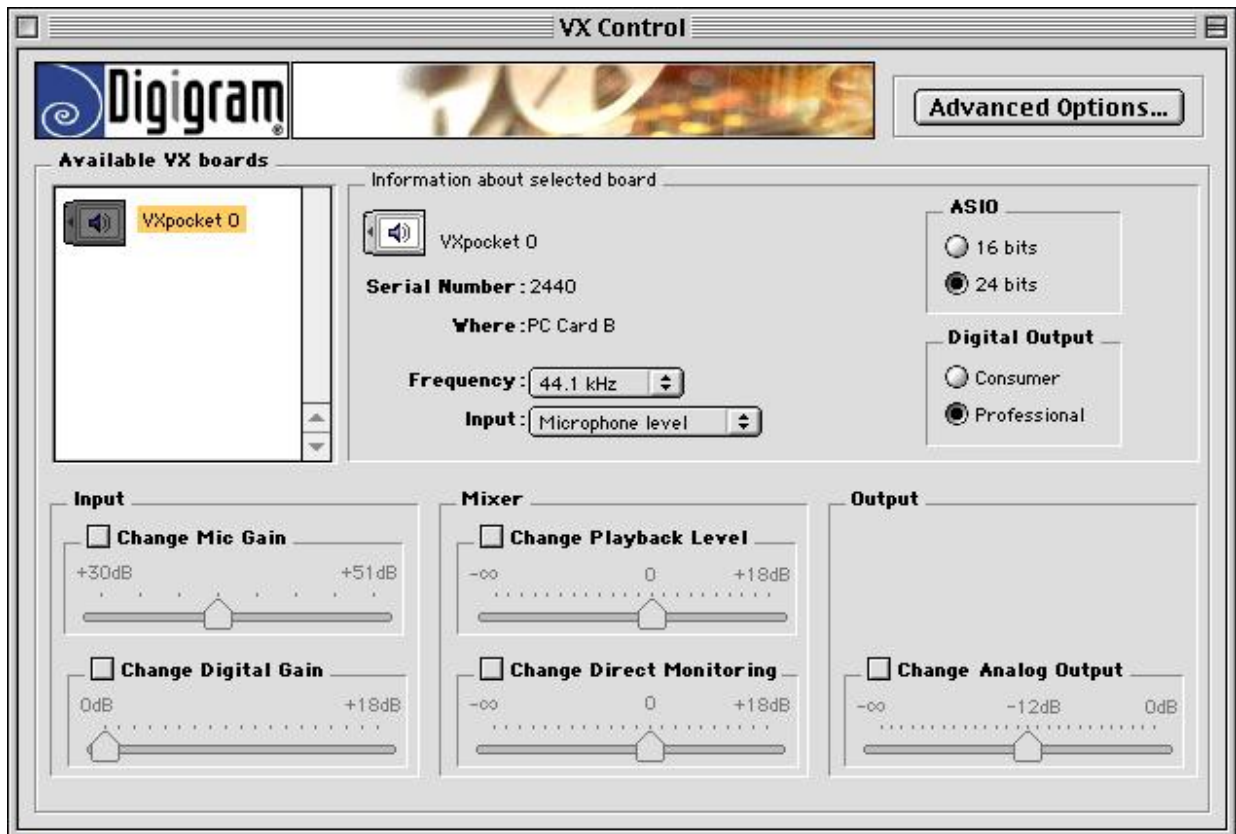
- Set the frame rate of the incoming time code signal when using the LTC input.



The last section of the panel allows to set the levels at the different stages of the card. To activate one fader, check the related box:

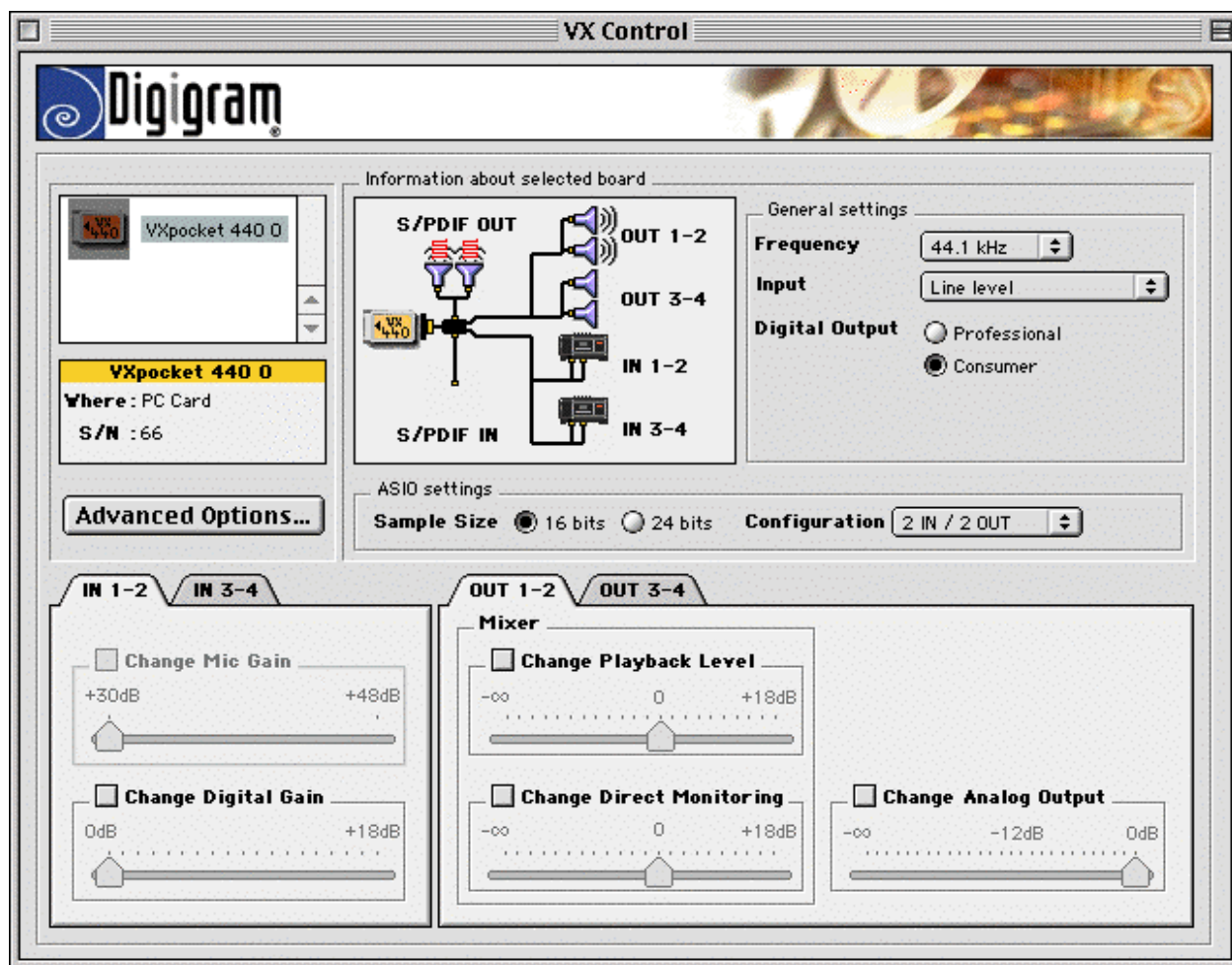
- Input/Change Mic Gain (VX pocket series only): select the microphone level input type to enable this control. Then, you may adjust the analogue preamp gain to reach the input level required.
- Input/Change Digital Gain: if necessary, the card is able to boost the level of the input signal (in the digital domain). By default, this control should be left to the 0 dB position.
- Mixer/Change Playback Level: this is the master level of the signal sent by the computer to the card. By default, this control should be left to the 0 dB position, but it may be useful sometimes to adjust it towards the Direct Monitoring level (see above)
- Mixer/Change Direct Monitoring: this is where you can activate and control the direct monitoring (also called “hardware monitoring” or “zero-latency monitoring”). When the box is checked, the input signal is immediately sent to the outputs of the card. This avoids the monitoring latency that occurs when the monitored signal passes through the computer before going to the outputs of the card.
- The signal sent by the computer and the directly-monitored signal are mixed to the outputs. It can be useful to adjust their respective levels using these two Mixer controls while overdubbing with a multi-track audio software, for instance.
- Output/Change Analog Output: this allows to adjust the level of the analog outputs of the card.

Control panel v2.7.4 is shown below:



Some of these settings may also be accessed directly through the third party software used or through the standard sound control panel. **When a level control is checked, the setting of this control has a higher priority.**

Here is the control panel v2.8.0. Click on the tab of the concerned channels to set their levels. The configuration menu allows to select the number of active stereo i/o of the ASIO driver. It is recommended to select only those required for the intended use for better performance.



Dealing with digital signal

As the clock of the board is synced to the digital signal, selecting the digital input requires the presence of digital signal. If no digital signal is present, the selector automatically switches back to analog setting.

Be aware that the digital input clock is used when playing back files. If playback of files at a different sampling rate is needed, please select analog input.

On PC platforms

The VX cards can be used through up to three different drivers and each driver has its own control panel. It is essential to select the right driver according to the audio engine on which is based your audio software (Wave (MME), DirectSound (WDM), or ASIO). Consult your audio software editor to know which audio engine is used in its application.

In the case of professional audio software, this selection of the driver is generally to be done directly in the audio software: check the 'Options' menu of the application (you may also find menus called 'Preferences', or 'Audio System', or 'Devices' – it varies from one audio application to another).

Other audio software use the device selected in the Windows control panel 'Sound & Multimedia' or 'Multimedia'.

If the right driver is not selected, an emulated driver is used which results in lower performance.

These tables should help you select the right driver:

Drivers available under NT 4	Name in devices list	Control panel	Control panel location	To be used with...
Wave driver	'VX pocket in #1' 'VX pocket out #1'	Digigram Wave Mixer	C:\pcxnp\vx:mixer:digiwmix.exe	Sound Forge, Samplitude, Cool Edit...and other Wave applications

Drivers available under 95/98/Millennium	Name in devices lists	Control panel	Control panel location	To be used with...
Wave driver	'VXpocket in #1' 'VXpocket out #1'	Digigram Wave Mixer	C:\pcxnp\vx:mixer:digiwmix.exe	Sound Forge, Samplitude, Cool Edit... and other Wave applications
ASIO2 driver	DigigramASIO	Digigram ASIO setup	C:\pcxnp\vx:digiasio.exe	Cubase, Nuendo, Logic Audio...and other ASIO compliant applications

Drivers available under 2000 or XP	Name in devices list	Control panel	Control panel location	To be used with...
Wave driver	'VXpocket in #1' 'VXpocket out #1'	Digigram Wave Mixer	C:\winnt\system32\drivers:digigram:vxkit:mixer:digiwmix.exe	Sound Forge, Samplitude, Cool Edit... and other Wave applications
ASIO2 driver	DigigramASIO	Digigram ASIO setup	C:\winnt\system32\drivers:digigram:vxkit:digiasio.exe	Cubase, Nuendo, Logic Audio...and other ASIO compliant applications
DirectSound (play-only on pocket cards)	'VXpocket audio card (WDM)'	Microsoft mixer	Double-click on the speaker in the task bar	SFX, Windows media player, DJpro... and other DirectSound applications

Using the Digigram Wave Mixer

To start the Digigram mixer:

- From the **Start** menu, click on the **Digigram:Digigram Mixer** command or browse to C:\PCXNP\VX\MIXER and run Digiwmix.exe.
- The mixer is started and iconized.
- To open the icon, double click on the proper icon located in the task bar.

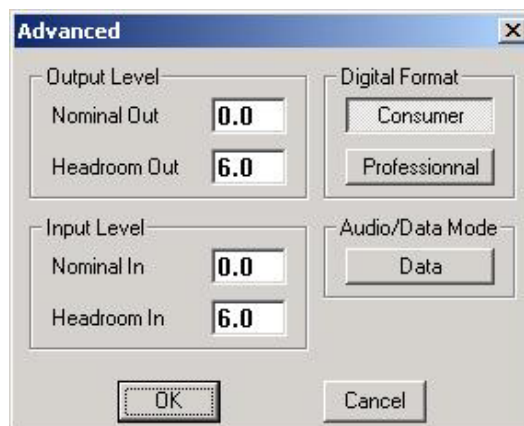
The following window is displayed.



The **Options** menu gives access to various start-up options.

Setting the input gain, output gain and format

Click on the **Advanced** button. The following dialog box is displayed.



Input gain:

- **Nominal In** plus **Headroom In** should not exceed the maximum input level of the card.
- To switch to microphone level, **Nominal In** plus **Headroom In** should not exceed -21 dB.

Nominal In/Out is the nominal level of the signal, expressed in dBu. Usually, this level is also referred to as 0 dBVU. Headroom In/Out is the allowed overload before clipping. It is expressed in dB since it is related to the nominal level.

The sum of Nominal and Headroom, expressed in dBu, is the maximum Input/Output level before clipping of the card. This sum shall not exceed the maximum values as described in the card's specifications.

Output gain:

- **Nominal Out** plus **Headroom Out** should not exceed the maximum output level of the card.
- The **Digital Format** buttons allow switching between Consumer (SPDIF) and Professional (AES/EBU) digital output format.

Selecting the synchronization input

Two synchronization modes are available and may be selected by pressing the appropriate button at the bottom of the **Digigram mixer**.

Automatic: selects the internal clock if the analog input is selected or the digital input clock if the digital input is selected.

Digital: selects the digital input regardless of the source input selection.

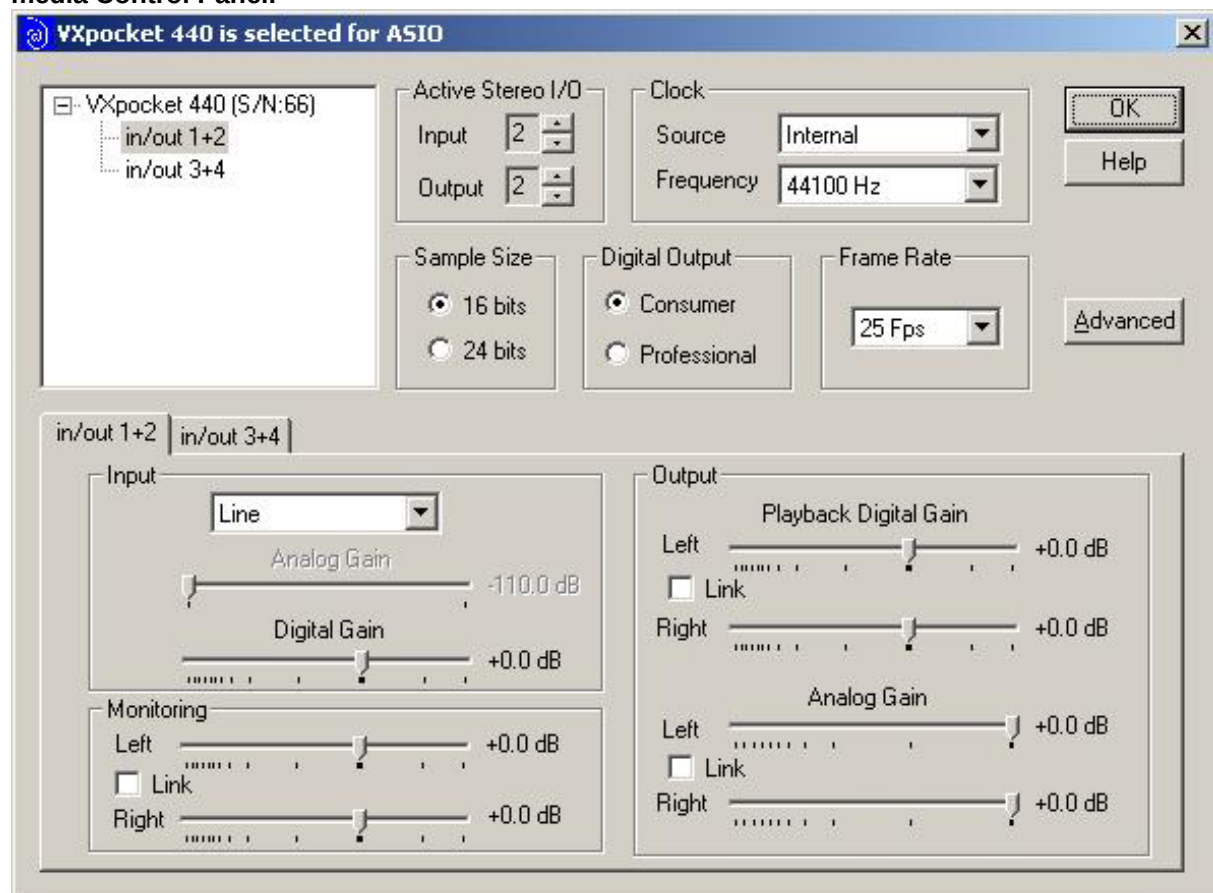
Synchro: this button does not have any influence on the VX cards (used by Digigram PCX cards).

Please read the help file accesible from the '?' menu for more information.

- **ASIO driver (Windows 95/98/ME, Windows 2000 and Windows XP)**

This control panel is launched directly from ASIO compliant third party programs.

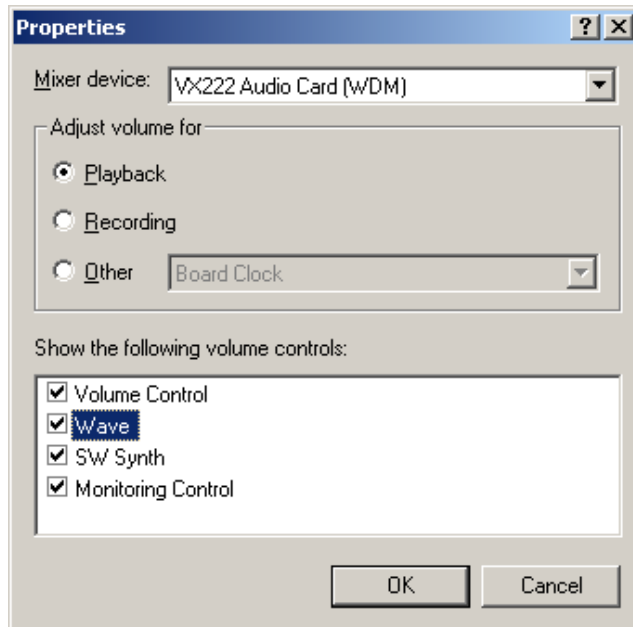
Warning!!! When using the ASIO driver, the VX card must NOT be selected in the Sound & Multi-media Control Panel.



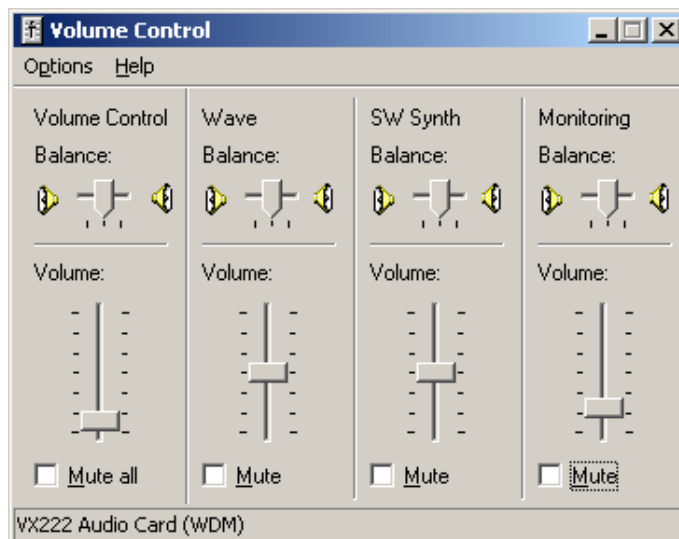
- Board: This field displays installed board information (type and serial number)
- Active stereo i/o: this is the number of stereo pairs activated. It is recommended to select only those required for the intended use for better performance.
- Sample size: Selects the format of the audio data (16 or 24 bits).
- Source: This drop-down list allows selection of digital input clock synchronization.
- Frequency: This drop-down list allows selection of the sampling frequency. Only sampling frequencies available on the board are displayed.
- Digital output: This option selects the format of the audio data sent to the digital output. Available options are Consumer (SPDIF) or Professional (AES/EBU).
- Frame rate: This drop-down list allows selection of the frame rate of the time code input.
- Faders allow to control the level of the signals at different stages on the card. See the ASIO help file for detailed information (by clicking on Help in the control panel).

- Advanced: special option for synchronisation highest priority. See the ASIO help file for detailed information (by clicking on Help in the control panel).
- **DirectSound driver (Windows 2000 and Windows XP)**

Choose Digigram VX ... audio card (WDM) in the device list of your application; the card is controlled through the Windows mixer: double click on the task bar speaker, open the options menu and select the WDM driver.



In the Mixer device window, select your Digigram card.
Select the volume controls you wish to see in the Windows mixer.



WARNINGS:

- Recording on VXpocket is not accessible under Windows 2000 with the DirectSound driver (under the DirectSound standard, Microsoft's SDK does not allow implementing a Record function in a DirectSound driver for PC-Card cards).
- When using the VX ... audio card (WDM), the only available digital format is SPDIF.
- The monitoring is 'ON' by default when playing a file and this can be disabled through the Windows mixer.
- Control "Mute all" on the Microsoft mixer is taken under account only after restarting the playback.