



NVIDIA Graphics Card and Driver Installation Guide

(Windows NT 4.0 and Windows 2000)

Revision 2.1

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1 About this Document

This *Installation Guide* is designed to help you install and configure your new NVIDIA graphics card and associated drivers (software) on an IBM computer compatible system running either Microsoft Windows NT 4.0 or Windows 2000.

- Links appear in [blue underline](#).
- Names of windows and dialog boxes appear in *italics*.

NOTE: For example purposes, the *NVIDIA GeForce2 MX card* and the current version of the NVIDIA driver files are referenced throughout this document; your NVIDIA graphics card and the version number of your NVIDIA driver files may vary. (See [System Requirements](#) below for a list of NVIDIA graphics cards.)

2 System Requirements

2.1 Hardware

You need the following hardware:

- **Intel Pentium II 233 MHz or compatible CPU with Monitor**
- **Accelerated Graphics Port (AGP) 1.0/2.0 Compliant Motherboard**

NOTE: Some systems have integrated graphics functionality on the motherboard. Contact your motherboard manufacturer to find out how to disable your on-board graphics.

- **NVIDIA Graphics Card**

You must have *one* of the following NVIDIA graphics cards ready to install:

GeForce2 Ultra	GeForce2 Pro	GeForce2 GTS	GeForce2 MX	GeForce 256
GeForce2 Go	Quadro	Quadro2 MXR	Quadro2 Pro	TNT2 Ultra
TNT2 Pro	TNT2	TNT2 M64	Vanta	Vanta LT
TNT				

- **Additional Tools**

Have the following tools ready during installation:

- A Phillips tip and/or a flat-bladed screwdriver to remove and reinstall the computer cover screws and card mounting screws. (See your computer manual for specific requirements.)
- An antistatic wrist strap (recommended but not required.)

2.2 Software

This guide explains installation of an NVIDIA graphics card and driver software on the following operating systems:

- Windows 2000
- Windows NT 4.0 (Service Pack 4 or higher)

2.2.1 NVIDIA Driver Software

- Be sure to have on hand the *NVIDIA Driver Installation* software (files), which is supplied on CD-ROM or disk.
- The installation instructions assume that you have a Windows folder named **Disk 1**, which contains all the required NVIDIA Driver Installation files.

2.3 Before You Begin

2.3.1 Safety Information

WARNING: **Electric Shock is possible.** The power supply in your computer contains high voltage. Do not remove cables or open the computer while the power is on. Turn off the power and wait at least 10 seconds before removing cables or opening the unit.

CAUTION: **Watch Out For Static Electricity!** Although the NVIDIA graphics card is reasonably protected against static electricity, we recommend that you do not take the card out of the static-protective bag until you are grounded. **You can ground yourself by using an antistatic wrist strap.**

2.3.2 Removing an Existing Graphics Card

If you are replacing an existing graphics card in your computer with the NVIDIA graphics card, it is recommended that you set your display driver to Standard VGA before shutting down your computer. To set your display driver to Standard VGA and remove an existing graphics card, click the appropriate section for your Windows operating system:

- [Removing an Existing Graphics Card: Windows NT 4.0](#) on this page
- [Removing an Existing Graphics Card: Windows 2000 on page 6](#)

2.3.2.1 Removing an Existing Graphics Card: Windows NT 4.0

1. From the active Windows NT 4.0 desktop, click **Start > Settings > Control Panel** to display the Control Panel.
2. Double-click the **Add/Remove Programs** icon to display the *Add/Remove Programs Properties* window. Any driver program that is installed on your computer is listed here.
3. Click on the driver(s) you want to remove to highlight them.
4. Click **Add/Remove** and follow the prompts to complete removing the existing drivers.
5. Click **OK** when asked to restart the computer.
6. **Important:** Once the computer is in the process of starting up, turn off the power switch to completely shut down the computer.

For safety, be sure to:

- **Shut down your computer, making sure that the power is off.**
 - **Unplug your computer.**
 - **Disconnect the monitor.**
7. Remove the cover from the computer and locate the graphics card.

8. Remove the retaining screw associated with the graphics card.
9. Remove the existing graphics card.
10. Go to [Installing the NVIDIA Graphics Card on page 7](#).

2.3.2.2 Removing an Existing Graphics Card: Windows 2000

1. From your Windows 2000 desktop, right click on the desktop and select **Properties**, then click the **Settings** tab.
2. Click the **Advanced** button and then the **Adapter** tab.
3. Click the **Properties** button and then the **Driver** tab.
4. Click the **Uninstall** button and click **OK**.
5. **Important:** Click **No** each time you are asked to restart the computer and continue to click **OK** until the *Display Properties* window is closed.
6. Click **Start > Shut Down** to open the *Shutdown* window.
7. Be sure that the **Shutdown** option is selected and then click **OK**.
8. **For safety, be sure to:**
 - **Shut down your computer, making sure that the power is off.**
 - **Unplug your computer.**
 - **Disconnect the monitor.**
9. Remove the cover from the computer and locate the graphics card.
10. Remove the retaining screw associated with the graphics card.
11. Remove the existing graphics card.
12. Go to [Installing the NVIDIA Graphics Card on page 7](#).

2.3.2.3 Administrator Access

Under Windows NT 4.0 and Windows 2000, you must have appropriate Administrator login access rights on the computer where you will install the NVIDIA driver files.

3 Installing the NVIDIA Graphics Card

3.1 Installing the Hardware

Your NVIDIA graphics card comes in an AGP version. To install the NVIDIA graphics card, follow these steps:

Obtain the NVIDIA graphics card that you want to install.

If you followed the procedures in the previous section to remove an existing graphics card from your computer, continue to Step 5. If you did not have to remove an existing graphics card from your computer, be sure to:

- **Shut down your computer, making sure the power is off.**
- **Unplug your computer.**
- **Disconnect the monitor.**

1. Remove the cover from the computer and locate the AGP slot (the darker connector around the middle of the computer's motherboard).
2. Remove the bracket plate screw that is associated with the AGP slot in the back of the computer.
3. Be sure to wear the anti-static wrist straps *before* you handle the NVIDIA graphics card.
4. Position the card directly above the AGP slot. The card is designed to fit the connector in only one way.
5. Carefully press the card evenly and snugly into the AGP connector. **Do not use force.** Be sure that the metal contacts on the bottom of the NVIDIA graphics card are securely seated in the AGP slot.
6. Once the card has been installed properly in its slot, use the bracket screw (you previously removed in step 2) to secure it to the computer.
7. Connect the VGA monitor cable to the 15-pin connector on your NVIDIA graphics card.

If you have an NVIDIA dual-display card (for example, a GeForce2 MX card), it may contain additional connector pins for a DFP or TV. You can connect a DFP or TV to the appropriate connector at this time.

NOTE: Once you have completed the NVIDIA driver installation, you can enable a DFP or TV as a secondary display device when you configure the driver features. For further information, refer to your latest release of the *NVIDIA Drivers for Windows: Features & Enhancements* document.

8. Secure your computer cover, plug in the computer, and turn it on.
9. To install the NVIDIA drivers, click the appropriate section for your Windows operating system.
 - [Installing NVIDIA Drivers: Windows NT 4.0](#) on this page
 - [Installing NVIDIA Drivers: Windows 2000 \(Standard Method\) on page 12](#)
 - [Installing NVIDIA Drivers: Windows 2000 \(Alternate Method\) on page 14](#)

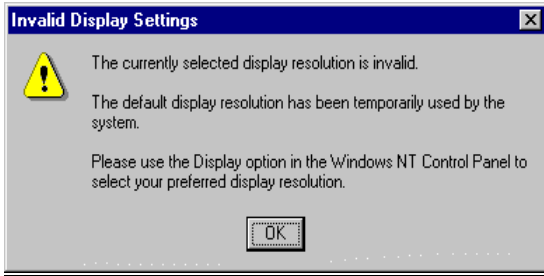
3.2 Installing the Software (NVIDIA Drivers)

3.2.1 Installing NVIDIA Drivers: Windows NT 4.0

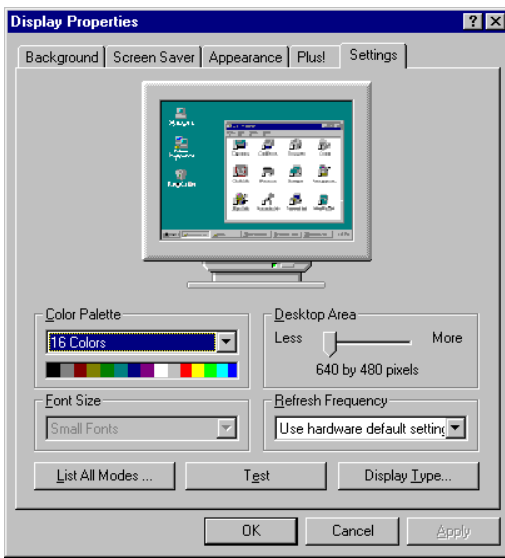
Before you begin to install the NVIDIA drivers on your Windows NT 4.0 system, follow these steps:

1. Be sure that you have completed the steps in [Installing the Hardware](#) on this page to install your NVIDIA graphics card on your computer that is running Windows NT 4.0.
2. Have on hand the NVIDIA Driver Installation files for your NVIDIA graphics card.
3. **Important:** Be sure you have Administrator login access to the computer on which you will install the NVIDIA driver files.

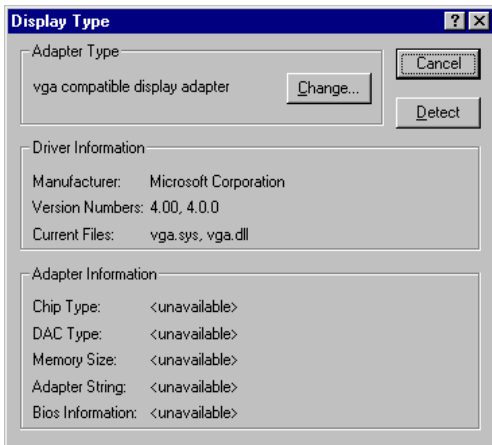
- After your computer starts up, the following message *may* appear on the Windows NT 4.0 desktop. If it does, click **OK** to close the window.

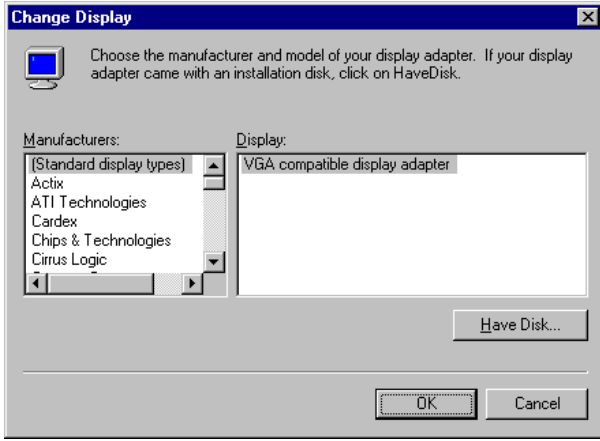


- If the *Display Properties - Settings* dialog box isn't already open, right click from your desktop, select **Properties**, and click the **Settings** tab.

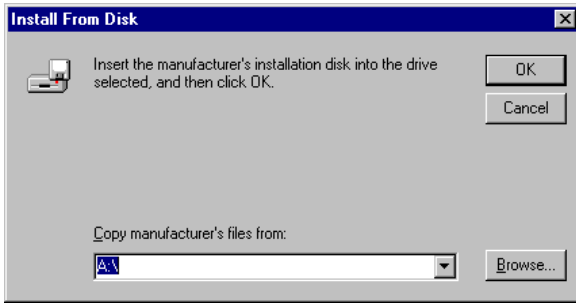


- Click **Display Type** to open the *Display Type* dialog box and click **Change** to open the *Change Display* window.

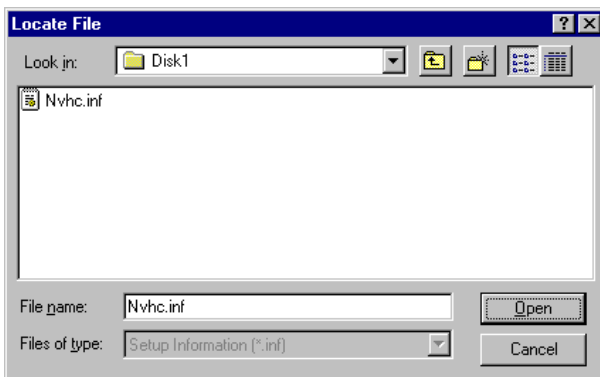




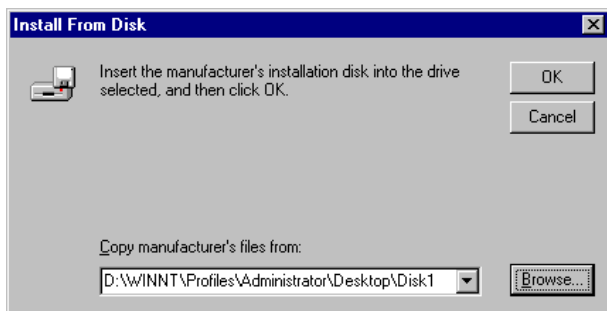
7. In the above window, the **(Standard display types)** choice appears in the Manufacturers list and the **VGA compatible display adapter** choice appears in the Display list. If these choices do not appear or are not already highlighted, search for the choice, then click **VGA compatible display adapter** to highlight it.
8. Click **Have Disk** to open the *Install from Disk* window.



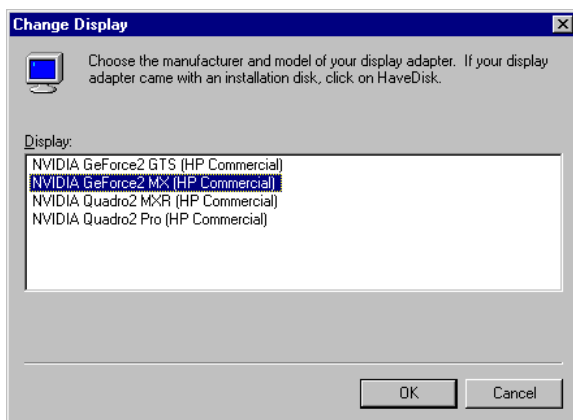
9. Click **Browse**. Be sure you have the Installation driver files in the location where you want; e.g., in your A:\ drive, CD-ROM, or hard disk.
If the error message “A:\ is not accessible” appears and you need to point to a different location, click **Cancel** to close the message and open the *Locate File* window.
10. In the *Locate File* window, click the down arrow in the Look in: box to locate the Disk 1 folder and highlight the folder (**Disk 1**) from the list.
11. Click **Open** to open the next *Locate File* window. Be sure the **NVHC.INF** file is displayed on in the File name box in the *Locate File* window below.



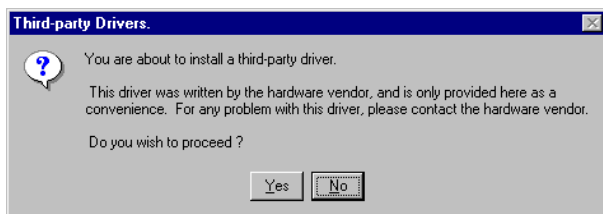
12. Click **Open** to open the *Install from Disk* window below. Be sure the correct path to your Disk 1 folder appears in the “Copy manufacturer’s files from:” box. (Screen below shows an *example* path; your path may be different.)



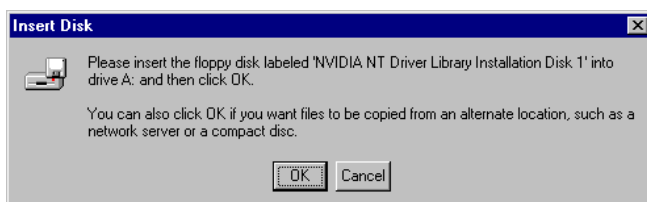
13. Click **OK** to open the *Change Display* window below.

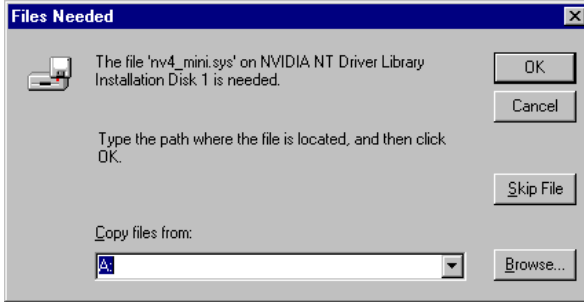


14. Click the name of the NVIDIA graphics card that you are installing and click **OK** to open the *Third-party Drivers* window.



15. Click **Yes** to open the *Insert Disk* window and click **OK** to open the *Files Needed* window.

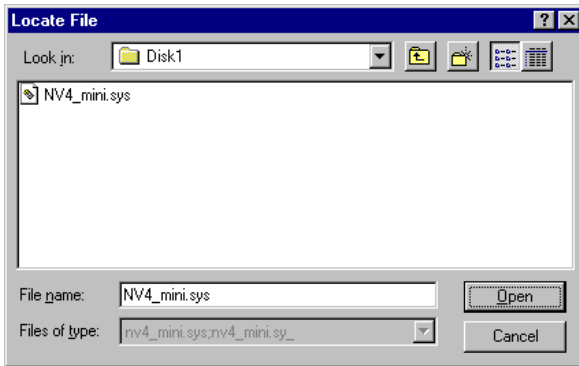




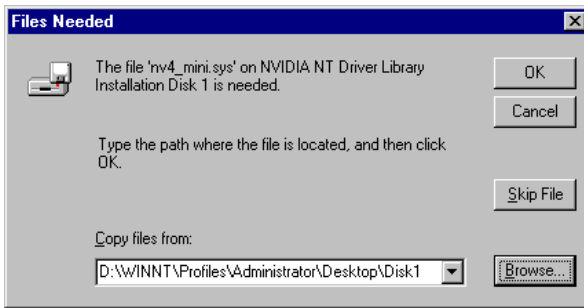
16. Click **Browse**. Be sure you have the *NVIDIA Driver Installation* files in the location where you want; i.e., on your A:\ drive, CD-ROM, or hard disk.

If the error message “A:\ is not accessible” appears and you need to point to a different location, click **Cancel** to close the message and open the *Locate File* window.

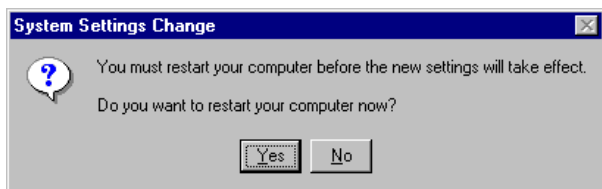
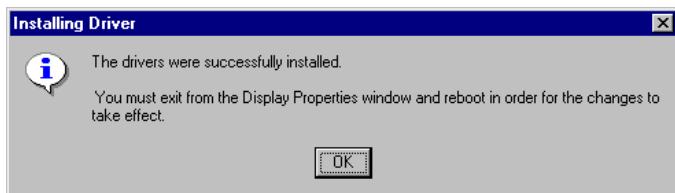
17. In the *Locate File* window, click the down arrow in the Look in: box to locate the Disk 1 folder and highlight the folder (**Disk 1**) from the list.
18. Click **Open** to open the next *Locate File* window. Be sure the **NV4_mini.sys** file appears in the File name box (shown below) in the *Locate File* window.



19. Click **Open** to open the *Files Needed* window.



20. Be sure the correct path to your Disk 1 folder appears in the Copy files from: box in the *Files Needed* window. (Above screen shows an *example* path; your path may be different.)
21. Click **OK** to open the *Installing Drivers* window and click **OK** to open the *System Settings Change* window.



22. Click **Yes** to restart your computer.
23. Once your computer has restarted and Windows NT 4.0 is up and running, go to [Viewing Properties of the NVIDIA Graphics Card: Windows NT 4.0 on page 18](#) to view the configuration and display properties of your NVIDIA graphics card.

3.2.2 Installing NVIDIA Drivers: Windows 2000 (Standard Method)

To install the NVIDIA drivers on your Windows 2000 system, follow these steps:

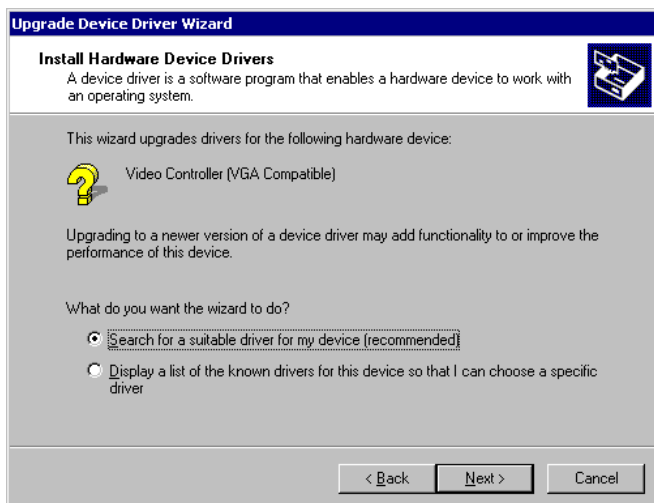
1. Be sure that you have *completed* the steps in [Installing the Hardware on page 7](#) to install your NVIDIA graphics card on your computer that is running Windows 2000.
2. Have on hand the *NVIDIA Driver Installation* files for your NVIDIA graphics card.
3. **Important:** Be sure you have Administrator login access to the computer on which you will install the NVIDIA driver files.

Once your computer starts up, the *Found New Hardware Wizard* window appears automatically.

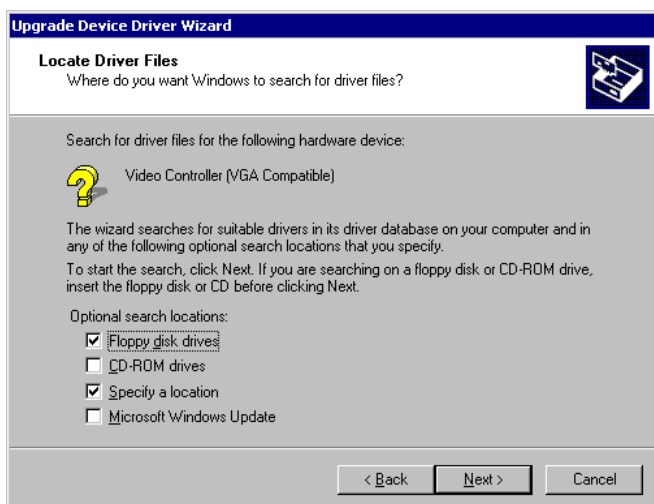


4. Click **Next** to open the *Install Hardware Device Drivers* window.

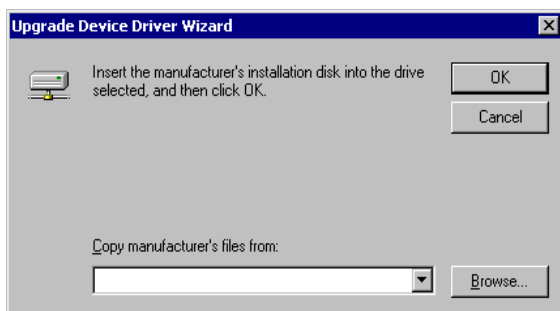
NOTE: If you clicked **Cancel** and removed the *Found Hardware Wizard* window, go directly to [step 5 in Installing NVIDIA Drivers: Windows 2000 \(Alternate Method\) on page 14](#).



5. Select the **Search for a suitable driver...** option and click **Next** to open the *Locate Driver Files* window.



6. Click the **Specify a location** checkbox and click **Next** to display the window below.



7. Click the **Browse** button to access the location of the Disk 1 folder containing the NVIDIA installation files
8. Select the **NVHC.INF** file and click **OK**. A "Driver Files Search Results" message appears.

- Click **Next** from the message box. (If you see the “Digital Signature Not Found” message, click **Yes**.)
The installation process continues with the file copying process, followed by the *Hardware Wizard* window below.



- Click **Finish** to complete the driver installation process.
- The system may prompt you to restart your PC if you are installing NVIDIA drivers for the first time. If this is the case, restart the PC according to the prompt.
If you are returned to the desktop without a system prompt to restart your PC, it is recommended that you use **Start > Shutdown (Restart)** to restart your PC.
- Once Windows 2000 is up and running, go to [Viewing Properties of the NVIDIA Graphics Card: Windows 2000 on page 20](#) to view the configuration and display properties of your NVIDIA graphics card.

3.2.3 Installing NVIDIA Drivers: Windows 2000 (Alternate Method)

NOTE: Use this alternate method of installing NVIDIA drivers under Windows 2000 *only* if you have clicked Cancel to close the *Found New Hardware Wizard* window. (This window appears automatically when Windows 2000 restarts after you’ve removed previously installed NVIDIA drivers.) If this is not the case, use the standard method of installation; see [Installing NVIDIA Drivers: Windows 2000 \(Standard Method\) on page 12](#).

To install the NVIDIA drivers on your Windows 2000 system, follow these steps:

- Be sure that you have *completed* the steps in [Installing the Hardware on page 7](#) to install your NVIDIA graphics card on your computer.
- Have on hand the *NVIDIA Driver Installation* files for your NVIDIA graphics card.
- Important:** Be sure you have Administrator login access to the computer on which you will install the NVIDIA driver files.

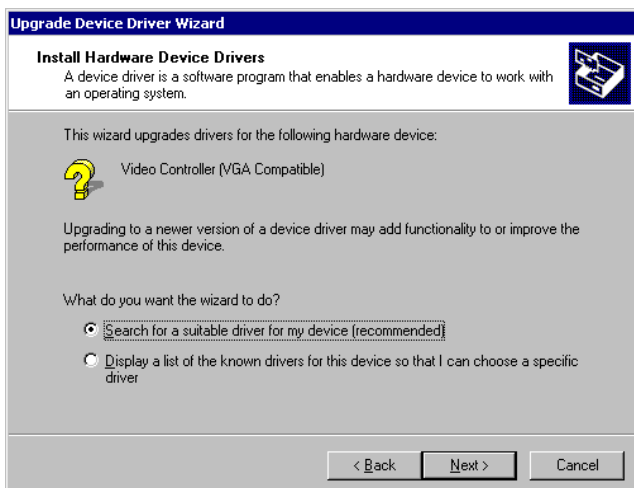
Once your computer starts up, the *Found New Hardware Wizard* window appears automatically.



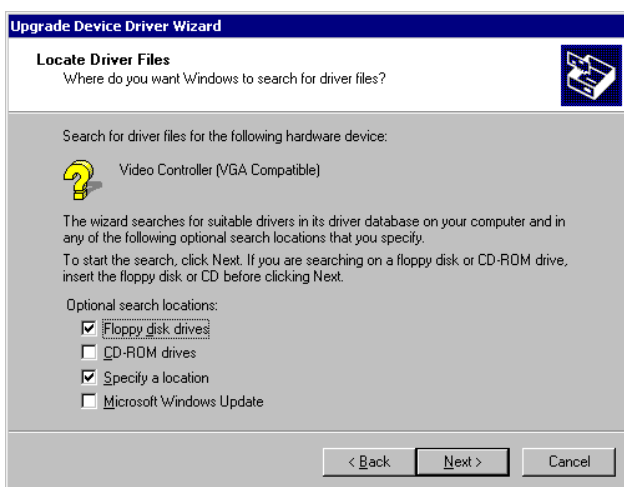
4. Click **Cancel** to remove this window.
5. Right-click the **My Computer** icon on your Windows desktop and select **Manage** from the pop-up menu.
6. From the *Computer Management* window, click **Device Manager** in the left panel.
7. In the right panel, locate the **Other devices** category, then double-click the **Video Controller (VGA Compatible)** item to open the *Video Controller (VGA Compatible) Properties – General* window.
8. From the *General* tab of the *Properties* window, click the **Reinstall Driver** button. The *Upgrade Device Driver Wizard* appears.



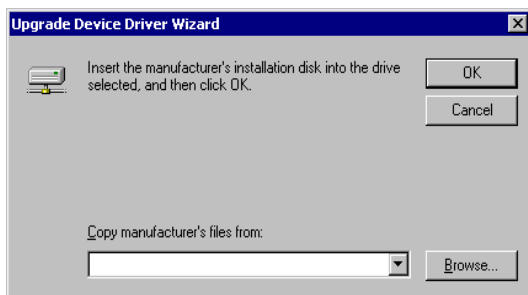
9. Click **Next**. The *Install Hardware Device Drivers* window appears.



10. Select the **Search for a suitable driver...** option and click **Next** to open the *Locate Driver Files* window.



11. Click the **Specify a location** checkbox and click **Next** to display the window below.



12. Click **Browse** to access the location of the Windows 2000 driver that you are installing and select the **Disk 1** folder that contains the NVIDIA Driver Installation files.
13. Select the **NVHC.INF** file; the file will appear in the "Copy manufacturer's files from:" box.
14. Click **OK**. A "Driver Files Search Results" message appears.
15. Click **Next** from the message box. (If you see the "Digital Signature Not Found" message, click **Yes**.)

The installation process continues with the file copying process, followed by *Hardware Wizard* window below.



16. Click **Finish** to complete the driver installation process. You may also have to click **Close** to close the *General* window to return to the desktop.
17. The system may prompt you to restart your PC if you are installing NVIDIA drivers for the first time. If this is the case, restart the PC according to the prompt.
If you are returned to the desktop without a system prompt to restart your PC, it is recommended that you use **Start > Shutdown (Restart)** to restart your PC.
18. Once Windows 2000 is up and running, go to [Viewing Properties of the NVIDIA Graphics Card: Windows 2000 on page 20](#) to view the configuration and display properties of your NVIDIA graphics card.

4 Viewing Properties of the NVIDIA Graphics Card

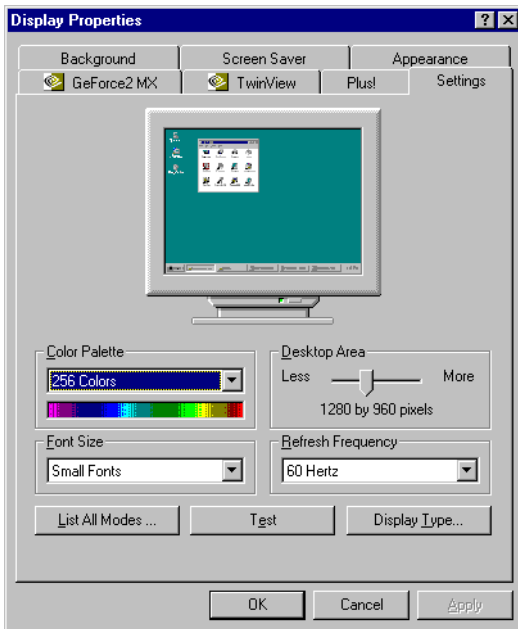
4.1 Viewing Properties of the NVIDIA Graphics Card: Windows NT 4.0

Follow these steps to view the display properties of your NVIDIA graphics card:

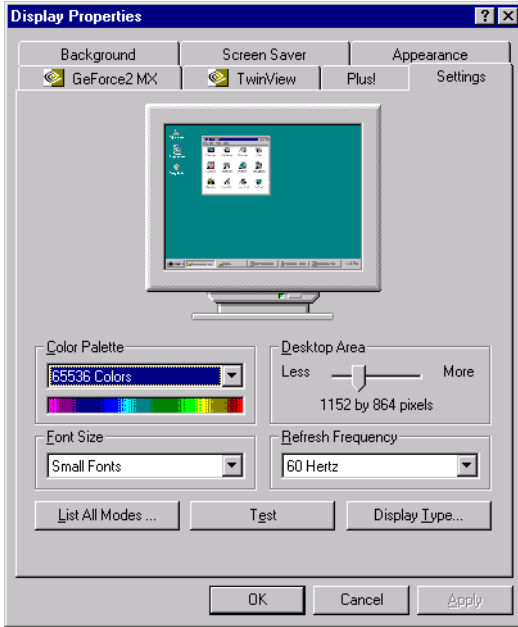
1. Once the computer has started, you *may* see the following message.



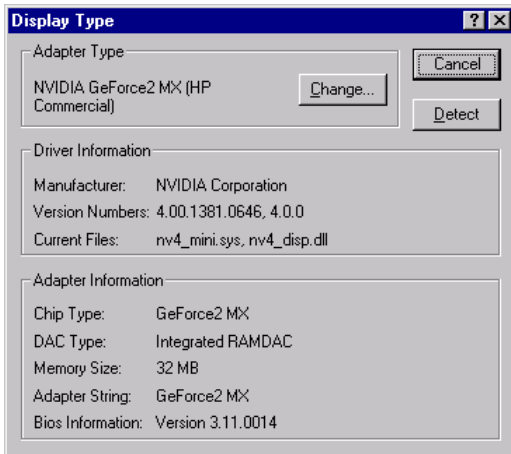
2. If you see the above message, click **OK** to close the window and open the *Display Properties* dialog box.
3. If the *Display Properties* window doesn't appear, right click on your Windows desktop, select **Properties**, and click the **Settings** tab to open the *Display Properties – Settings* dialog box.



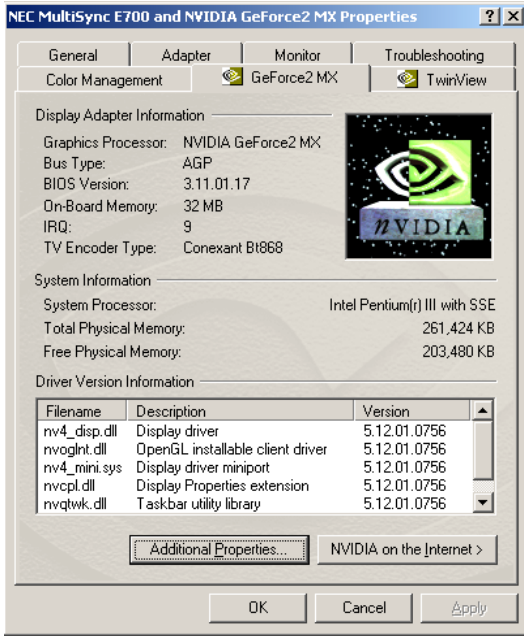
4. Click the down arrow in the **Color Palette** field and select **65536 Colors**, which is equivalent to 16-bit (High Color). If you want to increase the **Desktop Area**, move the Desktop Area slider to the right in the direction of *More*.
5. Click **Test**, wait a few seconds, and click **Apply**. The *Settings* window appears with the new Color Palette setting.



6. Click the **Display Type** button to open the *Display Type* window, which provides detailed information about your NVIDIA driver.



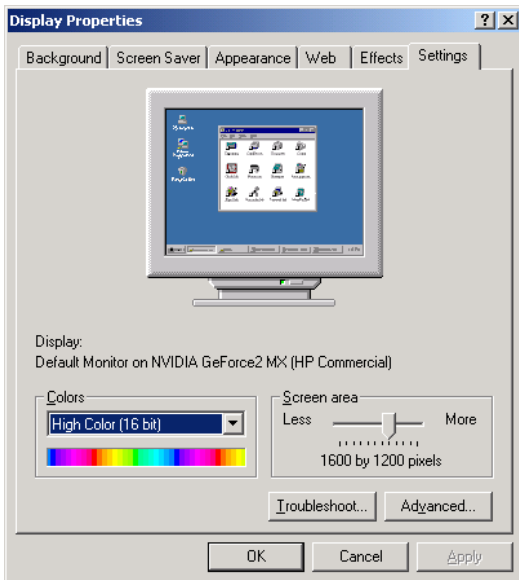
7. Click **Cancel** to close the above window and return to the *Settings* window.
8. Click the NVIDIA product tab (for example, GeForce2 MX).
The Driver Version Information box displays *Filename*, *Description*, and *Version* information about your installed NVIDIA drivers, as shown below.



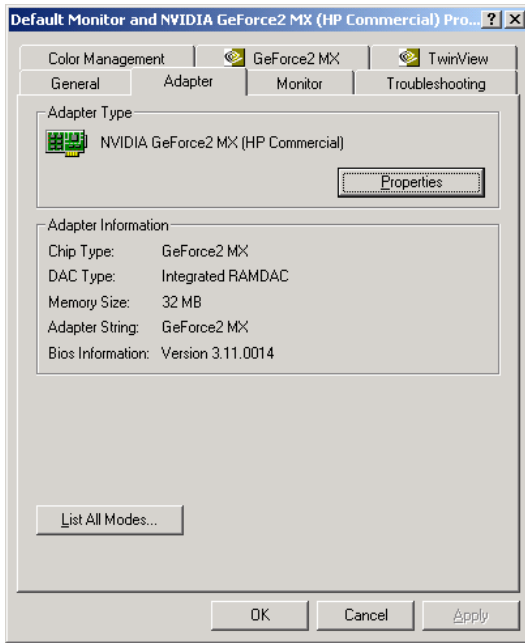
4.2 Viewing Properties of the NVIDIA Graphics Card: Windows 2000

Follow these steps to view the display properties of your NVIDIA graphics card:

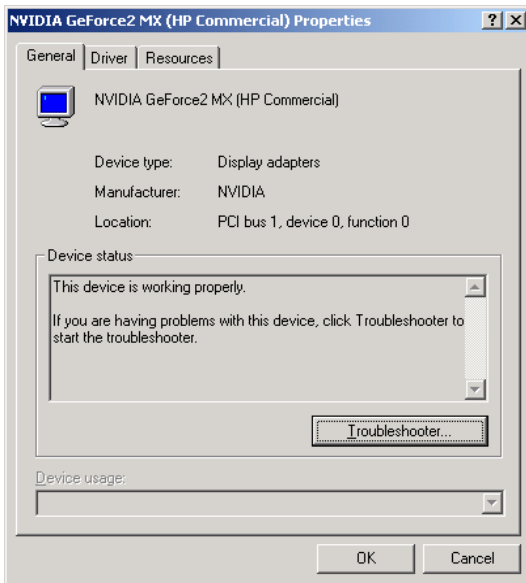
1. Once your computer has restarted, right click on your Windows 2000 desktop, select **Properties**, and click the **Settings** tab to open the *Display Properties – Settings* dialog box.



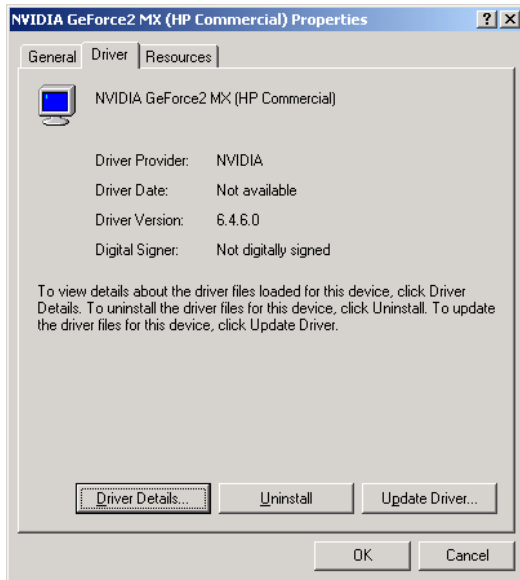
2. Click the **Advanced** button and click the **Adapter** tab.



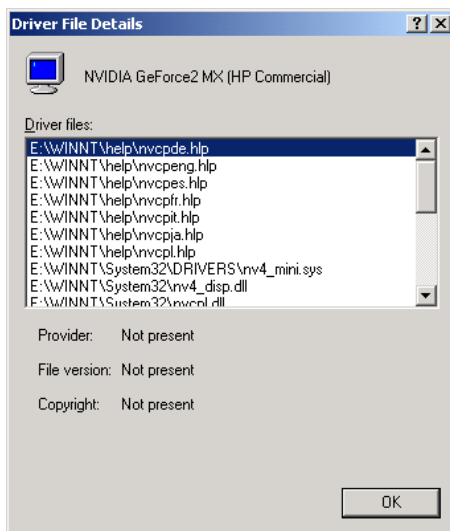
3. Click the **Properties** button.



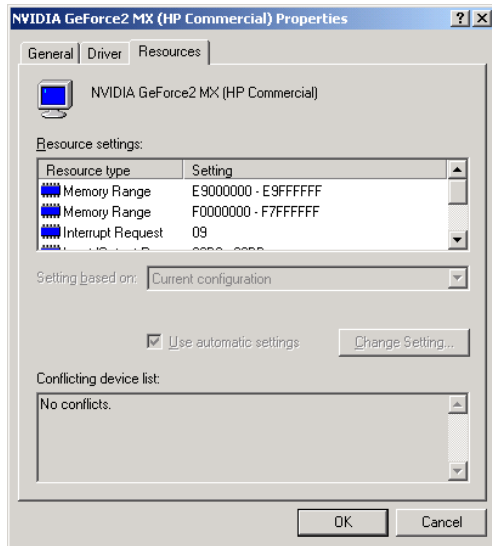
4. Click the **Driver** tab. The *Driver* window displays basic information about the NVIDIA driver you installed.



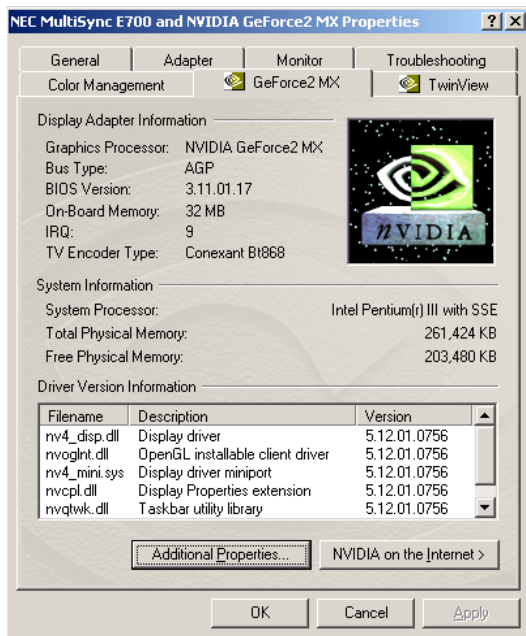
5. Click the **Driver Details** button to open the *Driver File Details* window, which lists the NVIDIA driver files installed on your computer



6. Click **OK** to return to the *Driver* window and click the **Resources** tab. The *Resources* window displays the resource settings of your NVIDIA graphics card. Use the scroll bar to see the complete list of settings.



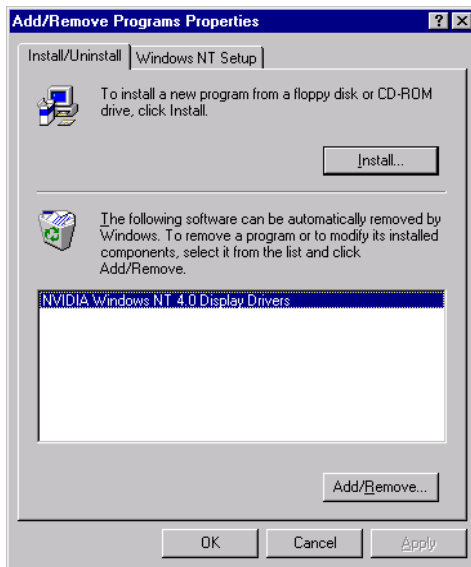
7. Click **OK** to close the window.
8. Click the NVIDIA product tab (e.g., GeForce2 MX), which shows the name of the NVIDIA graphics card you installed. The Driver Version Information box displays *Filename*, *Description*, and *Version* information about your installed NVIDIA drivers, as shown below.



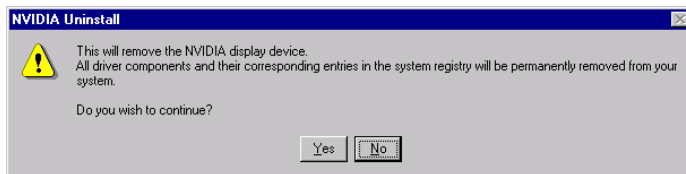
5 Uninstalling NVIDIA Drivers

5.1 Uninstalling NVIDIA Drivers: Windows NT 4.0

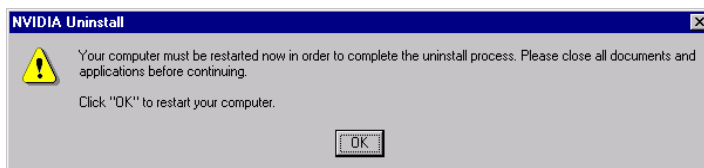
1. Be sure that your Windows NT 4.0 desktop is open.
2. Click **Start** > **Settings** > **Control Panel** to display the Windows Control Panel.
3. Double-click **Add/Remove Programs** to open the *Add/Remove Program Properties* window.
4. Select **NVIDIA Windows NT 4.0 Display Drivers** from the list that appears; the choice is highlighted.



5. Click the **Add/Remove** button to open the *NVIDIA Uninstall* window.



6. Click **Yes** to display the next message, which prompts you to close any open applications so that the computer can restart in order to complete the uninstallation process.

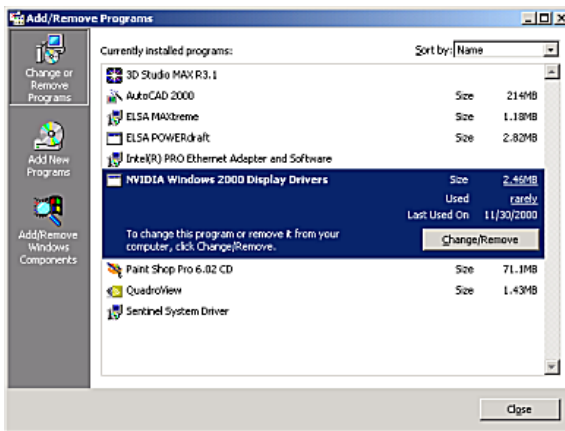


7. Click **OK** to restart your computer.
8. To continue with NVIDIA driver installation, go to any *one* of these sections, depending on what you need to do next:

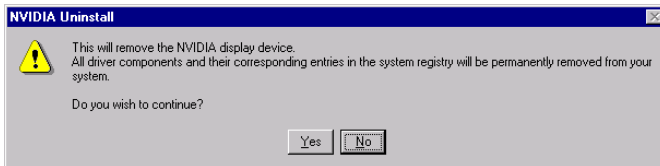
- [Removing an Existing Graphics Card on page 5](#)
- [Installing the Hardware on page 7](#)
- [Installing the Software \(NVIDIA Drivers\) on page 7](#)

5.2 Uninstalling NVIDIA Drivers: Windows 2000

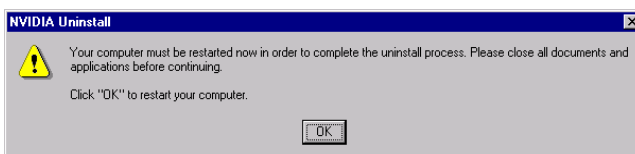
1. Be sure that your Windows desktop is open.
2. Click **Start** > **Settings** > **Control Panel** to display the Windows Control Panel.
3. Double-click **Add/Remove Programs** to open the *Add/Remove Program* window.
4. Select **NVIDIA Windows 2000 Display Drivers** from the list that appears; the choice is highlighted.



5. Click the **Change/Remove** button to open the *NVIDIA Uninstall* window.



6. Click **Yes** to display the next message, which prompts you to close any open applications so that the computer can restart in order to complete the uninstallation process.



7. Click **OK** to restart your computer.
8. To continue with NVIDIA driver installation, go to any *one* of these sections, depending on what you need to do next:
 - [Removing an Existing Graphics Card on page 5](#)
 - [Installing the Hardware on page 7](#)
 - [Installing the Software \(NVIDIA Drivers\) on page 7](#)