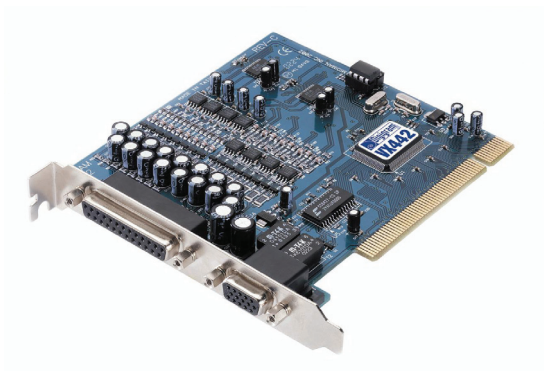


VX442

*Professional Multi-Channel
Sound Card*



User's manual

**For technical support,
please contact your local distributor**

**list available at
www.digigram.com**



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INFORMATION FOR THE USER

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

This equipment has been tested and found to comply with the limits for a CLASS B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions contained in this data sheet, may cause harmful interference to radio and television communications. However, there is no guarantee that interference will not occur in a particular installation.

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

- * reorient or relocate the receiving antenna
- * increase the separation between the equipment and the receiver
- * connect the equipment into an outlet on a circuit different from that of the receiver
- * consult the dealer or an experienced audio television technician.

Note: *Connecting this device to peripheral devices that do not comply with CLASS B requirements or using an unshielded peripheral data cable could also result in harmful interference to radio or television reception. The user is cautioned that any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment. To ensure that the use of this product does not contribute to interference, it is necessary to use shielded I/O cables.*

IMPORTANT NOTICE

This card has been tested and found to comply with the following standards:

- International: CISPR22 Class B.
- Europe: EMC 89/336/CEE (1992) specifications.
- United States: FCC Rules-Part 15-Class B (digital device).

In order to guarantee compliance with the above standards in an installation, the following must be done:

- the provided cables must not be modified.
- additional cables used must have their respective shield connected to each extremity.
- the cable connected to the digital I/O must be equipped with a EMI ferrite core of the type WURTH ELEKTRONIK ref. 742 711 1 (or equivalent), located close to the SUB-D9 HD connector.

CONTENTS OF THIS PACKAGE

Thank you for purchasing Digigram VX442.

The VX442 package consists of the following components:

- the VX442 sound card,
- two breakout cables*,
- a CD-Rom with drivers, installation notices, FAQs, etc...*
- the registration card*.

** These items are not delivered with the OEM version*

We invite you to return the completed registration card to be informed in case of new driver releases.

Feel free to visit our web site www.digigram.com to download the latest driver release, to get more technical information, consult FAQs, and discover our complete and updated audio product line!

FEATURES

VX442 is a linear multi-channel sound card for PCI bus compatible with PC and Mac desktop computers. Its main features are:

- 4 balanced analog mono line inputs.
Each input is individually configurable for +4dBu, Consumer, and -10 dBV signal levels.
- 4 balanced analog mono line outputs configurable for +4dBu, Consumer, and -10dBV signal levels, as a whole.
- 1 additional digital AES/EBU stereo input, which may also receive S/PDIF.

It is possible to use the digital signal connected to the digital input as a reference sampling clock for recording or playback on the analog inputs and outputs.

- 1 additional and configurable digital AES/EBU stereo output.
- All data paths support up to 24-bit/96-kHz performance.
- Comprehensive digital mixing, routing, and monitoring capabilities.
- Possibility to link multiple VX442 units with sample-accurate sync.
- Comprehensive set of Windows and MacOS low latency drivers: DirectSound, Wave, ASIO, GSIF, EASI, SoundManager and Core Audio drivers.

Note: *Connecting the analog outputs of VX442 to the inputs of a console supplying phantom power (48 Volts) is not recommended. This may damage the VX442 in spite of its protection.*

HARDWARE REQUIREMENTS

One free card slot, PCI 2.1 compliant.

Minimum Apple Macintosh configuration: PowerMac G3 or G4 with 128MB RAM.

Minimum PC configuration: Pentium III 500 MHz (or equivalent), 128MB RAM.

SOFTWARE REQUIREMENTS

Supported operating systems

Apple Mac OS 9.1 and higher, 10.1 and higher.

Microsoft Windows 98 SE, Windows ME, Windows 2000, Windows XP.

The VX442 requires installation of its drivers.

Drivers

The table underneath shows the drivers available for each operating system. Certain audio applications may require some particular driver. For more information contact your software vendor.

Note: "MME driver" is sometimes mentioned on software requirement charts. It refers to as "Wave".

"DirectX driver" is sometimes mentioned on software requirement charts. It refers to as "DirectSound".

PC	Wave	DirectSound	ASIO2	GSIF	EASI
Windows 98 SE & ME	Yes	Yes	Yes	Yes	Yes
Windows 2000 and XP	Yes	Yes	Yes	No	Yes
Windows Vista	No	Yes	No	No	Yes

Mac	Sound Manager	Core Audio	ASIO2
Mac OS 9.1 and higher	Yes	No	Yes
Mac OS 10.1 and higher	No	Yes	No

HARDWARE INSTALLATION

Turn off the computer and disconnect its power cord. Open the computer and position it so that you may easily access its PCI slots. Smoothly insert the card into a free PCI slot. Press it down to position it firmly. Tighten the screw, close the computer, connect the power cord and start the computer.

SOFTWARE INSTALLATION

The following section describes the VX442 installation procedure under the various operating systems. You may check www.digigram.com for updates.

Installing the VX442 driver for MacOS 9.x

The VX442 drivers for the Macintosh are separated into a series of files, which need to be copied to the proper places on the hard drive.

- On your drivers CD disk, open the VX442 folder and double-click on the Installer program.
- The Installer will automatically place the VX442 extension in **<System Folder> <Extensions>**, the **VX442 Panel** in **<System Folder> <Control panels>** and create a **VX442 ASIO** folder on the desktop.
- If you work with a music program that uses ASIO drivers, it will also have an ASIO folder within the application's folder. In the **VX442 ASIO** folder on the desktop you will find two VX442 ASIO drivers. For Cubase versions 4.x and higher, use the "**VX442 ASIO2**" driver. For earlier versions of Cubase or for any music program that is not ASIO2 capable, use the "**VX442 ASIO**" driver instead (check your program's documentation). Place the file "**VX442 ASIO**" in your program's ASIO folder by clicking on it and dragging it to the ASIO folder.
- You can run the VX442 control panel from any place that's convenient, though music software applications that use ASIO will allow you to launch the VX442 panel from within the program.
- With the VX442 PCI card installed, restarting the computer will load the VX442 extension.

How to check the installation

- Go to the <Apple menu> <Control panels> <Sound>. You should see the “built-in” sound icon, plus the VX442 icon if your VX442 is properly installed.
- If your music program does use ASIO, leave the Sound control panel set to “built-in” for both Sound In and Sound Out.
- If your program does not use ASIO (check your software documentation) and you will be using the Sound Manager to communicate with your VX442, set Sound In and Sound Out to “VX442”.
- Your VX442 is now ready for use.

Removing the VX442 driver for MacOS 9.x

Remove all files that have been copied as described above and restart your computer. To do so, you may open Sherlock pressing Command (Apple key)+F and find everything that says ‘VX442’. This will include the VX442 Driver, the VX442 Panel, ASIO VX442, ASIO2 VX442, and the VX442 Preferences. Trash all these files and reboot.

Updating the VX442 driver for MacOS 9.x

Remove the old drivers first (see above). Then follow the installation instructions (see above) using the new installer that you have downloaded.

Installing the VX442 driver for Mac OS 10.x

- On your drivers CD disk, open the VX442 folder and locate “Digigram VX442 Software.dmg”. This file may not be enclosed on your CD – in this case, please download it from the Digigram Web site (www.digigram.com).
- Double-click the .dmg file to mount it. Locate the virtual disk created on your desktop and open it.
- Launch the installer by double-clicking it. A password dialog will appear. Enter the administrator password to authorize the driver installation. Read the introduction; click **Continue**.
- Read the “ReadMe” file; click **Continue**.
- Select the disk you boot OS X from as destination drive; click **Continue**.
- Click **Install** to have the installer update your system.
- Click **Close** - you're all done! You can unmount the Disk Image if you like.

How to check the installation

- Go to the **<System Preferences> <Sound>**. You should see the “built-in” sound icon, plus the VX442 icon if your VX442 is properly installed.
- Your VX442 is now ready for use.

Installing the VX442 driver under Windows 98 SE, Millennium, 2000, XP, and Vista

Windows will automatically detect the card and will run the hardware installation wizard as follows (be aware that some differences may occur depending on the Windows version you use).

- The wizard will 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.
- Browse to the drive where the installation files are located (on the CD-Rom, they are in \VX442\win9x-winme or \VX442\win2k-winXP), and click **OK**.
- The wizard should display the suitable driver. Click **OK** to continue.
- Select **Continue anyway** if Windows displays the following message:
“The software has not passed Windows Logo testing”.
- Click on the **Next** button to start copying the driver files.
- Click on the **Finish** button to complete the driver installation. Reboot is not necessary.

The registry database is updated so that the ASIO compliant programs show the Digigram VX442 ASIO driver in the list of available ASIO drivers. The same goes for the EASI and GSIF drivers. To take full advantage of your VX442, select the type of driver that corresponds to the application used in the program's specific audio I/O settings menu.

How to check the installation

Go to <Start> <Settings> <Control panel> <Sound and Multimedia>. You should see the VX442 I/Os on the list of available playback and recording devices if your VX442 is properly installed.

Removing the VX442 driver for Windows 98 SE, Millennium, 2000, XP, and Vista

To remove the VX442 driver:

- Go to <Start> <Settings> <Control panel> <System>, **Hardware** tab, **Device manager** button, then *Sound, Video and Game controllers*.
- Select the 'Digigram VX442...' and remove it.

Updating the VX442 driver for Windows 98 SE, Millennium, 2000, XP, and Vista

- Go to <Start> <Settings> <Control panel> <System>.
- Select the **Device Manager** tab.
- Open the **Sound, video and game controllers** category.
- Select the 'Digigram VX442' 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.
- Browse to the drive where the installation files are located (on the CD-Rom or in the update's extracting destination folder) and click **OK**.
- The wizard should display the proper driver. Click **OK** to continue.
- Select **Continue anyway** if Windows displays the following message:
The software has not passed Windows Logo testing™.
- Click on the **Next** button to start copying the driver files.
- Click on the **Finish** button to complete the driver installation. Reboot is not necessary.

SPECIFICATIONS

Analog line inputs

- 4 balanced analog line inputs (can be used with unbalanced)
- XLR connectors
- 24-bit analog to digital converters
- input impedance : >10 kOhms
- maximum input line level: +22 dBu (which corresponds to the professional nominal level: +4 dBu)
- Selectable input level:
 - 10 dBV, -2 dBu, +4 dBu, for each analog input

Digital input

- 1 AES/EBU, S/PDIF compatible.
- 24 bits available.

Analog outputs

- 4 balanced analog outputs (can be used as unbalanced)
- XLR connectors
- 24-bit digital to analog converters
- low output impedance
- maximum output level : +22 dBu (software adjustable)
- digital output gain adjustment: from 0 dB down to - 144 dB by 0.5 dB steps

Digital output

- 1 AES/EBU
- 24 bits available
- synchronization with digital input complies with AES 11

ANALOG PERFORMANCE

- Sample frequency adjustable from 8 to 96 kHz
 - Signal / Noise ratio (un-weighted): >94 dB
 - Total Harmonic Distortion + Noise (un-weighted): < - 88 dB (0.004%) with 1 kHz signal at - 2 dBfs
 - Frequency response (20Hz/20kHz): ± 0.1 dB
 - Difference in phase (20Hz/20kHz): $0.1^\circ / 0.5^\circ$
 - Analog channel crosstalk (inputs and outputs loaded): < -110 dB
- Measurements done at 48 kHz sampling frequency, record + playback.

Power consumption

· +5V / +12V / -12V: 0,25A / 0,2A / 0,15A

Temperature

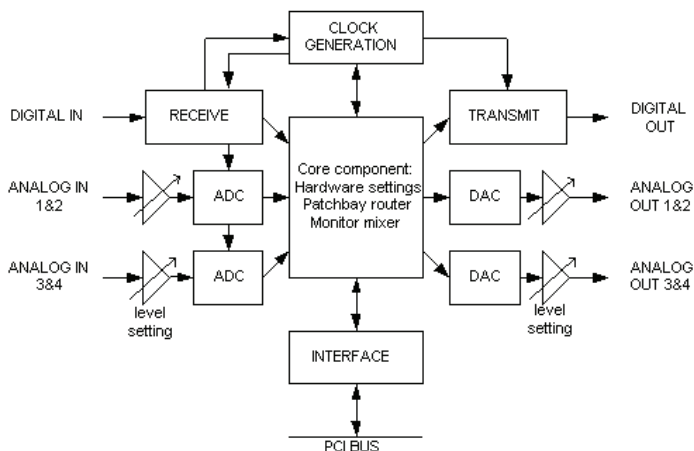
· Storage: -5°C / +70°C
· Operating: 0°C / +50°C

Humidity (non condensing):

· Storage: 0% / 95% (non condensing)
· Operating: 5% / 90% (non condensing)

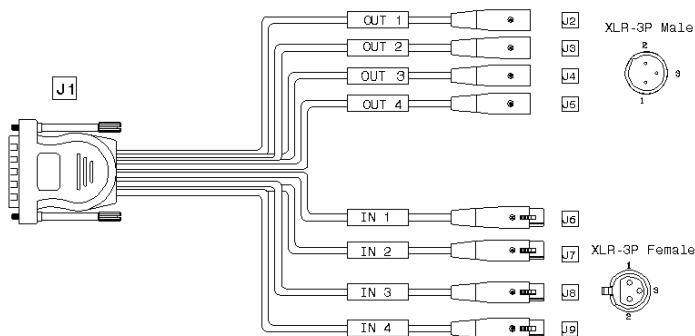
APPENDICES

SCHEMATIC DIAGRAM

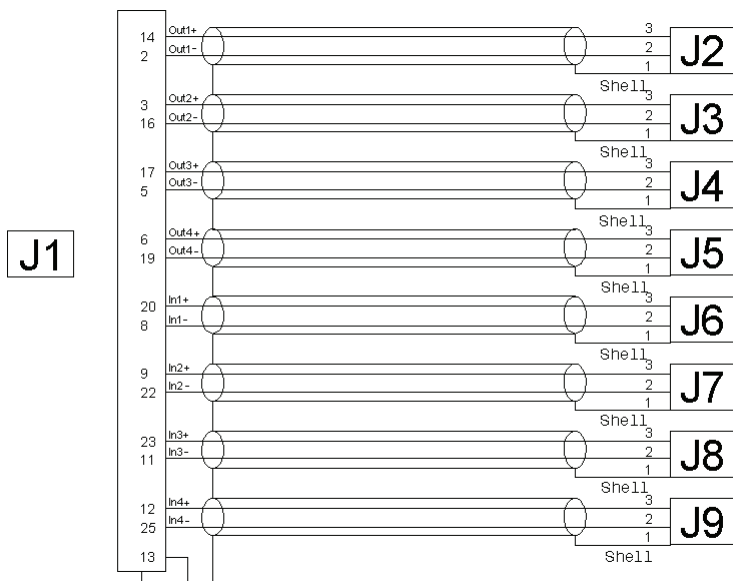


CABLE DIAGRAMS

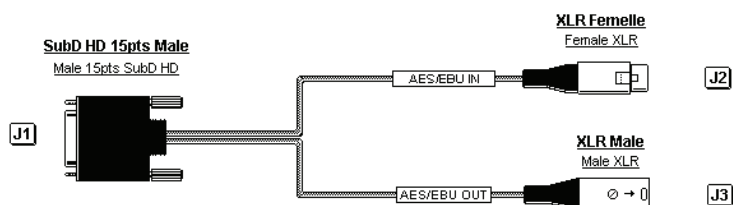
Analog cable



Pinout



Digital cable



Pinout

