MyNetGate 2000 (MNG-2000) Cable Modem Series

USER'S MANUAL

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The user's manual is made for MNG-2000 Series Cable Modem.

Revision 1.0
June 2001

THIS DEVICE COMPLIES WITH PART 15 OF THE 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.

FCC Warning Statement

NOTE :

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, may cause harmful interference to radio 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 receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio, TV technical for help.
- Only shielded interface cable should be used.

Finally, any changes or modifications to the equipment by the user not expressly approved by the grantee or manufacturer could void the users authority to operate such equipment,

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1 Safety Precautions

① Please do not damage the DC power adaptor or plug.

② Please do not connect the cable connector at the back of the cable modem to the TV antenna cable. Only connect to the CATV network providing the cable Internet service.

③ The cable modem should be located on a safe, flat surface in a space with plenty of ventilation.

④ Please do not place electronic equipment or other objects on top of the cable modem.

⑤ Net&Sys will not be responsible for damage incurred by user mishandling or misuse, or opening of the product case.

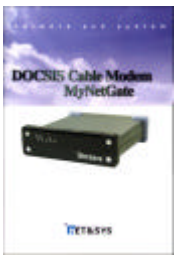
2 Box Contents

Please verify that the cable modem box contains the following.

MNG-2000

DC adaptor

Ethernet Cable



Manual

USB Cable
(Optional)

Floppy Disc or CD ROM
(Optional)

Figure 1 MNG-2000 Box Contents

Note : Please record the serial number and MAC address printed at the bottom of the cable modem on the front page of the manual. This information will be required to place an A/S request.

2.1 Other Requirements

① The cable modem requires a user PC running Windows 95/98/NT/2000 supporting TCP/IP, DHCP/BOOTP protocols

② The user PC needs to have an Ethernet 10/100 Base-T LAN card installed. The LAN card maybe be purchased by the user or supplied by the Internet Service Provider.

3 MNG-2000 Cable Modem Front

The front of the MNG-2000 cable modem include five LED's that are marked POWER, STATUS, UP, DOWN and LAN. These are used in indicating the operating status of the cable modem.

Figure 2 MNG-2000 Front View

3.1 POWER LED

When the DC adaptor plug is connected and power applied to the MNG-2000 cable modem, all five LED's will light up briefly before the POWER LED lights up. This indicates that power has been correctly applied to the modem.

While the POWER LED lights up, the cable modem copies its operating program from the flash memory to the dram memory. The LED will remain constantly on as long as power is applied.

3.2 STATUS LED

The STATUS led remains flashing while the modem is being initialized. After initialization is complete and normal operation is possible, the STATUS LED remains green. The STATUS LED needs to remain green in order for the Internet access to work properly.

After power is applied to the cable modem and its operating program is copied to DRAM, the modem searches for the downstream channel.

3.3 UP LED

After the MNG-2000 cable modem as found the downstream channel, the DOWN LED will turn green. During the time that data traffic is flowing through this downstream channel, the DOWN will begin flashing.

3.4 DOWN LED

The MNG-2000 cable modem acquires upstream channel information from the downstream channel and performs ranging in order to transmit data on the upstream channel properly. The UP LED will turn green following completion of ranging and the modem is now ready transmit data. When transmit is in progress, the UP LED will flash. If the upstream channel is lost, the UP LED will turn off.

3.5 LAN LED

The LAN LED indicates the status of the link between the MNG-2000 cable modem and computer. If the cable modem and computer is connected via the Ethernet cable, the LAN LED will turn green. When data traffic between the cable modem and computer is active, the LAN LED will flash green. If the cable modem and computer is not properly connected, the LAN LED will remain off. In this case, please check the Ethernet cable or the Ethernet card inside the computer.

Table 1 LED Status Summary

LED Name	Function	Color	Status
POWER	Power and program install	Green	OFF: No power ON: Power applied
STATUS	Modem and software initialization status	Green	OFF: No power FLASH: Normal progress ON: Normal state
UP	Cable port transmit status	Green	OFF: No upstream channel FLASH: Upstream data transfer ON: Upstream channel sync
DOWN	Cable port receive status	Green	OFF: No downstream channel FLASH: Downstream data transfer ON: Downstream channel sync
LAN	Ethernet transmit/receive status	Green	OFF: Ethernet cable un-connected FLASH:Data UP/DOWN in progress ON: Ethernet link OK

4 MNG-2000 Cable Modem Rear

The rear of the cable modem includes various connectors and switches. Some of the connectors have been included to provide for additional functionality in the future and are not currently being used.

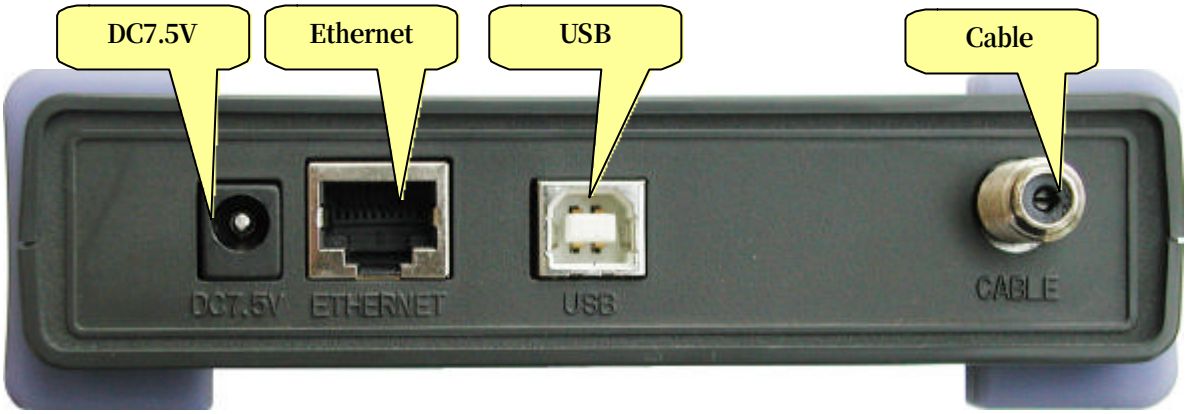


Figure 3 Cable Modem Rear View

4.1 DC in Connector

This connector is used to supply the DC power to the cable modem and is connected to the plug from the 7.5V DC adaptor. The modem will undergo the initialization routine described in chapter 3 upon power on.

Please do not use a DC power adaptor other than that included in the original box. Using an unknown adaptor may cause a serious damage to the cable modem.

4.2 USB Connector

Currently Ethernet is used to connect the cable modem to the computer. Optionally USB may be used instead. The current MNG-2000 operating program does not support USB by default. The program supporting USB will be provided optionally and available for upgrade on the current modem. In this case, the computer will not require the LAN card but it will need a software driver which will be provided on a floppy disk.

4.3 Ethernet Connector

The MNG-2000 cable modem and computer can be linked using the Ethernet cable included in the box. This cable is a “direct” connected cable.

There are two types of Ethernet cables, “direct” and “cross”. The “cross” type cable can be used to connect the modem and hub. The diagram below is a enlargement of the Ethernet connectors.

Direct Cross

Figure 4 Ethernet Cable Wiring Diagram

4.4 Cable Connector

The cable connector is used to connect the RF coaxial cable from the CATV network to the modem. The cable modem is connected to the ISP via this connector.

5 Cable Modem Installation

The figure below shows the rear of the MNG-2000 cable modem. The cable modem installation can be setup as shown in figure 5.

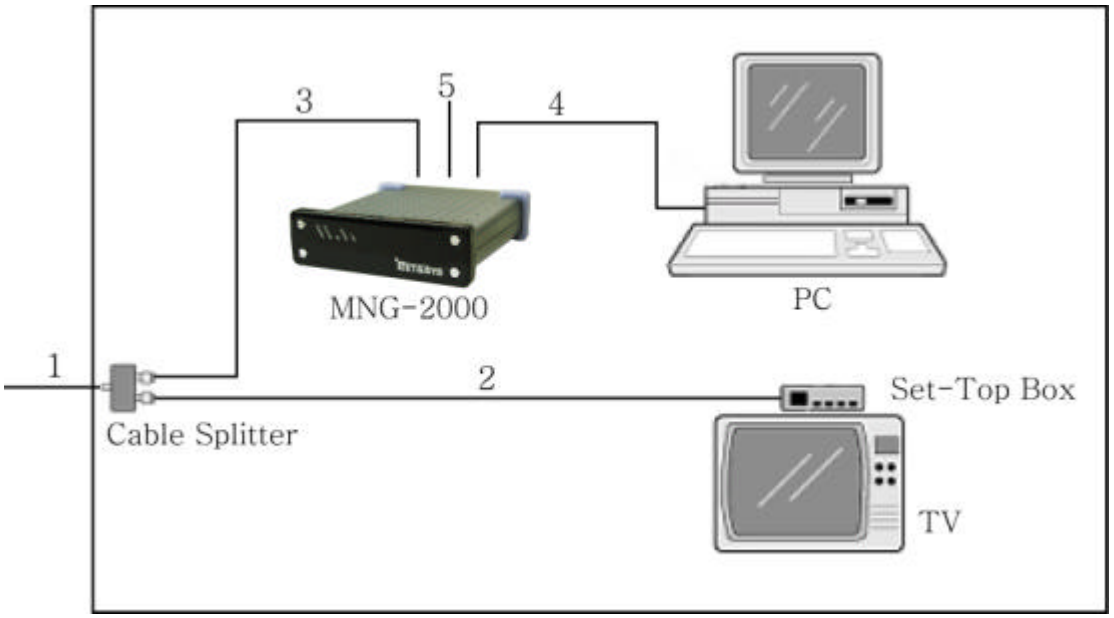


Figure 5 Installation Setup

Each connector's location is shown in Figure 3.

① Connect the RF cable inside the home or office to the Cable connector.

② Use the Ethernet cable included inside the box to connect the modem to the computer. The computer must have a LAN installed with the proper LAN card driver installed on Windows 95/98/NT/2000

③ Lastly, power up the modem by connecting the DC adaptor plug into the "DC in" jack of the modem. You will be able to use your Internet within around 1.5 minuites.

④ If you are using USB optionally you have to install USB Network Driver at a PC. Refer Section 8.

After USB Network Driver at a PC is successfully installed, return back here and follow the next procedure.

6 Cable Modem Inspection

In order to verify proper operation of the cable modem, the user must first inspect the LED status and then verify that the computer as acquired IP correctly. The LED status is detailed in chapter 3.

6.1 Computer IP Address Verification

① Following proper operation of the cable modem based on LED indicators, the status of the modem can be verified from the computer side as follows. From the desktop, select [start]=>[run] and type "winipcfg"inside the popup window before clicking OK.

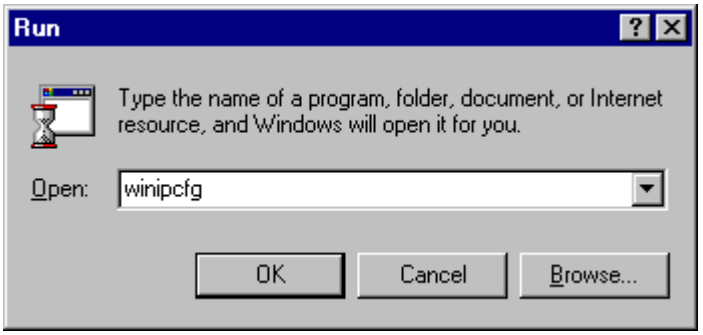


Figure 6 Run winipcfg program

② From the IP Configuration popup window, select the correct Ethernet Adaptor.

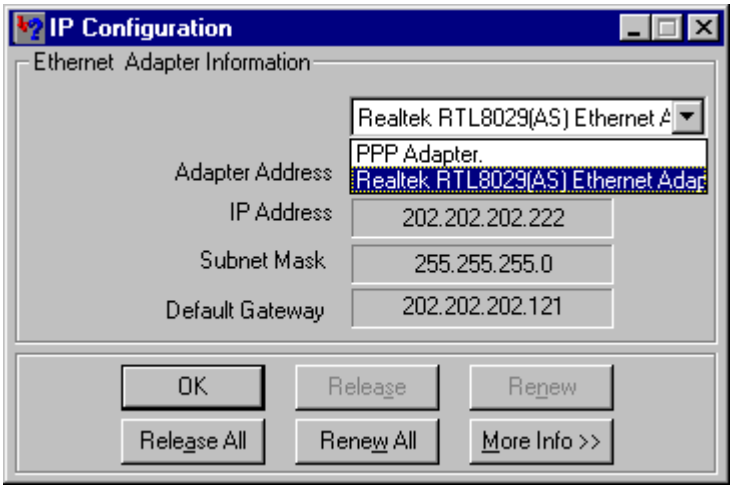


Figure 7 Select Adaptor (LAN Card)

③ If the Ethernet adaptor's IP is [0.0.0.0] or [169.X.X.X], the IP needs to be re-assigned for proper Internet access. First, click [Release All] to release all previously assigned IP's. The IP Address should show either [0.0.0.0] or [169.X.X.X]. A new IP address will be assigned after [Renew All] button is clicked.

④ If the IP does not change from [0.0.0.0] or [169.X.X.X] after the above procedure #3, there are three possible reasons. Firstly, the cable modem may not be operating properly. Secondly, LAN card may not be installed properly and thirdly, the server may be down.

⑤ In order to make sure that the cable modem may be the reason, it may be useful to unplug and then re-connect the DC power from the modem and let it initialize again.

⑥ If the IP address is still not correct, select the menu [Start]=>[Settings]=>[Control Panel]=>[System]=>[Device Manager]=>[Network Adaptors] and make sure that there is no (!) in front of the LAN card. The (!) mark shows that the LAN card is not installed properly. In this case, please try re-installing the LAN card after referring to the LAN card user's manual.

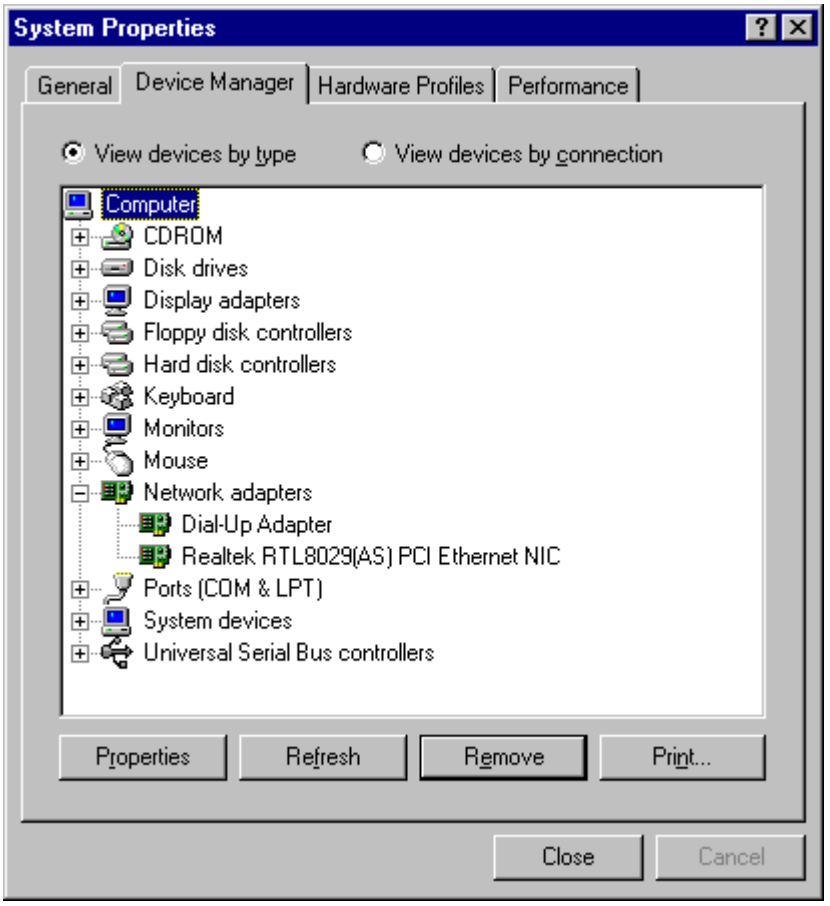


Figure 8 Device Manager

⑦ If the IP address still cannot be acquired after procedures 5 & 6, please contact the customer service center of your ISP.

6.2 Check Points for Modem Problems

① Please verify proper Ethernet connection between the modem and the computer.

If you are using UBS, please verify USB connection between the modem and the computer.

② Please verify that the RF cable is properly connected to the cable modem.

③ Please verify proper installation of the computer OS, TCP/IP protocol and LAN card.

④ Please verify that the cable modem information(MAC address) is properly registered with the ISP.

⑤ If the problem remains unresolved, please refer to this manual again or contact the purchase company or store.

7 USB Network Driver Installation Guide

7.1 Install NetnSys Cable Modem USB Network Driver under Windows 98 and 98SE for the First Time

The Installation of NetnSys Cable Modem USB Network Driver under Windows Me is similar to that of the cable modem USB Network driver under Windows 98 and 98SE

7.1.1 Install NetnSys Cable Modem USB Network Driver

① Turn on the cable modem, computer and start Windows

② Connect one end of the USB cable to cable modem and the other end to one of the computer's USB Port.

③ Windows detects that new hardware has been added and start the Add New Hardware Wizard, See Figure 9.

④ Click **Next**

Figure 9 Add New Hardware Wizard for windows 9x (Screen 1)

⑤ The wizard asks, "What do you want windows to do ?". see Figure 10. Choose "Search for the best driver for your device".

⑥ Click **Next.**

Figure 10 **Add New Hardware Wizard for windows 98 (Screen 2)**

⑦ Specify the location of the driver. See Figure 11. If installing the driver disk into the disk drive and select the Floppy disk drive check box. Otherwise, select the Specify a location and the path where the driver files can be found

⑧ Click **Next**

Figure 11 **Selecting for the driver**

⑨ The wizard searches for the driver and finds the NetnSys USB Cable Modem Driver; see Figure 12 and Figure 13.

⑩ Click **Next.**

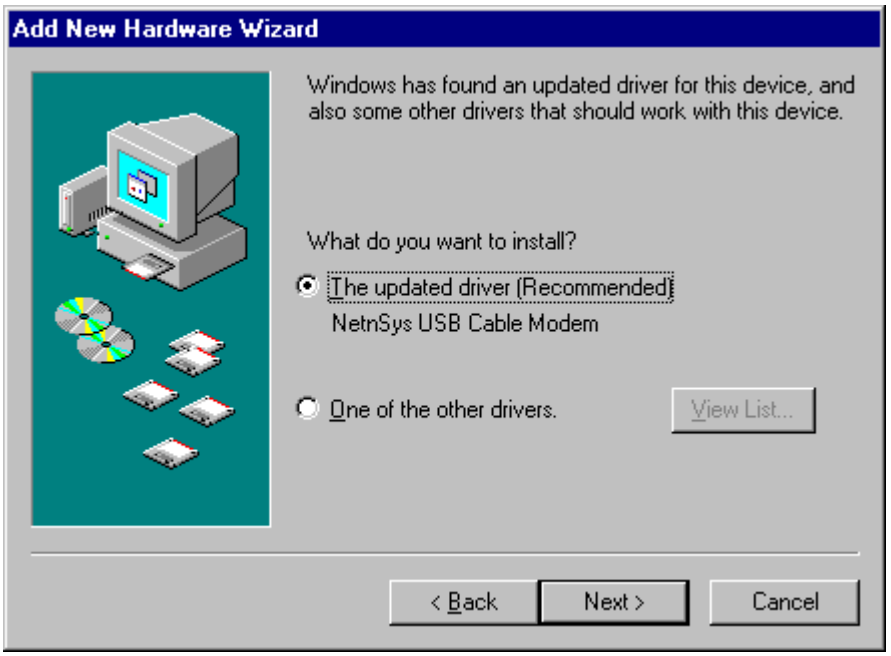


Figure 12 **Driver Found (Screen 1)**

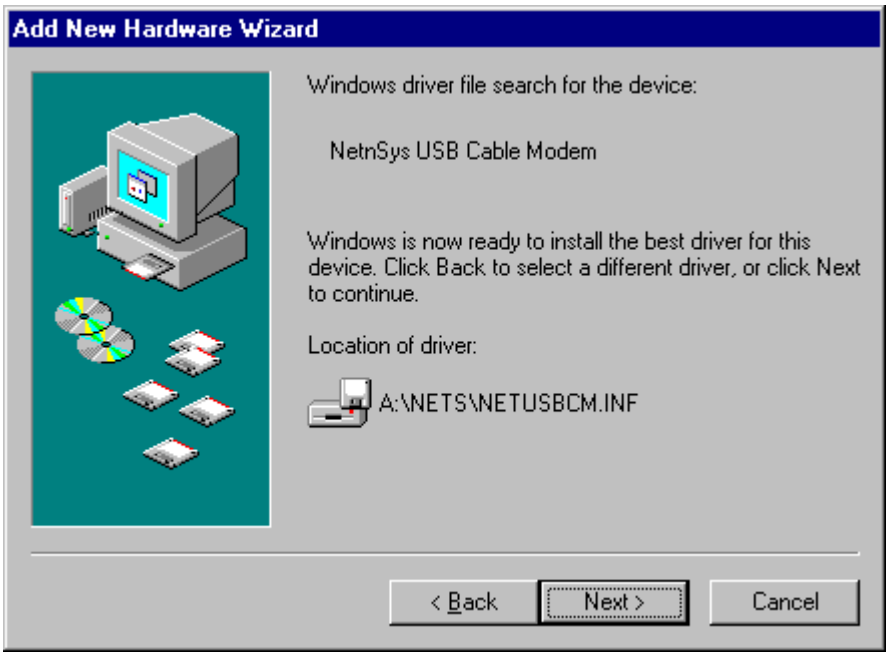


Figure 13 **Driver Found (Screen 2)**

⑪ After the initial setup files are copied, the wizard indicates it has completed the driver installation, see Figure 15.

⑫ Click Finish

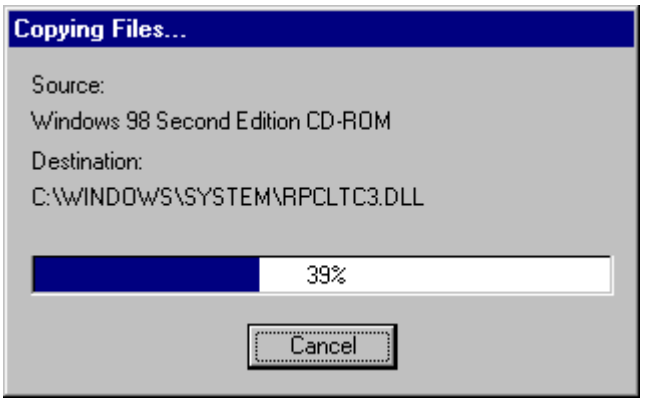


Figure 14 **Copying Files**

Figure 15 **Installation Complete**

⑬ A dialog box prompts you to restart your computer; see Figure 16. Click **Yes**

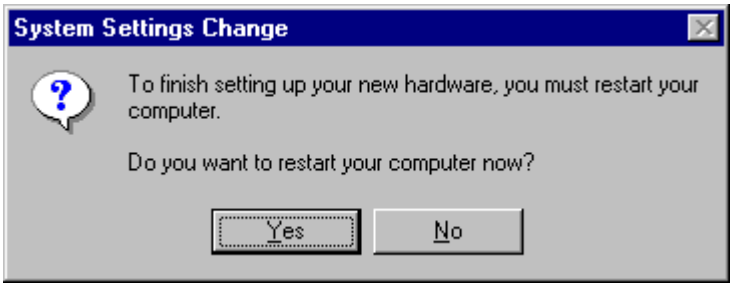


Figure 16 **Reboot Prompt Dialog Box**

7.1.2 Verifying Driver Installation

① From the Start menu, point to Settings and click Control Panel
② Double click Network
③ The Network Control Panel Applet appears; See Figure 17. Verify the NetnSys USB Cable Modem Driver is present. If needed, you can verify the presence of the USB Cable Modem Driver from the DOS prompt by using the “ipconfig” command; see Figure 18.

Figure 17 **Network Neighborhood Property**

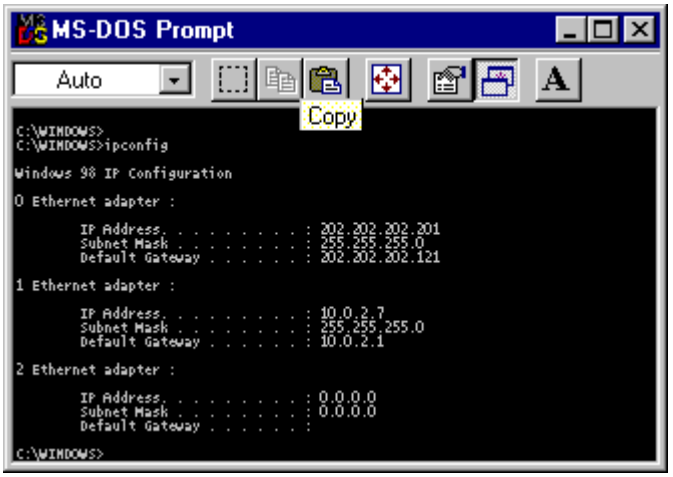


Figure 18 **“Ipconfig” Command**

7.2 Install NetnSys Cable Modem USB Network Driver under Windows 2000 for the First Time

7.2.1 Install NetnSys Cable Modem USB Network Driver

① Turn on the cable modem, computer and start Windows
② Connect one end of the USB cable to cable modem and the other end to one of the computer's USB Port.
③ Windows detects that new hardware has been added and start the Add New Hardware Wizard, See Figure 19 and Figure 20. Click **Next**

Figure 19 **Added New Hardware Wizard for Windows 2000**

Figure 20 **Found New Hardware Wizard for Windows 2000**

④ The Wizard asks "What do you want to do ?" See Figure 21. Choose "Search for a suitable for my device" and click **Next.**

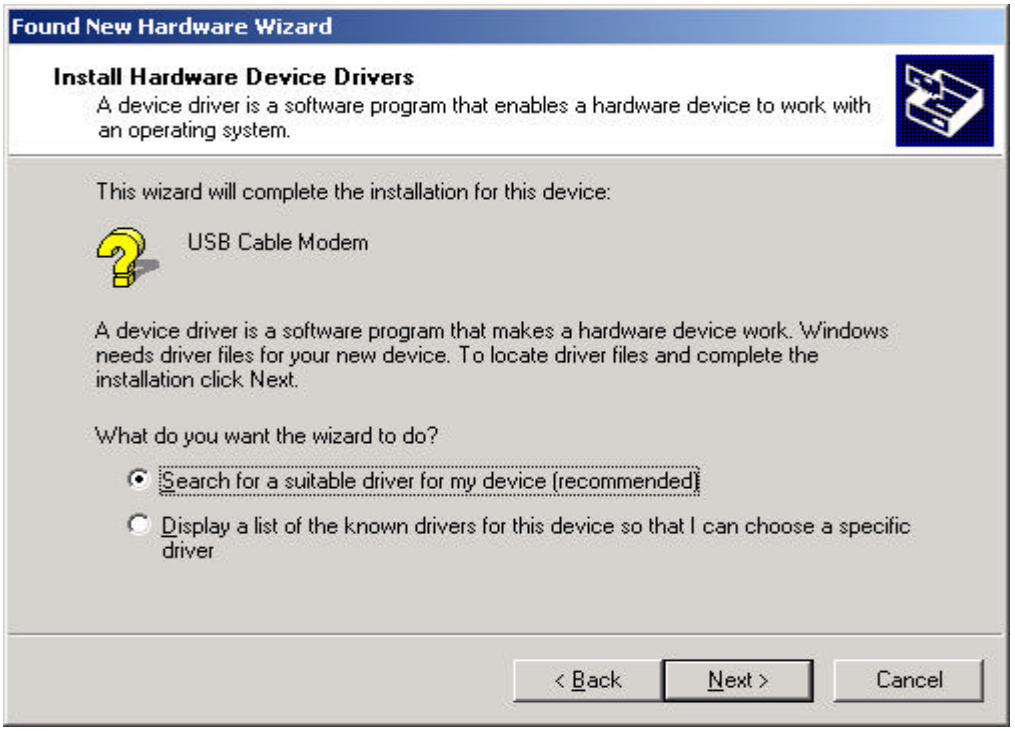


Figure 21 **Searching for driver (Screen 1)**

⑤ Select the location of the driver; see Figure 22. If installing from a floppy, insert the driver disk into the disk driver and select Floppy disk drives check box. Otherwise select the Specify a location checkbox and the path where the driver file can be found.

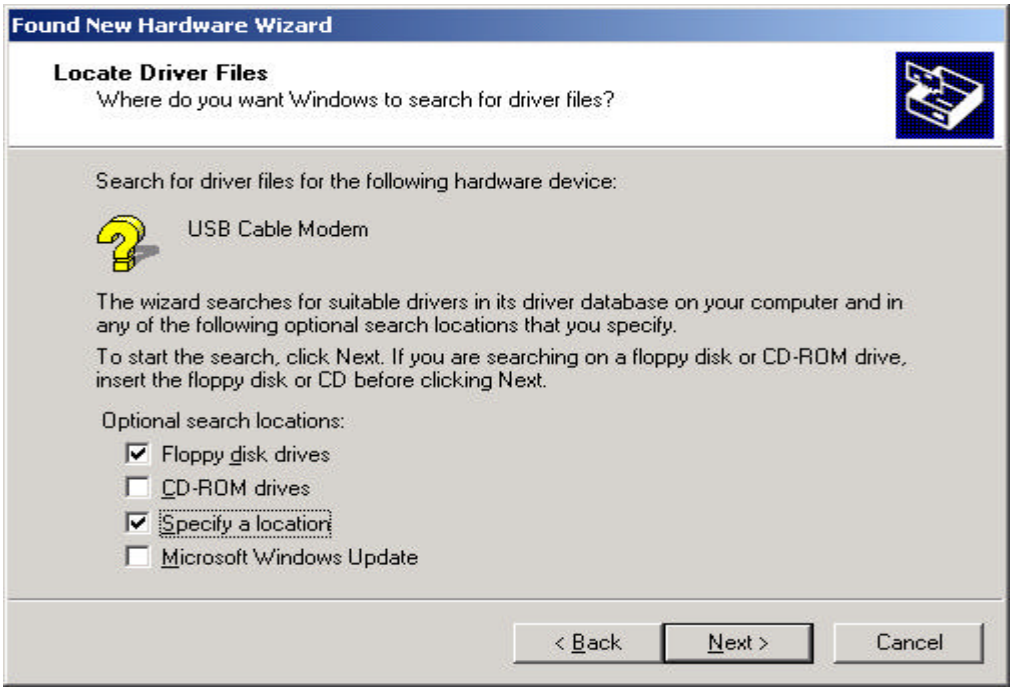


Figure 22 **Searching for a Driver (Screen 2)**

⑥ The file netusbcm.inf is the correct driver; see Figure 23 and click **next**

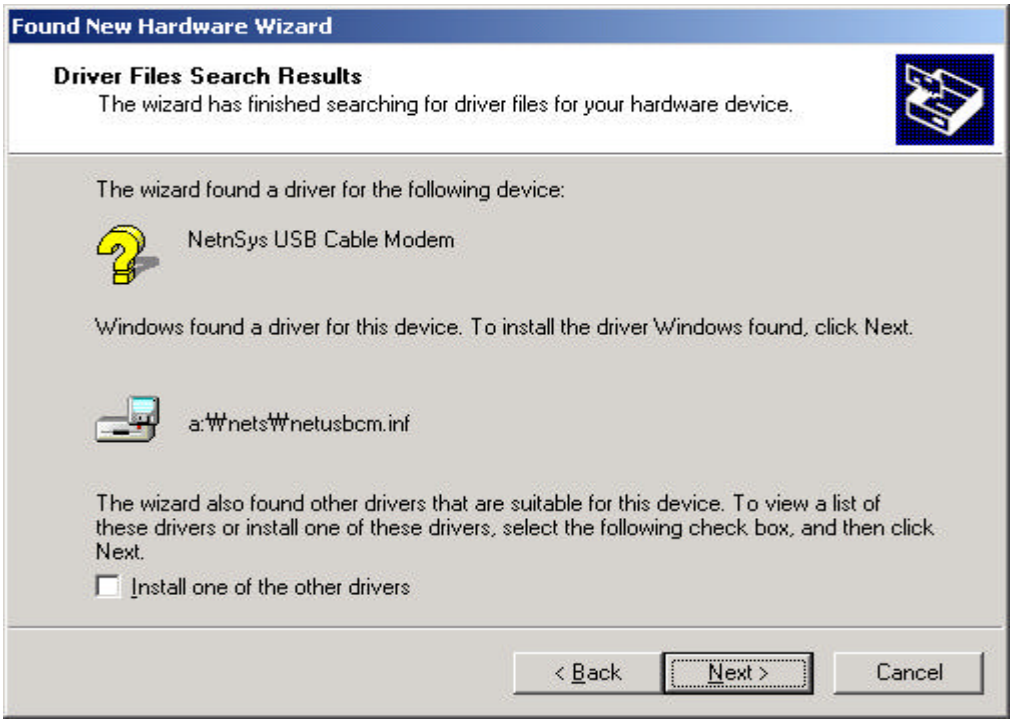


Figure 23 **Driver Search Results**

⑦ A digital signature is provided by Microsoft upon completion of the WHQL(Windows Hardware Quality Lab) certification process. As Net & Sys does not submit this USB driver hardware for WHQL certification, no Digital Signature is provided (See Figure 25.) Click **Yes**.

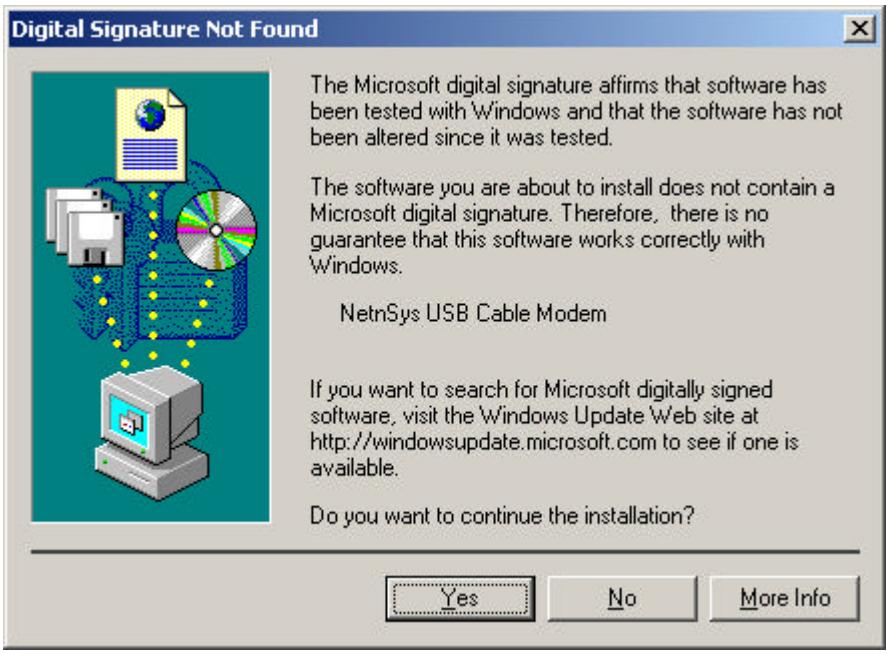


Figure 24 **Digital Signature Not Found**

⑧ When the driver installation program is complete, the Completing the Found New Hardware Wizard window appears; see Figure 25. Click **Finish.**

Figure 25 **Notification Screen**

7.2.2 Verifying Driver Installation

① To verify that USB driver has been properly installed, Do the following from the windows desktop. See Figure 26.

② Right-Click the My Computer icon and click the properties.

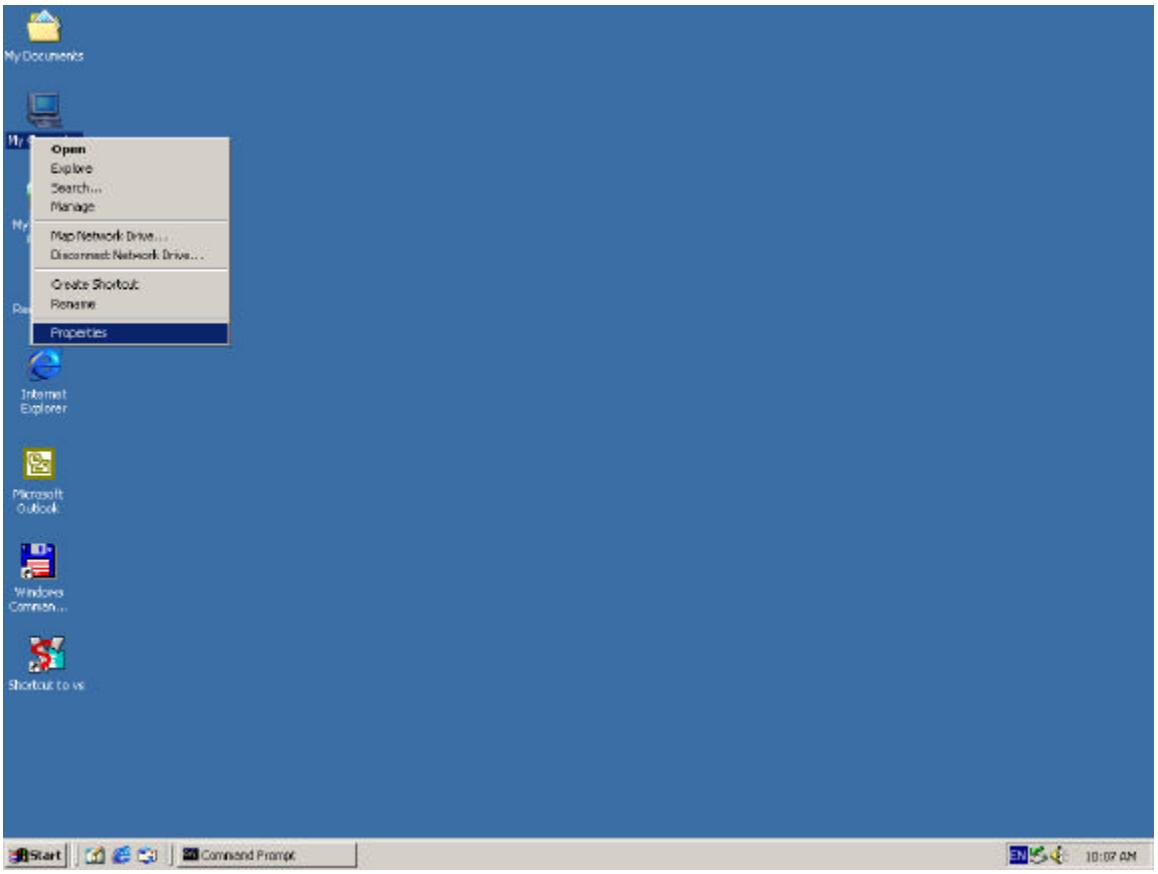


Figure 26 **Windows Desktop**

③ The system properties appears; see Figure 27. Click the hardware tab

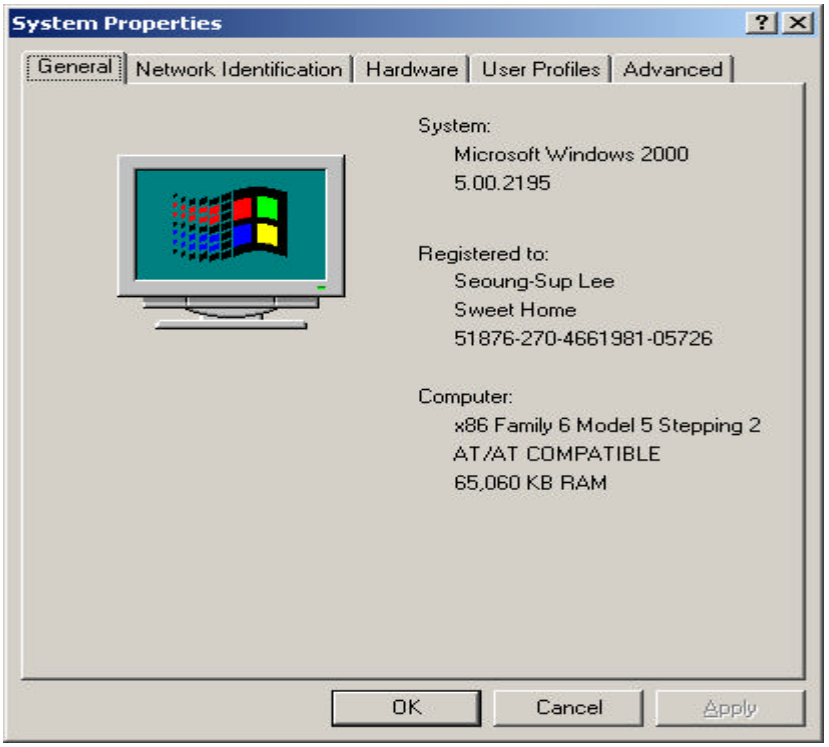


Figure 27 **System Properties**

④ The Hardware Properties appears; see Figure 28. Click **Device Manager**

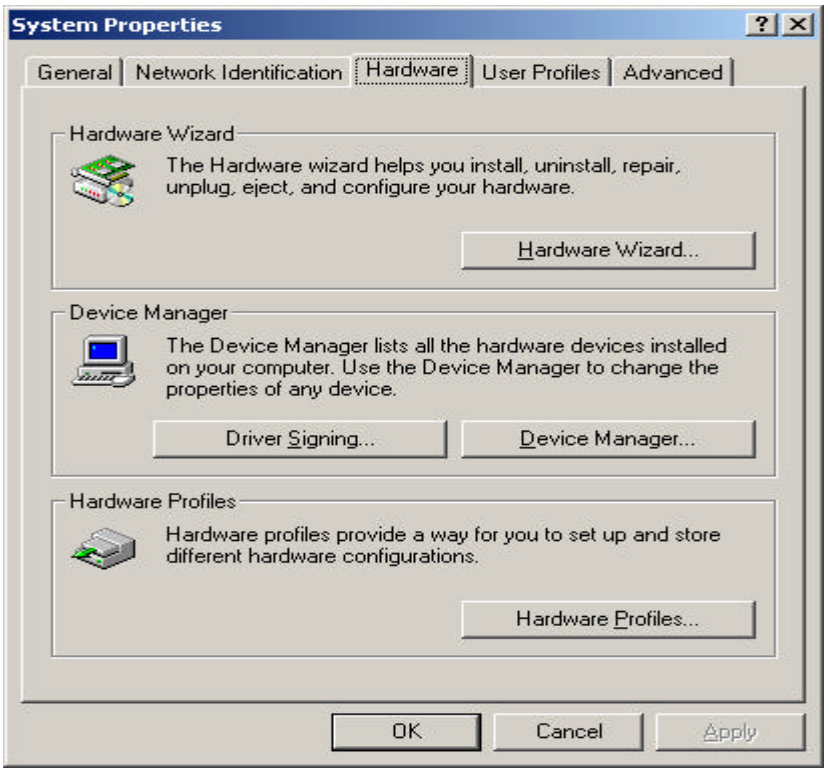


Figure 28 **Hardware Properties**

⑤ The Device Manager windows is displayed; see Figure 29.
⑥ Verify the driver installation by expanding Network Adaptors

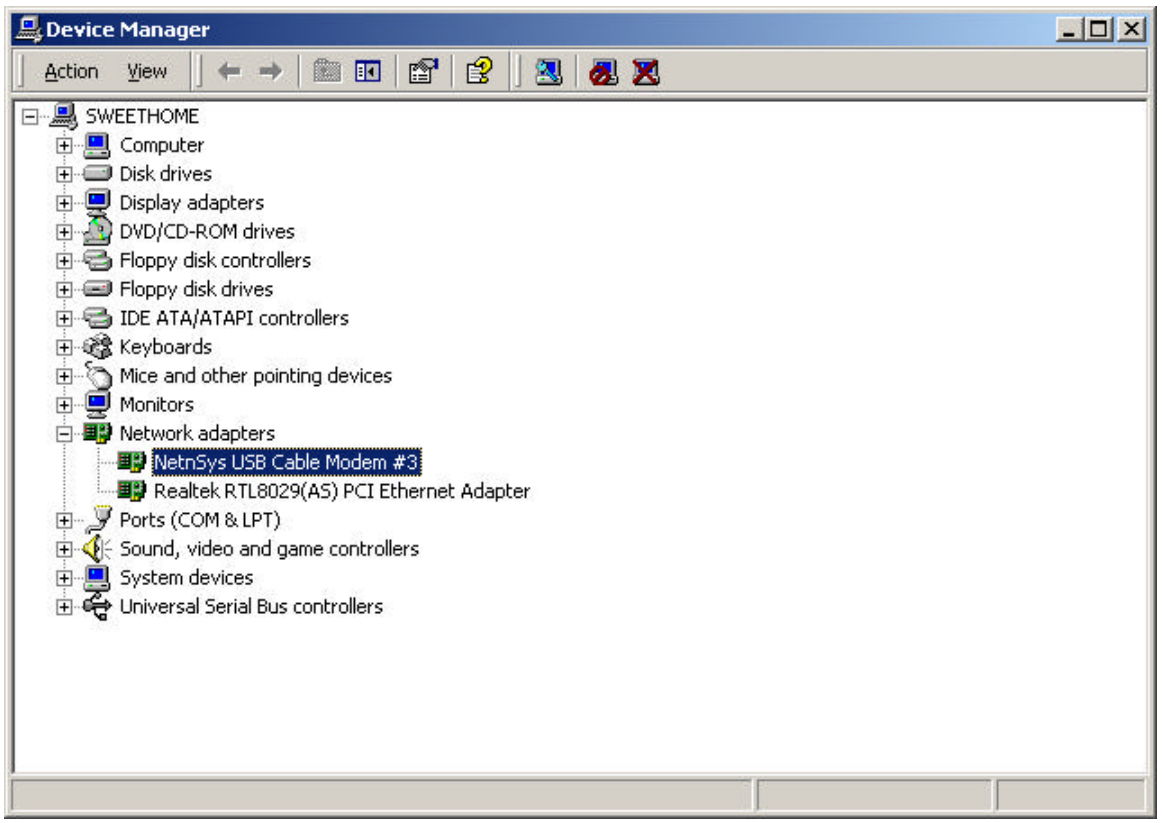


Figure 29 **Device Manager**

7.2.3 Uninstalling the driver

① To verify that USB driver has been properly installed, Do the following from the windows desktop. See Figure 30.

② Right-Click the My Computer icon and click the properties.

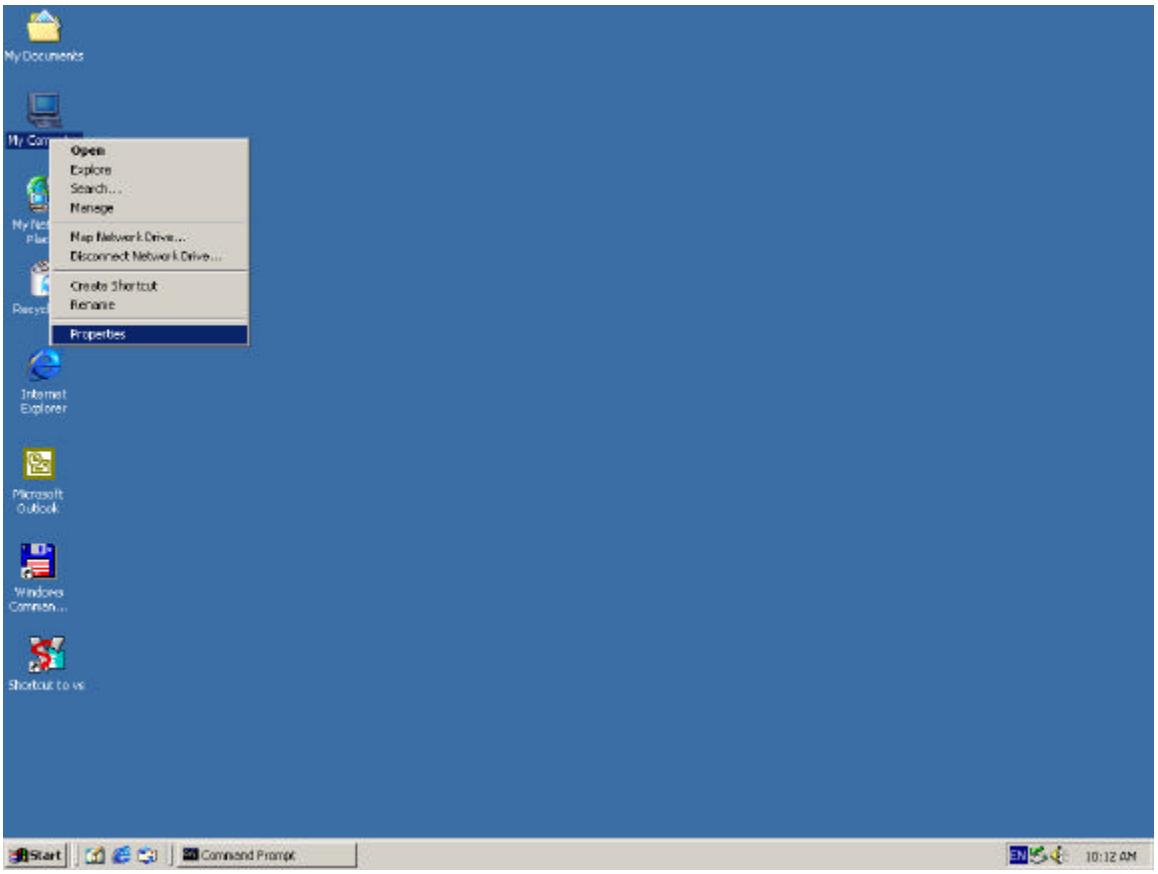


Figure 30 **Windows Desktop**

③ The system properties appears; see Figure 31. Click the hardware tab

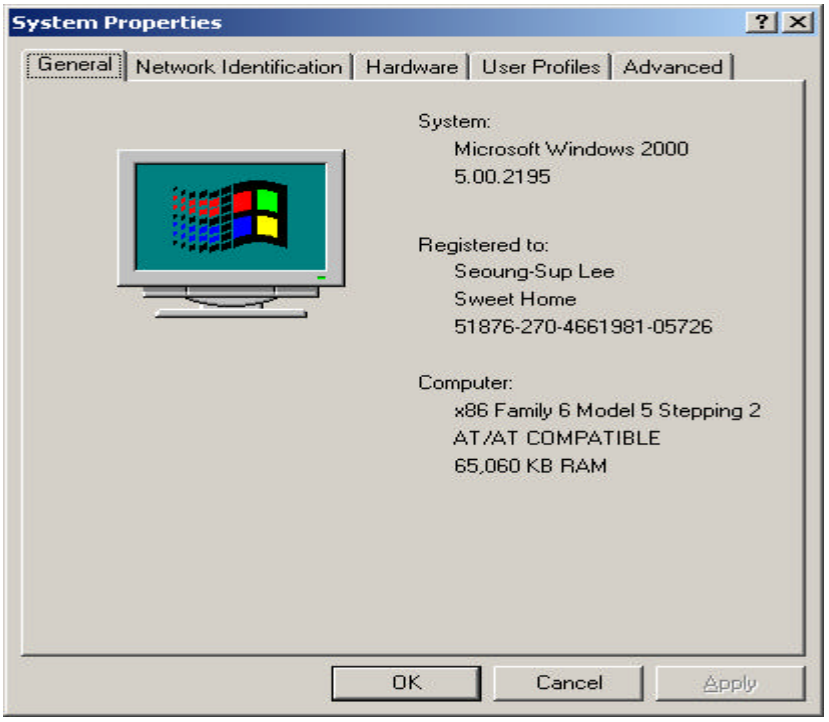


Figure 31 **System Properties**

④ The Hardware Properties appears; see Figure 32. Click **Device Manager**

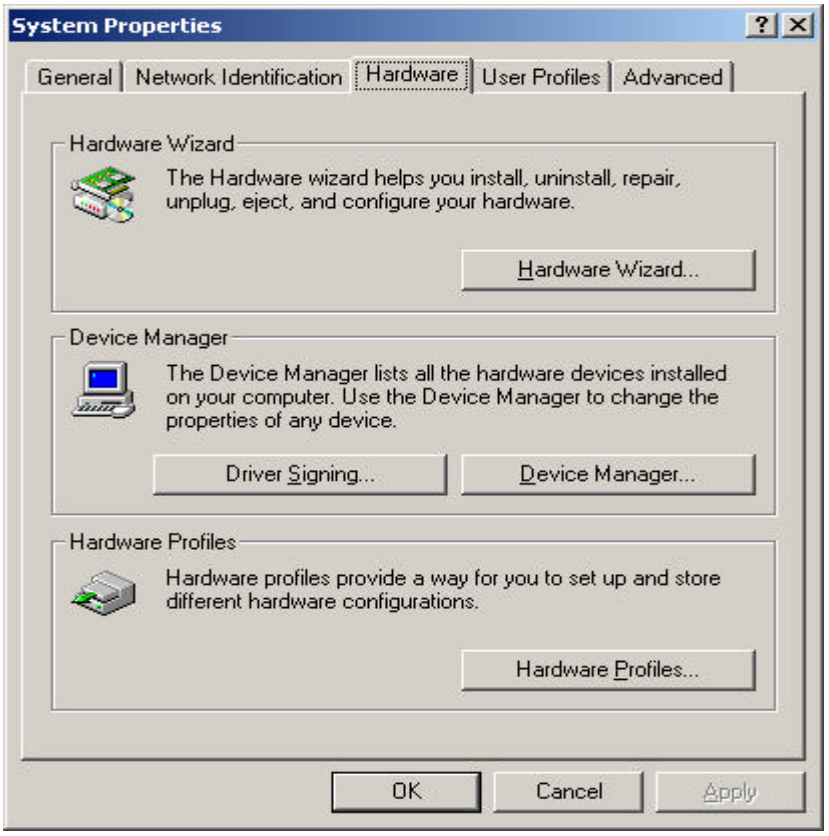


Figure 32 **Device Manager**

⑤ The Device Manager windows is displayed; see Figure 33.
⑥ Expend Network Adaptors and highlight “NetnSys USB Cable Modem”
⑦ Select Remove from Action Menu.
⑧ A warning message is displayed stating that the driver is about to be removed. Click OK and restart the computer.

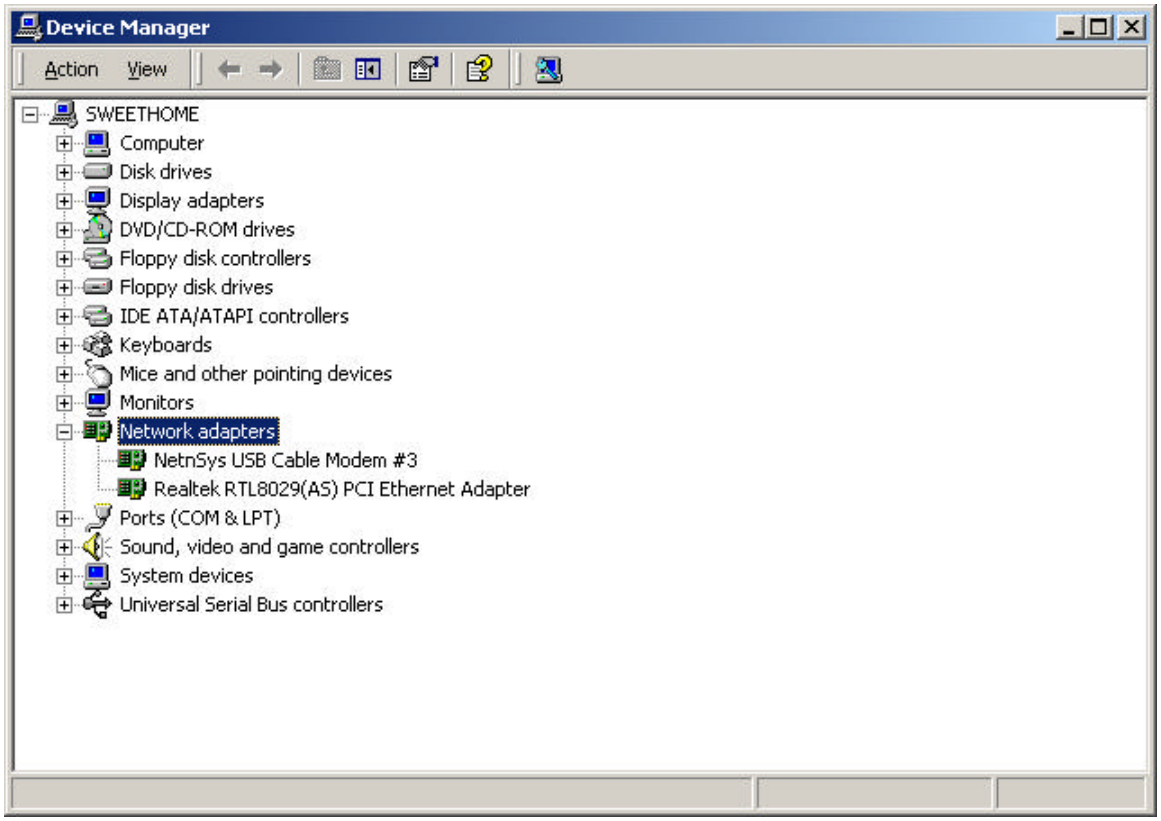


Figure 33 **Device Manager**

8 Contact Information

Technical Support Contact

E-mail: support@netnsys.com

Sales Contact

E-mail: sales@ netnsys.com

Web Page

Http//:www.netnsys.com