

# **NOTEBOOK PC**

## **SUPPORT CD**

### **About This User's Manual**

This User's Manual is divided into three sections:

- Software Setup for Windows 98
- Software Setup for Windows NT4
- Software Reference

The "Software Setup" sections provide step by step procedures for installing each of the items as shown on the support CD's autorun menu. The "Software Reference" section provides some usage descriptions and features of some of the installed items in Windows 98 which are similar for those in Windows NT4. For detailed usage information and help, there are online help with easy referencing for most of the installed items.

## **SOFTWARE SETUP & REFERENCE** **(WINDOWS 98/NT4)**

Product Name:	<b>Notebook PC Support CD</b>
Manual Revision:	<b>1.00 E425</b>
Release Date:	<b>October 1999</b>

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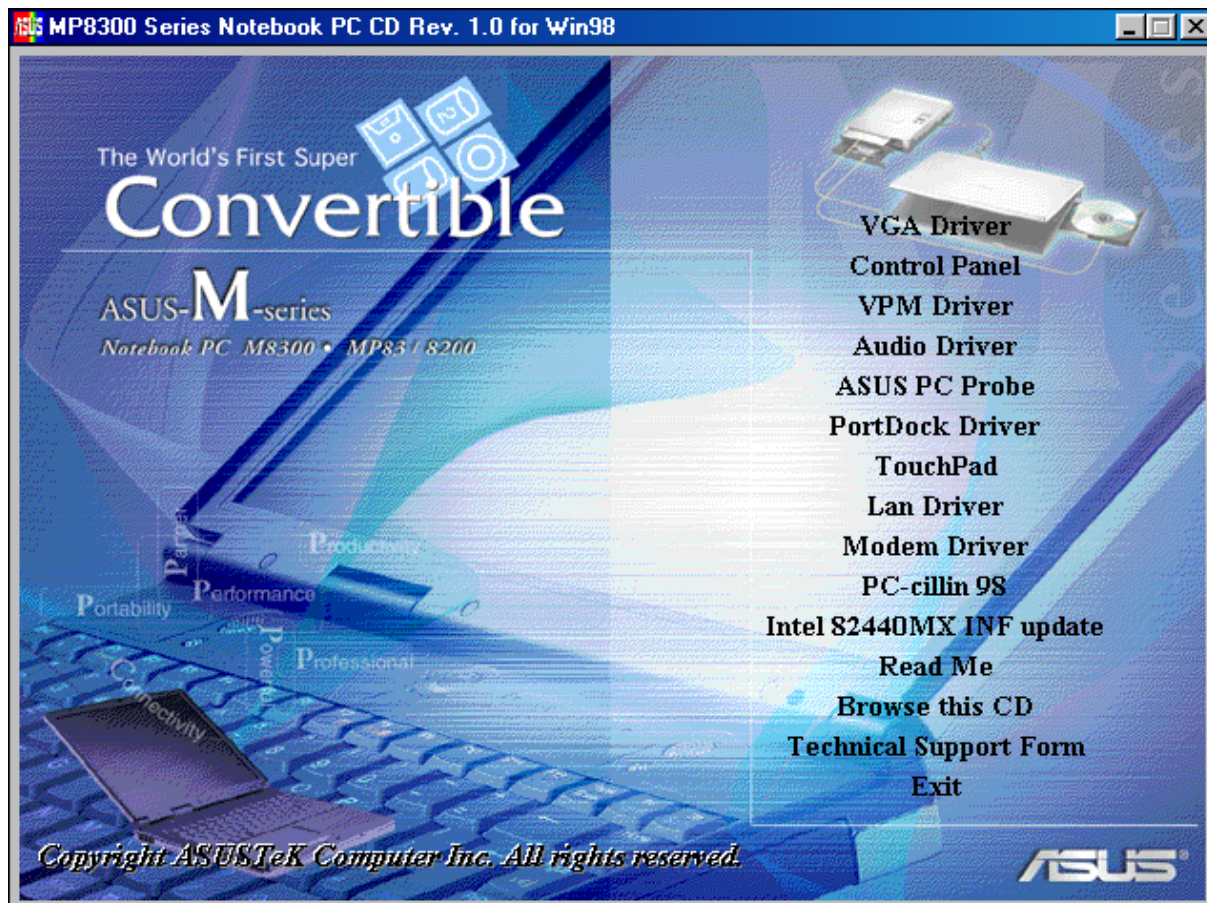
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## Support CD for Windows 98

The support CD included with this Notebook PC provides all the necessary drivers and utilities in order for you to use your Notebook PC with Microsoft® Windows® 98 (referred to as “Windows” in this User’s Manual). The following pages will give step-by-step installation procedures for typical system configurations under this operating system. For application usage, please see the general “Software Reference” section or the online help provided with each of the applications after installation. The following is what you will see when you insert the support CD. If the autorun menu does not appear, double clicking the CD-ROM disc drive icon in “My Computer” (may be the (D:) drive or (E:) drive on hard drives with two partitions) or running SETUP.EXE (through Start menu “Run...”) located in the root of the support CD, will bring up the autorun menu.

## Autorun Screen for Windows 98



## Drivers for Windows 98

The following are descriptions of what each autorun menu item does when selected with the mouse. Due to ongoing improvements in the support CD, there may be some differences between this User's Manual and your support CD. The names in quotations are the actual driver names displayed in the System Properties of MS Windows. Windows cannot contain all the device drivers from every manufacturer, with every update; therefore the provided support CD will contain the best driver for your built-in devices and should be used in place of any Windows default drivers.

### 1. VGA Driver (required)

Installs the display adapter "Silicon Motion LynxEM" in order for your Notebook PC's display panel to work properly. This is necessary in order for your operating system to have the correct video drivers for your Notebook PC's built-in graphics.

### 2. Control Panel (optional)

This installs the Silicon Motion Control Program which is a utility that provides DualView and DualApp support as well as special display functions for your Notebook PC.

### 3. VPM Driver (optional)

This installs Silicon Motion VPM driver for your Notebook PC. The VPM driver is used by video capture or TV tuner applications to communicate with the LynxEM video chipset. If you will not be using any video capture or TV tuner devices, the VPM driver is not required. There is no configuration necessary for this driver.

### 4. Audio Driver (recommended)

This installs the necessary "SoundMAX Integrated Digital Audio" driver in order for your operating system to have the correct files for your Notebook PC's built-in audio and "Wave Device for Voice Modem" for integration of the internal audio with the internal modem. All audio functions are configured through Windows and help can be located within Windows help files or documentation.

### 5. ASUS PC Probe (optional)

PC Probe is a convenient utility to monitor the computer system's vital components. This is an optional software to help you manage your Notebook PC.

### 6. PortDock Driver (for optional PortDock)

The PortDock driver installs the necessary drivers so that an external CD/DVD-ROM or hard disk drive used in the optional PortDock can be accessed by the operating system.

### 7. TouchPad (recommended)

The system BIOS fully supports keyboard and PS/2 mouse devices that are built-in or connected to the Notebook PC externally. The Notebook PC's integrated TouchPad pointing device is fully compatible with the two-button PS/2 mouse. However, the provided device driver will provide enhancements and features to the touchpad to increase the functionality of the touchpad. For detailed information, use the Synaptics online help. To access help, right-click the touchpad icon on the taskbar and select Help.

## **8. Lan Driver (for LAN model)**

This installs the necessary driver in order for your operating system to have the correct files for the Notebook PC with built-in “Intel 8255x-based PCI Ethernet Adapter (10/100)”. Network protocols and client drivers are necessary for seeing and logging onto networks. Please consult your Windows manual, help files, or your system administrator for more information on network protocols.

## **9. Modem Driver (for Modem model)**

This installs the necessary “LT Win Modem” driver in order for your operating system to have the correct files for the Notebook PC with built-in modem and “Voice Modem Serial Wave Device” for integration with the internal audio.

## **10. PC-cillin 98 (optional)**

Installs Trend’s PC-cillin virus protection software. As software become more and more a part of our daily lives, measures have to be taken to protect them. When you invest in this Notebook PC, a very important anti-virus software is included on the support CD. You may skip this software if you have your own anti-virus software.

## **11. Intel 82440MX INF update (for release 4.10.1998 and earlier)**

This utility installs INF files in Windows for versions released 4.10.1998 and earlier to support special features of the Intel® 82440MX chipset.

## **12. Read Me**

Opens up a text file containing notes concerning this support CD or the Notebook PC.

## **13. Browse this CD**

Allows you to see the contents of this support CD.

## **14. Technical Support Form**

Opens up a blank Technical Support Request Form for you to fill in and print out when you run into technical difficulties and need technical assistance. Information in the technical support form is required when asking for technical support.

## **15. Exit**

Allows you to close the support CD autorun screen.

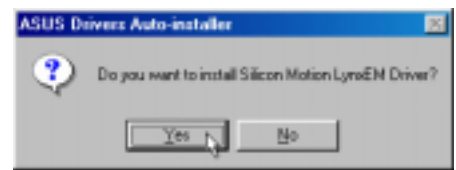
# 1. VGA Driver

When the Notebook PC's built-in graphics device (VGA) is not installed correctly, "Device Manager Display adapters" will show "Standard Display Adapter (VGA)". If this is the case, follow the procedure to install the VGA driver.



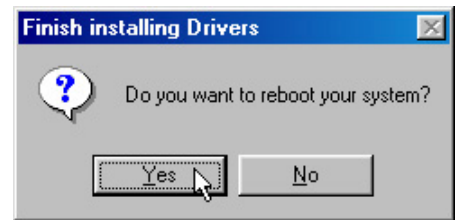
## Installing the VGA Driver

1. Insert the support CD and click "VGA Driver."



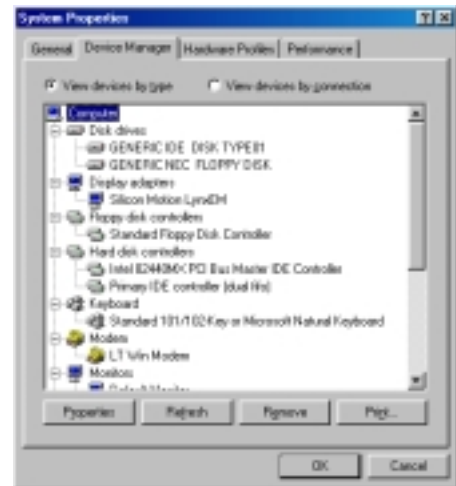
2. After these two dialogue boxes, your VGA driver should be properly installed.

Click **Yes** to restart your computer.



## Checking the Display Driver

When the Notebook PC's built-in graphics device (VGA) is successfully installed, "Device Manager Display adapters" will show "Silicon Motion LynxEM".

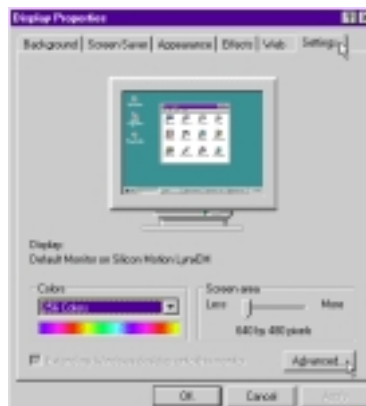


## Display Property Settings

1. Right-click on the Windows desktop and click **Properties**.
2. Click **Settings** and then click **Advanced**.



3. Click **Monitor** and then click **Change**.



4. Select **(Standard monitor types)** from “Manufacturers” and **Laptop Display Panel (1024x768)** from “Models”.

**NOTE:** 1024x768 can be selected for both the 12.1” or the 13.3” display panels. Selecting the 1024x768 for the 12.1” display panel will allow virtual desktop to be enabled or disabled at anytime through “Screen area” in “Display Properties Settings” (see **NOTE** on next page).

Click **OK** when finished. The selection will be updated on the relevant screens.

5. Click **Close** to return to “Display Properties”.





- 6. Drag the “Screen area” adjustment bar so that it reads 1024 by 768 pixels and select the highest “Colors” available and click **OK**.

**NOTE:** On the Notebook PC with a 12.1” display panel, panning (virtual desktop) will occur to cover the 1024 by 768 area. If you do not want panning, use 800 by 600 pixels.

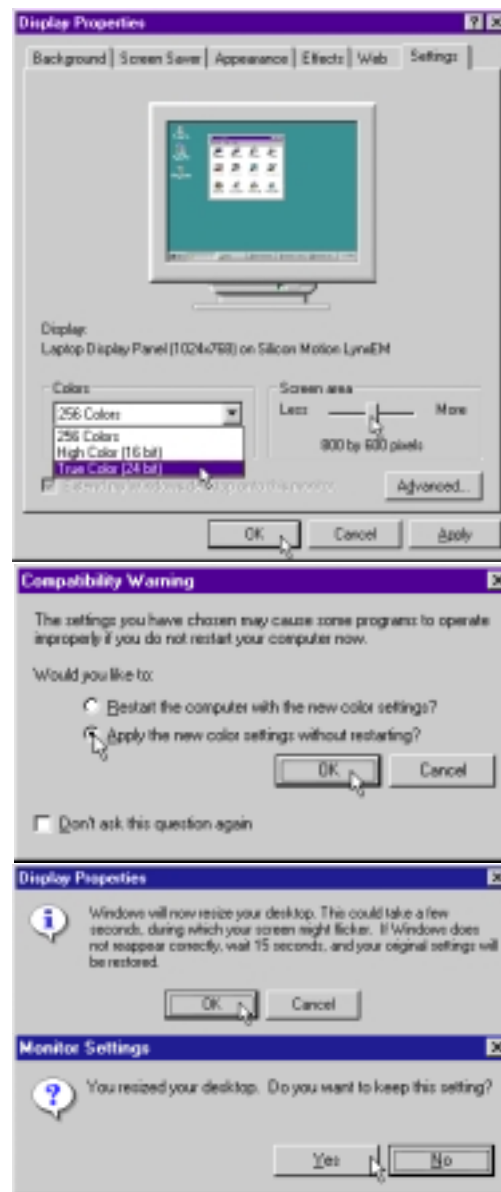
Click **OK** to continue.

- 7. A warning will be shown, select “Apply the new color settings without restarting?”

Click **OK** to continue.

- 8. Click **OK** to resize your desktop.

- 9. Click **Yes** to keep the setting. You should restart your computer after all the display settings are configured.



## 2. Control Panel

Please see Software Reference for more information on this utility.

### Installing the Control Panel Utility

1. Insert the support CD and click **Control Panel** on the autorun menu.
2. Click **Next** after reading the “Welcome” screen.
3. Click **Next** to create program icons in the default folder or select another folder or type in a new folder name for the program icons.
4. Click **Finish** when you see the “Setup Complete” notice.
5. If you restart Windows, an **SMI** icon will appear on the task bar each time Windows starts. Double-click on the “SMI” icon to view or change special display settings. You may also run the **Control Program** manually through **Start | Programs | Silicon Motion Control Programs**.



Windows Task Bar

### 3. VPM Driver

#### Installing the VPM Driver

1. Insert the support CD and click **VPM Driver** on the autorun menu.
2. Click **Next** after reading the “Welcome” screen.
3. Click **Next** on the “Setup Type” screen. Make sure that the selection is on **Install VPM Drivers only**. Do not select “Install VPM Drivers with Video Capture Application” since this application is not supported on this Notebook PC.
4. Click **Finish** to restart your computer or select “No...” to install other items and restart your computer later.



## 4. Audio Driver

When the Notebook PC's built-in audio is not installed correctly, a question mark will show in "Device Manager" for "PCI Multimedia Audio Device." If this is the case, follow the procedure to install the audio drivers.

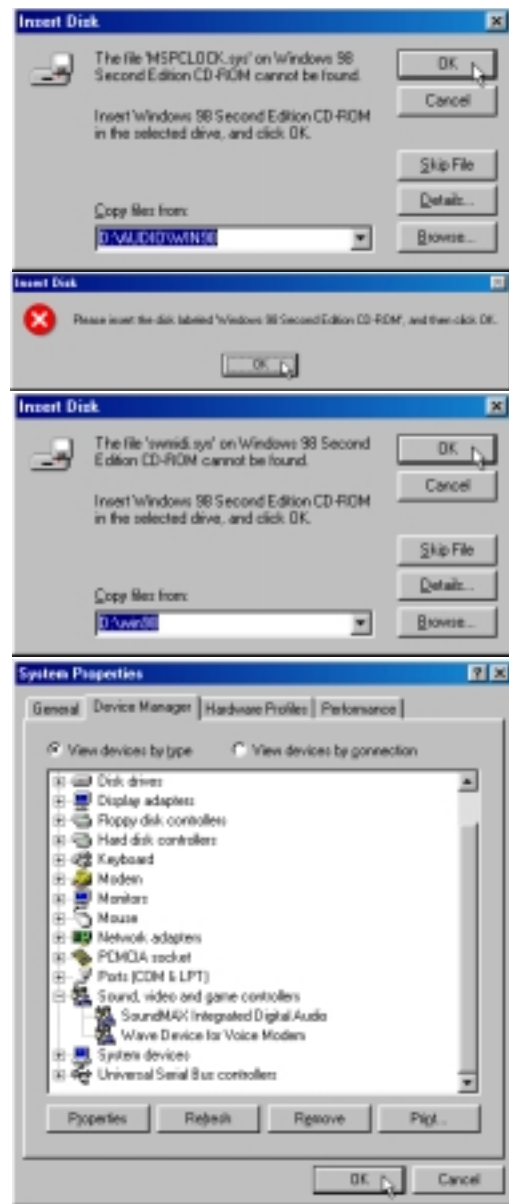


### Installing the Audio Driver

1. Insert the support CD and click **Audio Driver** on the autorun menu.
2. Click **Next** after reading the "Welcome" screen.
3. Click **Next** to search for the best driver for your device.
4. After your Windows restarts the "New Hardware Found" wizard will install other multimedia device drivers associated with the Notebook PC's built-in audio. Click **OK**.
5. Enter the letter of your CD-ROM drive and the **\WIN98** path on your "Windows 98 CD". Click **OK** to continue.
6. Windows will update system settings and ask for the "Windows 98 CD" again. Click **OK**.



7. Enter the letter of your CD-ROM drive and the \WIN98 path on your “Windows 98 CD”. Click **OK** to continue.
8. Windows will update system settings and ask for the “Windows 98 CD” again. Click **OK**.
9. Enter the letter of your CD-ROM drive and the \WIN98 path on your “Windows 98 CD” again. Click **OK** to continue.



## Correctly Installed Audio Drivers

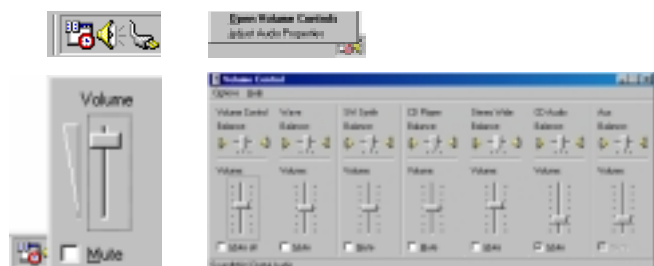
After the Notebook PC’s built-in audio is properly installed, the following should appear under “Sound, video and game controllers” in “Device Manager”:

- SoundMAX Integrated Digital Audio

**NOTE: The “Wave Device for Voice Modem” will only show when the modem driver is properly installed.**

## Audio Controls

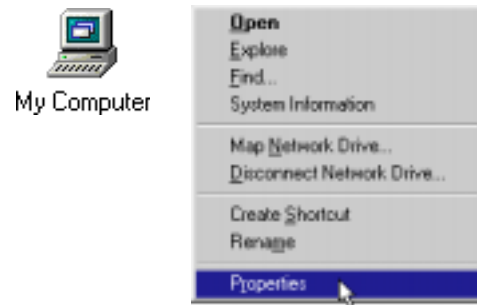
A Speaker icon will show on the task bar and when selected with the left mouse button. A simple master control will show. If selected with the right mouse button a menu will show allowing adjustment of audio properties or detailed volume controls.



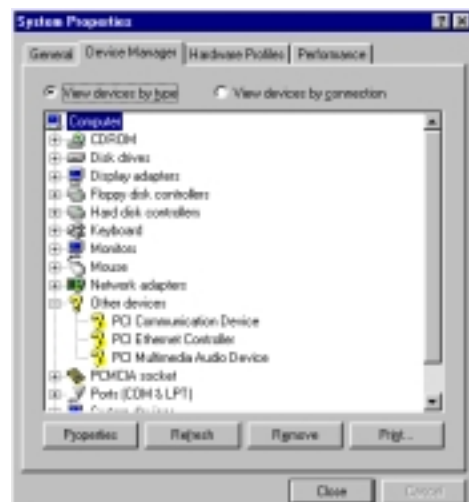
## Manually Installing the Audio Driver

If you do not get the “New Hardware Found” wizard as shown on the previous “Audio Driver” installation and you cannot connect hear any audio, follow these steps for manual installation.

1. Right-click **My Computer** on the desktop.
2. Select **Properties**



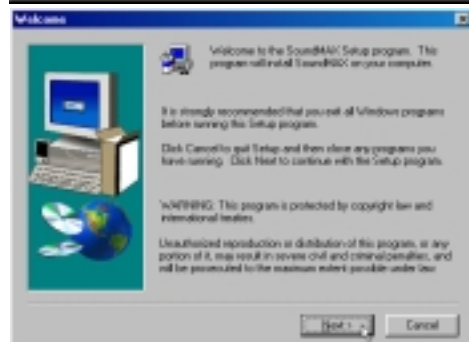
3. Click the Device Manager tab.
4. Double-click “**Other Device**” or “**Sound, video and game controllers**” in the list area.
5. Click the “**PCI Multimedia Audio Device**” or other audio devices with an error.
6. Click **Remove**.



7. Click **OK** to confirm device removal.



8. Click **Refresh** on the “Device Manager” page and the Plug & Play will automatically detect your audio device. Click **Next** to search for new drivers.



9. Click **Next** to search for the best driver for your device.

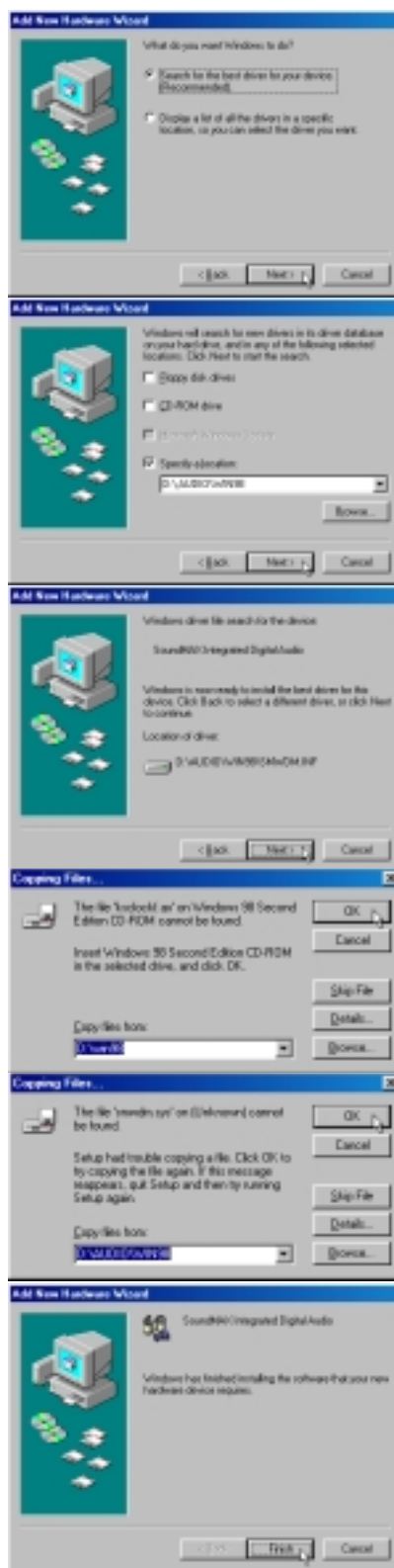
10. Enter the letter of your CD-ROM drive and the **\AUDIO\WIN98** path on the Notebook PC support CD. Click **Next** to determine the best driver for your device.

11. Click **Next** to install the recommended driver.

12. Enter the letter of your CD-ROM drive and the **\WIN98** path on your “Windows 98 CD”. Click **OK** to continue.

13. Enter the letter of your CD-ROM drive and the **\AUDIO\WIN98** path on the Notebook PC support CD again. Click **Next** to finish the installation.

14. Click **Finish** when the installation is complete.



## 5. ASUS PC Probe

**NOTE:** In order for PC Probe to run, Intel's LDCM and other hardware monitoring software cannot be installed. You must first uninstall other such software before installing PC Probe.

### Installing the PC Probe Utility

1. Insert the support CD and click **ASUS PC Probe** on the autorun menu.
2. Click **Next** after reading the “Welcome” screen.
3. Click **Next** to install into the default directory or click **Browse** to change the destination directory.
4. Click **Next** after reading the “Information” screen.





5. Configure the settings if you desire (you can also make settings any time after you install PC Probe). The default setting runs a check on the system every 5 seconds for the Temperature. Decreasing this value increases real-time accuracy but decreases system performance. Increasing this values produce the reverse effect. Click **Next** to continue.
  
6. Click **Next** after verifying the configuration settings.
  
7. Click **Next** to create program icons in the default folder or select another folder or type in a new folder name for the program icons.
  
8. Click **Finish** when the installation is completed. You may choose to run PC Probe now and/or to automatically run PC Probe each time Windows starts.



## 6. PortDock Driver

### Installing the PortDock Driver

1. Insert the support CD and click **PortDock Driver** on the autorun menu.
2. Click **Next** after reading the “Welcome” screen.
3. Click **Next** after reading the “Information” screen.
4. Choose another destination folder or click **Next** to use the default.
5. Click **Next** to create program icons in the default folder or select another folder or type in a new folder name for the program icons.
6. Review the target locations for the installation and click **Next**.
7. Click **Finish** when the installation is completed. A README file is available to learn more about this driver.

### Checking the Installed Driver

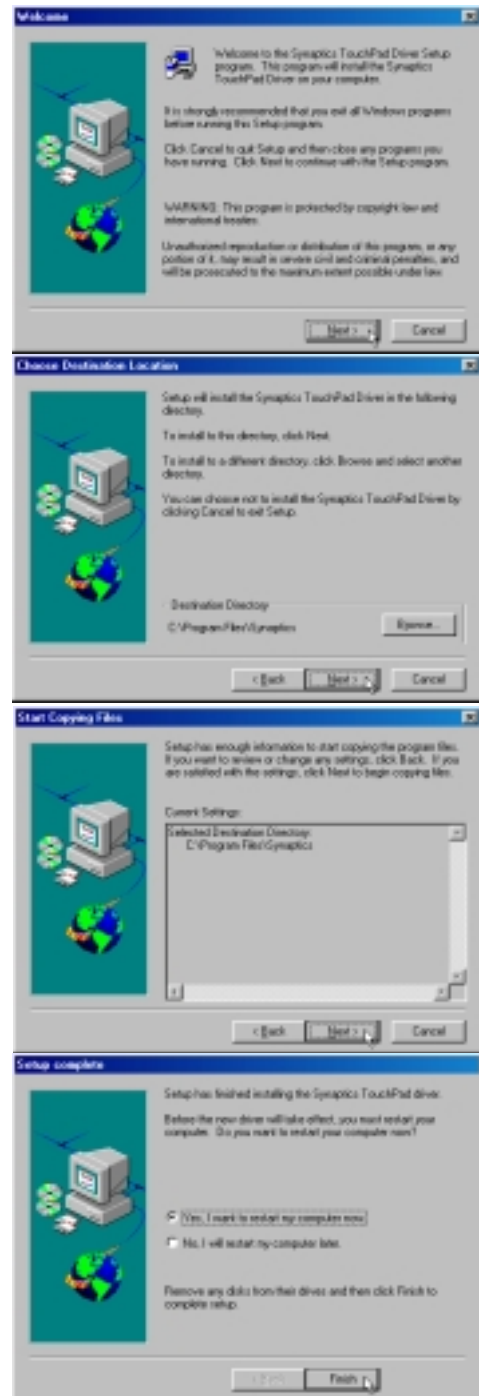
“EPP Parallel Port to ATA/ATAPI Adapter-Windows95/98” will show under SCSI controllers when the driver is successfully installed. If no IDE device (CD-ROM or hard disk drive) is detected in the PortDock, the driver will not be loaded. You must restart Windows with an IDE device in the PortDock in order to start the driver. The driver cannot be started while in Windows.



## 7. TouchPad

### Installing the TouchPad Utility

1. Insert the support CD and click **TouchPad** on the autorun menu.
2. Click **Next** after reading the “Welcome” screen.
3. Choose another destination folder or click **Next** to use the default.
4. Review the target locations for the installation and click **Next**.
5. Click **Finish** to restart your computer or select “No...” to install other items and restart your computer later.



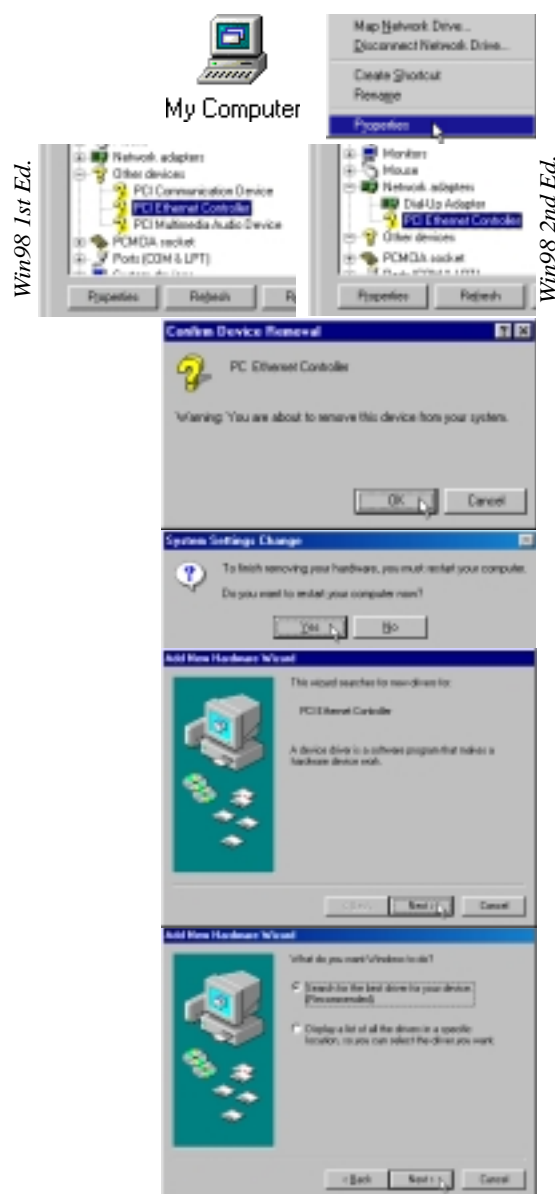
## 8. Lan Driver

LAN stands for “Local Area Network” and the acronym will be used synonymously with Fast-Ethernet in this manual since the built-in network device for this Notebook PC is compatible with Fast-Ethernet networks (also downward compatible for slower networks).

### Manually Installing the LAN Driver

If the “New Hardware Found” dialog box appears on startup, start from 8. If you do not get the dialog and you cannot connect to the network, start from 1.

1. Right-click **My Computer** on the desktop.
2. Select **Properties**
3. Click the **Device Manager** tab.
4. Double-click **Other Devices** or **Network Adapters** in the list area to find the **PCI Ethernet Controller** with an error.
5. Click **Remove**.
6. Click **OK** to confirm device removal.
7. Click **No** if asked to restart your computer.
8. Click **Refresh** and the “Add New Hardware Wizard” will automatically detect the new device and give steps to install the driver.
9. Select “**Search for the best driver for your device. (Recommended)**” and click **Next**.



10. Enter the letter of your CD-ROM drive and **\LAN** path and click **Next**.

11. Click **Next** to select the recommended driver.

12. Click **Next** to install the recommended driver.

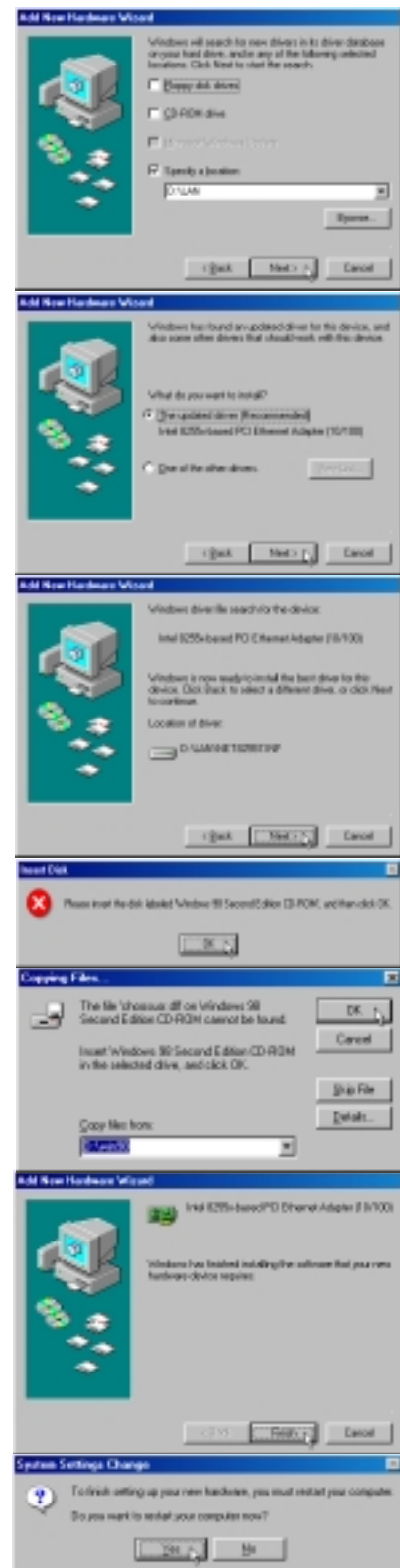
**NOTE:** When using Windows 98 Second Edition, the wizard will find the driver “C:\WINDOWS\INF\NET557.INF” but the procedure is still the same.

13. Plug & Play will automatically detect your network device. Insert your Windows 98 CD and click **OK** to continue.

14. Enter the path to the Windows setup files and click **OK** to continue.

15. Click **Finish** when installation has completed.

16. Click **Yes** to restart your computer.



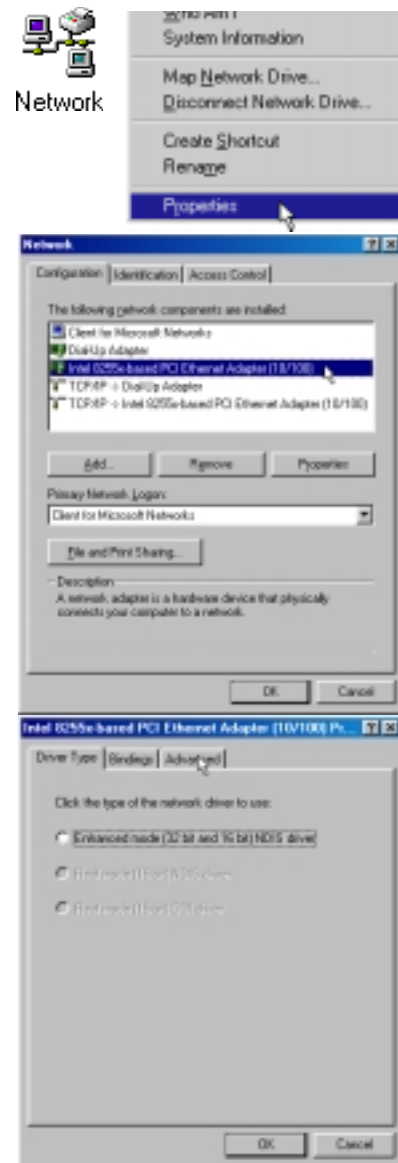
## Configuring the Network Device

The network device has the ability to send and receive packets at the same time (full-duplexing) at both 10 and 100 Mbps. In order to reap the benefits of full duplexing, you **MUST** have a full duplex hub or switch.

The network device has the added ability to “talk” to the hub or switch and determine at which mode to communicate (either full or half duplex). This is called auto-negotiation. You must have an auto-negotiating hub or switch to get full duplex support with the Duplex Mode set to Auto. If you don’t have an auto-negotiating hub or switch and want to run at full duplex, set Duplex Mode to Full and then set the SPEED parameter to either 100 Mbps or 10 Mbps.

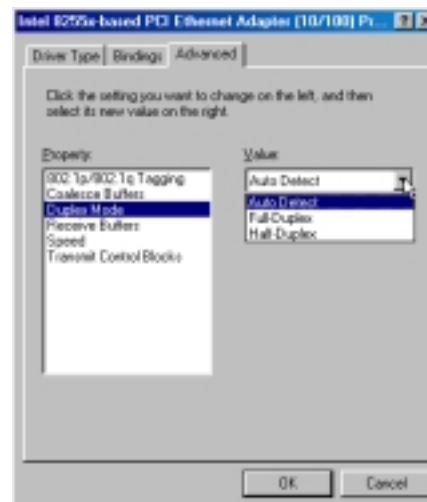
## Changing Adapter Settings

1. Right-click the **Network** icon on the desktop and select **Properties**.
2. Double-click **Intel 8255x-based PCI Ethernet Adapter (10/100)**.
3. On the “Properties” page, click the **Advanced** tab.



4. Set **Duplex Mode** if necessary.

**NOTE:** To change the “Duplex Mode”, you must set the “Speed” to either 10 Mbps or 100 Mbps.



5. Set **Speed** if necessary.

**NOTE:** “Duplex Mode” other than “Auto Detect” requires that “Speed” be set to a setting other than “Auto Detect”.



## Advanced Settings

### Duplex Mode

**Auto Detect:** The adapter negotiates with the hub or switch how to send/receive packets, either full or half duplex. This is the default and recommended setting.

**Full-Duplex:** The adapter sends and receives packets at the same time. This improves the performance of your adapter. Set duplex mode to full duplex only if you have a full duplex switch.

**Half-Duplex:** The adapter performs one operation at a time. It either sends or receives.

### Speed

This parameter lets the network adapter know what speed to use on the Ethernet wire. The choices are 10 Mbps, 100 Mbps, and Auto Detect (default). In Auto Detect mode, the adapter detects if its environment can support 100 Mbps speed. It then sets the speed to 100 if it can, or 10 if it can't.

## 9. Modem Driver

**NOTE: This is only for the Notebook PC model with built-in modem.**

The 56K\* PnP (Plug-N-Play) “Host Based” Voice/Data/Fax Modem allows your computer to connect to an ISP supporting rates up to 56K bps. A Host Based modem uses the computer systems CPU to control some of its actions. This greatly reduces the number of chips that the modem uses; reducing its complexity, cost, and increasing its reliability. Plug-N-Play refers to a set of specifications that allow the computer hardware and operating system to automatically configure settings for the modem.

### Features

- Plug-N-Play installation to get you up and running in minutes
- Telephone Answering Machine with Voice Mail capabilities
- Transmits data up to 115,200 bps with compression
- Background broadcast fax send and receive
- Host based operation
- K56flex protocol

\*This modem is capable of 56K downloads. However, due to FCC rules which restrict power output of your ISP’s modems, current download speeds are limited to 53K bps but even this maximum will depend on the conditions of your telephone lines.

**NOTE: PC is a trademark of IBM Corporation. Windows 98 and Windows NT are trademarks of Microsoft, Inc. 56Flex is a trademark of Lucent Technologies, Inc. and Rockwell International.**



**WARNING!** The modem will be damaged if you use a digital phone line. Since some homes and most businesses have digital phone lines, before connecting your modem to a phone jack you are unsure of; a phone jack at work for example; ask if the phone system is digital.

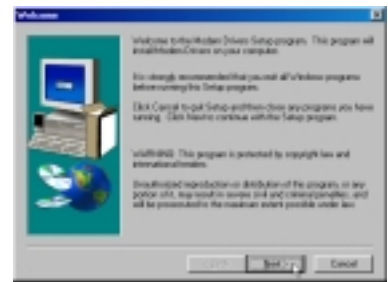
### Plug-N-Play Hardware Configuration

Windows 98 will automatically detect and setup your “LT Win Modem” and also the “Voice Modem Serial Wave Device” to allow voice modem functions. The only configuration for your modem is for it to use the Plug-N-Play capabilities of your computer. Plug-N-Play is a set of specifications that define the ability for the computer hardware and operating system to automatically configure all Plug-N-Play compliant devices that are installed in the system. In the case of the modem, this relieves the user of the need to determine which COM Port and Interrupt Request (IRQ) settings are to be used by the modem. See next page for detailed installation procedures if necessary.




## Installing the Modem Driver

The Notebook PC's built-in modem should be automatically setup by Windows 98 but if drivers are necessary, click **Modem Driver** on the Support CD's autorun screen and click **Next** to finish the installation.



## Manually Installing the Modem Driver

If you cannot use your modem after installation from the support CD, you may need to manually configure your modem. A New Hardware Found dialog box should appear the first time Windows is installed. If you did not get the dialog or you skipped the installation and you cannot get the internal modem to work, follow these steps:

1. Right-click **My Computer** on the desktop.
2. Select **Properties**
3. Click on **Device Manager** tab.
4. Double-click **Modem** or  **Other devices** (if present) in the list area.
5. Click the **PCI Communication Device** with an error.
6. Click **Remove**.
7. Click **OK** to confirm device removal.
8. Click **Refresh** on the "Device Manager" screen and the Plug & Play will automatically detect the new device. Once your modem device is detected, setup will be automatic. Click **Next** to continue.



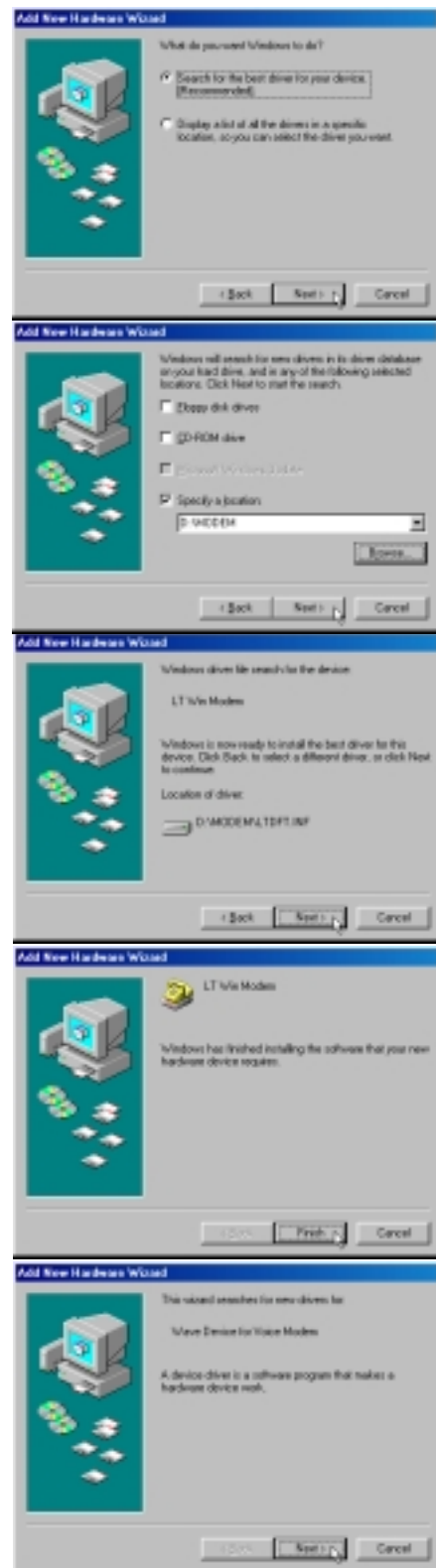
9. Click **Next** to search for the best driver for your device.

10. Click **Specify a location** and enter the `\MODEM` directory on the support CD. Click **Next** to continue.

11. Click **Next** to install the “LT Win Modem” driver.

12. Click **Finish** when Windows finishes the software installation for the device.

13. “Wave Device for Voice Modem” will be automatically detected after the modem is installed. Click **Next** to install drivers for voice modem capabilities.



14. Click **Next** to search for the best driver for your device.

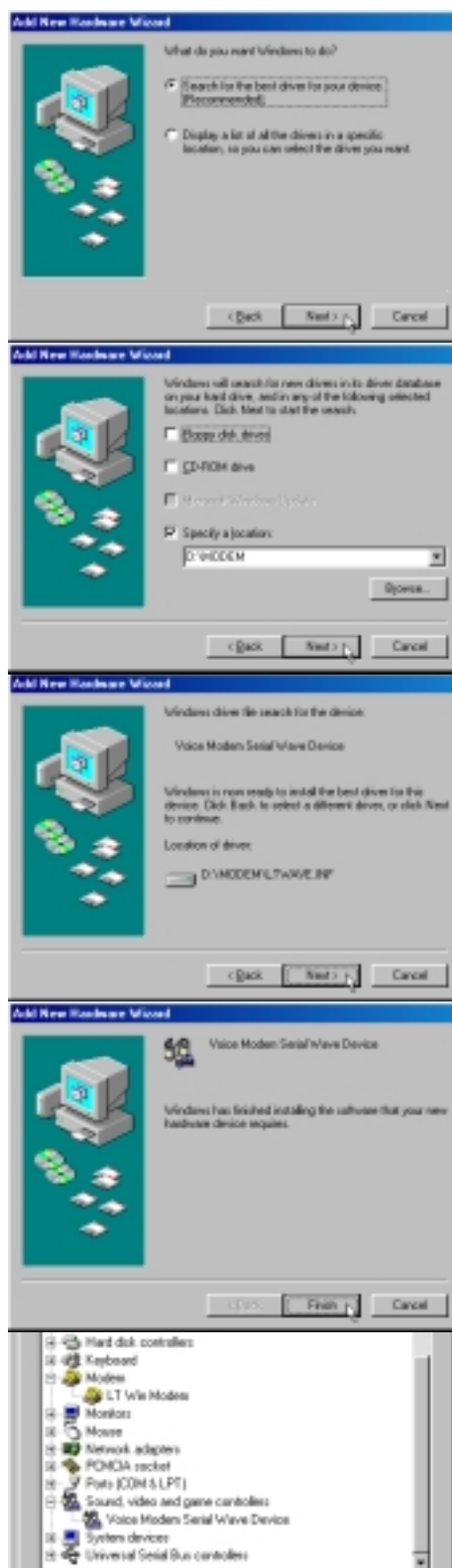
15. Click **Specify a location** and enter the `\MODEM` directory on the support CD. Click **Next** to continue.

16. Click **Next** to install the “Voice Modem Serial Wave Device” driver.

17. Click **Finish** when Windows finishes the software installation for the device.

When correctly installed, the Notebook PC’s internal built-in modem should show two items in the “Device Manager”:

- LT Win Modem
- Voice Modem Serial Wave Device



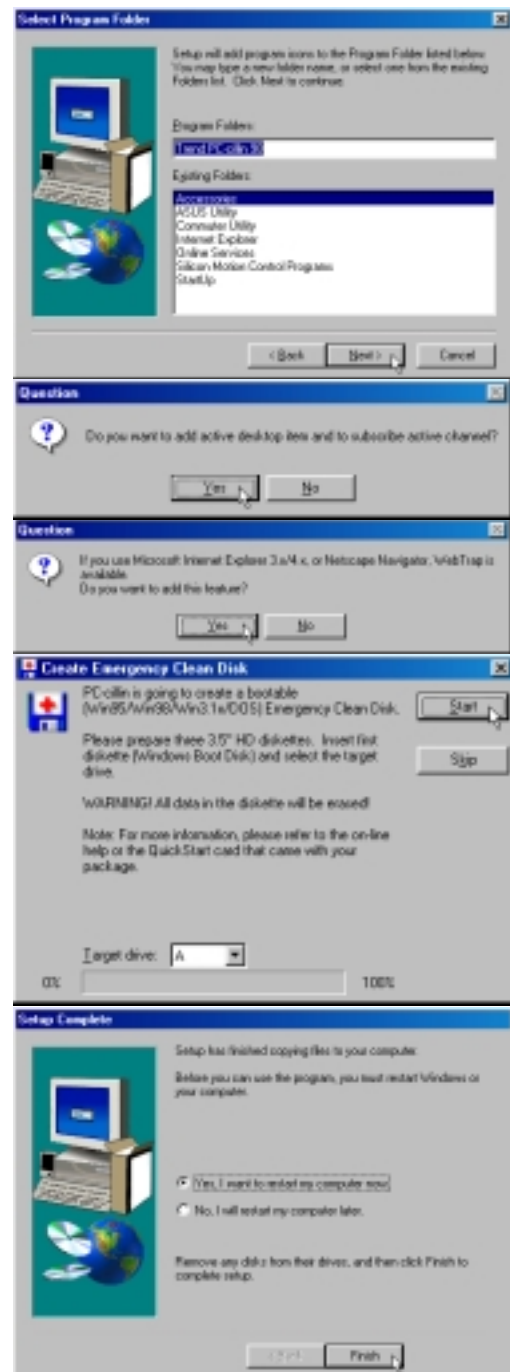
## 10. PC-cillin 98

### Installing the PC-cillin Utility

1. Insert the support CD and click **PC-cillin 98** on the autorun menu.
2. Click **Next** after reading the “Welcome” screen.
3. Click **Yes** after reading the “Agreement”.
4. Wait while your setup checks your system for viruses based on the included pattern file. (This is usually older than what is available on the Internet at “<http://www.trend.com>”. You should rescan your hard drives after updating the virus pattern.) The screen will change when completed.
5. Choose another destination folder or click **Next** to use the default.



6. Choose another folder, create a new folder, or click **Next** to use the default folder for the program icons.
7. Answer **Yes** or **No** to add PC-cillin to your active desktop and subscribe to the Internet “channel” so that you can be notified of updates.
8. Answer **Yes** or **No** to apply PC-cillin anti-virus protection to your Internet browser.
9. Click **Start** to create a Bootable Emergency Clean Disk. Otherwise, click **Skip** on the “Create Emergency Clean Disk” screen.
10. Click **Finish** on the “Setup Complete” screen to exit the installation program and restart your computer.



# 11. Intel 82440MX INF Update

## System Requirements

1. The update included with this support CD is designed to operate with the Intel® 82440MX Chipset.
2. It is recommended that the kit update is installed on systems with at least 32MB of system memory.
3. There should be sufficient hard disk space in the <TEMP> directory (typically C:\WINDOWS\TEMP) on the hard disk drive to install this update.

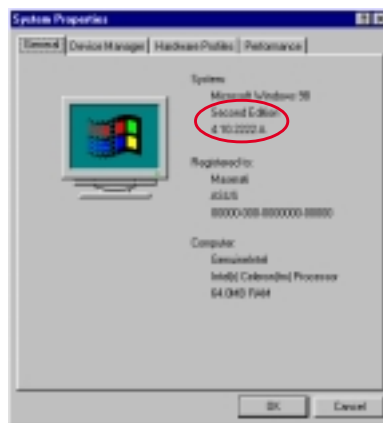
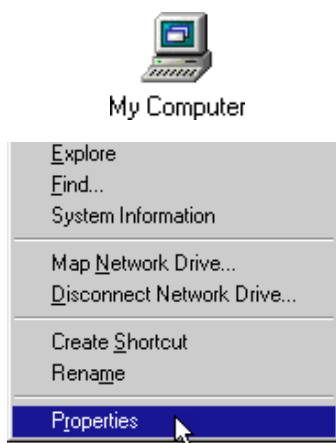
## Windows Version

Only Windows version “4.10.1998” and earlier require the INF update. Versions of Microsoft Windows after this release (such as “4.10.2222” as shown below) will not require the Intel 82440MX INF update. The following are public releases of Windows:

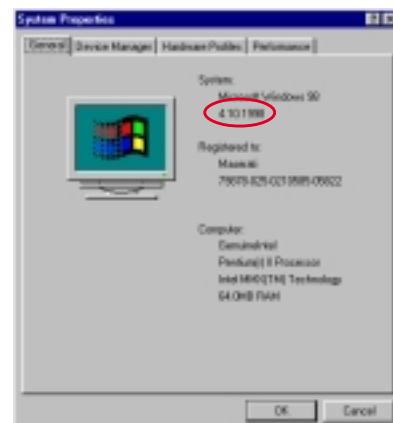
- Windows 95 4.00.950 (Windows 95 Retail Release)
- Windows 95 4.00.950b (Windows 95 OSR2 without USB Supplement)
- Windows 95 4.00.950b (Windows 95 OSR2.1 with USB Supplement)
- Windows 95 4.00.950c (Windows 95 OSR2.5 with or without USB Supplement)
- Windows 98 4.10.1998 (Windows 98 Retail Release)
- Windows 98 4.10.2222 (Windows 98 Second Edition – no INF update necessary for this Notebook PC)

## Checking your Windows Version

1. Right-click **My Computer** on the desktop.
2. Select **Properties**.
3. Read the information under “System:”



Windows 98 Second Edition  
(no INF update necessary)



Windows 98 First Edition  
(INF update is necessary)

## Outdated Device Drivers

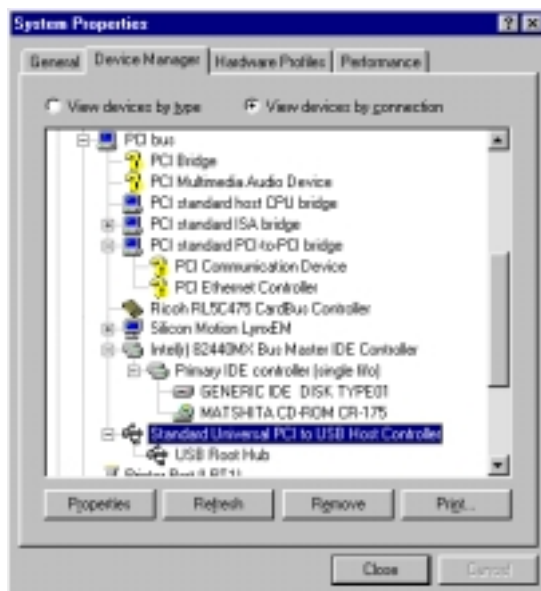
Windows 98 First Edition will show the following outdated drivers. When updated or when Windows 98 Second Edition is installed, the device names on the right will be seen.

### The following drivers should be updated:

- PCI Bridge
- PCI standard host CPU bridge
- PCI standard ISA bridge
- Standard Universal PCI to USB Host Controller

### Updated Device Driver Names

- Intel(r) 82440MX Bus Master IDE Controller
- Intel(r) 82440MX Power Management Controller
- Intel(r) 82440MX Processor to I/O Controller
- Intel(r) 82440MX PCI to ISA Bridge
- Intel(r) 82440MX USB Universal Host Controller



Windows 98 First Edition will show the following outdated drivers.

## Other Device Drivers

The other devices as follows are explained in their respective sections:

- PCI Multimedia Audio Device (built-in audio)
- PCI Communication Device (built-in modem)
- PCI Ethernet Controller (built-in network)

## Installing the INF Update (in Existing Windows 98)

1. Close any running applications. You may experience some difficulties if you don't do this.
2. Click **Properties** while one of the outdated PCI bus components (see previous page) is highlighted:
3. Click the **Driver** tab.
4. Click **Update Driver...**
5. Click **Next** to allow the wizard to search for updated drivers.
6. Click **Next** to allow the wizard to search for a better driver.



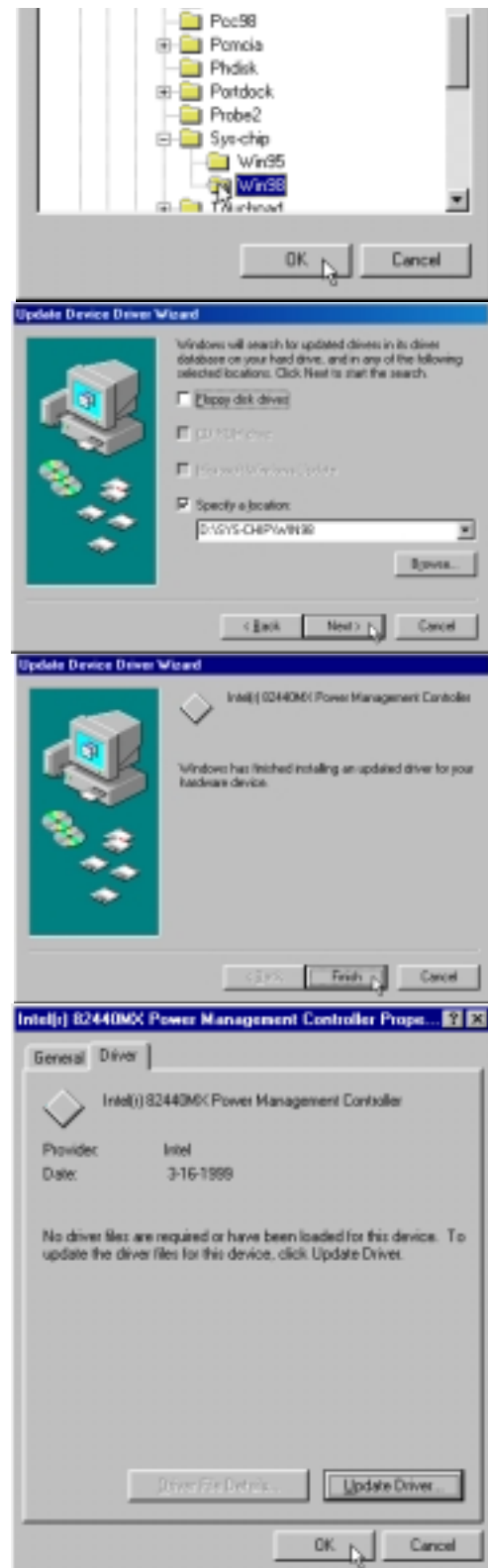


7. Browse to **\SYS-CHIP** and **\Win98** or **\Win95** (depending on your Windows version).

8. Click **Next** to continue.

9. Click **Finish** to exit the update Wizard. You must reboot the system after completion.

10. Click **OK** when finished.



## Installing the INF Update (Before Installing Windows 98)

The Windows 98 distribution CD contains a setup directory with all the base OS setup files (\*.CAB) and installation program (SETUP.EXE). The name of the directory can vary depending on the distribution CD. (i.e. \WIN98\)

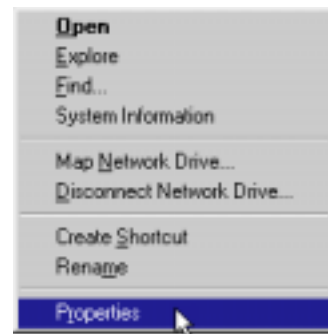
1. Copy the OS installation files from the Windows 98 setup directory to a directory on the hard disk. This procedure requires a large amount of disk storage. It is important to make sure this is enough disk space before beginning the copy process. This directory shall be referred to as the <WIN98 Setup Directory>.
2. Copy the Windows 98 INF files from the \SYS-CHIP\WIN98 directory on the Notebook PC support CD to the setup directory identified in Step 1 above.
3. Run SETUP.EXE to install Windows 98.

## Verifying Installation of the Software

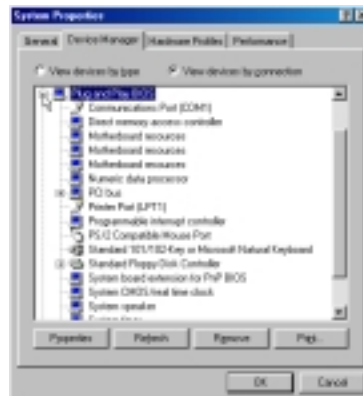
**NOTE: This procedure is common to both Windows 98 and Windows 95 systems.**

Run Device Manager to verify correct installation and usage of the INF files.

1. Right-click on **My Computer** on the desktop.
2. Select **Properties**
3. Click on **Device Manager** tab
4. Click on **View devices by Connection** button
5. Click on **Plug and Play BIOS**
8. Click on **PCI bus**
9. Check the descriptions for the following entries:
  - Intel 82440MX PCI Bus Master IDE Controller
  - Intel 82440MX PCI to ISA Bridge
  - Intel 82440MX PCI to USB Universal Host Controller
  - Intel 82440MX Power Management Controller
  - Intel 82440MX Processor to I/O Controller



On the Device Manager page, click “View devices by connection”



Click the + sign next to “Plug and Play BIOS” to expand it.



The five items above must have Intel 82440MX as the prefix.

***NOTEBOOK PC***

***SUPPORT CD***

***SOFTWARE SETUP***

***(WINDOWS NT4)***

## Support CD for Windows NT4

The support CD included with this Notebook PC provides all the necessary drivers and utilities in order for you to use your Notebook PC with Microsoft® Windows® NT® 4.0 Workstation (referred to as “Windows NT4” in this User’s Manual). The following pages will give step-by-step installation procedures for typical system configurations under this operating system. For application usage, please see the general “Software Reference” section or the online help provided with each of the applications after installation. The following is what you will see when you insert the support CD. If the autorun menu does not appear, double clicking the CD-ROM disc drive icon in “My Computer” (may be the (D:) drive or (E:) drive on hard drives with two partitions) or running SETUP.EXE (through Start menu “Run...”) located in the root of the support CD, will bring up the autorun menu.

## Autorun Screen for Windows NT4



## Drivers for Windows NT4

The following are guidelines for using the support CD under Windows NT4. Due to ongoing improvements in the support CD, there may be some differences between this User's Manual and your support CD. Windows cannot contain all the device drivers from every manufacturer, with every update; therefore the provided support CD will contain the best driver for your built-in devices and should be used in place of any Windows default drivers.

**NOTE: You may use the Repair Disk to restore “[ ] SYSTEM (System Configuration)” if you experience problems entering Windows NT4 after making driver installations. Make sure that you have a Repair Disk before making any driver or software installations. You may make a Repair Disk by running “RDISK” from the “Start” button and “Run...”.**

### 1. VGA Driver (required)

Installs the display adapter “Silicon Motion LynxEM” in order for your Notebook PC's display panel to work properly. This is necessary in order for your operating system to have the correct video drivers for your Notebook PC's built-in graphics.

### 2. Control Panel (optional)

This installs the Silicon Motion Control Program which is a utility that provides DualView and DualApp support as well as special display functions for your Notebook PC.

### 3. Audio Driver (recommended)

This installs the necessary “SoundMAX Integrated Digital Audio” driver in order for your operating system to have the correct files for your Notebook PC's built-in audio and “Wave Device for Voice Modem” for integration of the internal audio with the internal modem. All audio functions are configured through Windows and help can be located within Windows help files or documentation.

### 4. ASUS PC Probe (optional)

PC Probe is a convenient utility to monitor the computer system's vital components. This is an optional software to help you manage your Notebook PC.

### 5. PortDock Driver (for optional PortDock)

The PortDock driver installs the necessary drivers so that an external CD/DVD-ROM or hard disk drive used in the optional PortDock can be accessed by the operating system.

### 6. TouchPad (recommended)

The system BIOS fully supports keyboard and PS/2 mouse devices that are built-in or connected to the Notebook PC externally. The Notebook PC's integrated TouchPad pointing device is fully compatible with the two-button PS/2 mouse. However, the provided device driver will provide enhancements and features to the touchpad to increase the functionality of the touchpad. For detailed information, use the Synaptics online help. To access help, right-click the touchpad icon on the taskbar and select Help.

## 7. Lan Driver (for LAN model)

This installs the necessary driver in order for your operating system to have the correct files for the Notebook PC with built-in “Intel 8255x-based PCI Ethernet Adapter (10/100)”. Network protocols and client drivers are necessary for seeing and logging onto networks. Please consult your Windows manual, help files, or your system administrator for more information on network protocols.

### Windows NT4:

Your LAN driver setup will begin during setup of the Windows NT4 operating system. One of the screens during setup will be “Windows NT needs to know how this computer should participate on a network.” If you are either using the Notebook PC with a built in network and modem or using a PCMCIA LAN/modem card, select “Wired to the network:” for installation of the networking services and drivers. Select “Remote access to the network:” if you plan on accessing a network through a modem. Remote access will also initiate the installation of the Notebook PC’s built-in modem. You may select “Do not connect this computer to a network at this time” and install them after Windows NT4 setup is complete. Click **Next** to continue. **For detailed installation procedure, see LAN Driver section in this manual.**

## 8. Modem Driver (for Modem model)

This installs the necessary “LT Win Modem” driver in order for your operating system to have the correct files for the Notebook PC with built-in modem and “Voice Modem Serial Wave Device” for integration with the internal audio.

### Windows NT4:

Modem setup will be initiated in “Remote access to the network” if selected but this selection is only for special networks setup by private companies (or your own home), not by ISPs. This option appears automatically right after the network installation during setup of Windows NT4. **For detailed installation procedure, see Modem Driver section in this manual.**

## 9. Read Me

Opens up a text file containing notes concerning this support CD or the Notebook PC.

## 10. Browse this CD

Allows you to see the contents of this support CD.

## 11. Technical Support Form

Opens up a blank Technical Support Request Form for you to fill in and print out when you run into technical difficulties and need technical assistance. Information in the technical support form is required when asking for technical support.

## 12. Exit

Allows you to close the support CD autorun screen.

# 1. VGA Driver

1. Right-click on the Windows desktop and click **Properties**.
2. Click the **Settings** tab and **Display Type...**

**NOTE:** The default for Windows NT4 is a Desktop Area of 640 by 480 but Windows NT4 will allow resetting to 800 by 600 with 16 colors at the end of setup. The correct drivers you are about to install will allow greater colors, desktop area, and other features.

3. Click **Change** in order to change the “Adapter Type”.

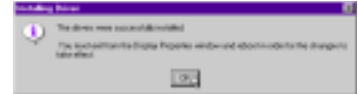
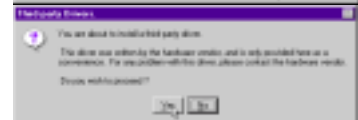
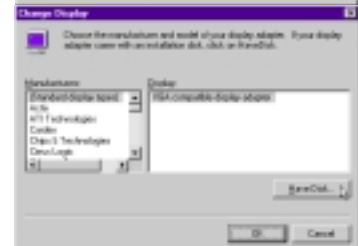
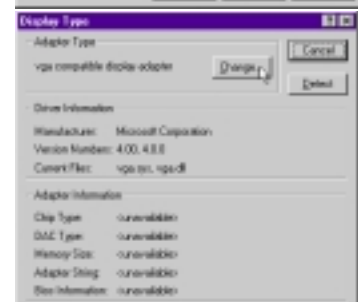
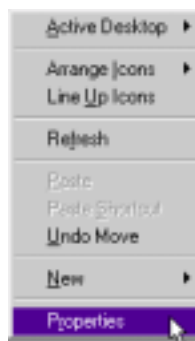
4. Click **Have Disk** so that you can install the Notebook PC provided drivers instead of Windows NT4 older or incompatible drivers.

5. Manually enter the **\VGA\NT40** path on the support CD or click **Browse** to visually search for the folder. (Click **Cancel** if there is an error reading the “A:” drive.)

6. Select **Silicon Motion Lynx Family** and click **OK**. This is the only selection and is the model name of the display chipset used in this Notebook PC.

7. Click **Yes** to install this third-party driver. Although Microsoft recommends using its own drivers. True compatibility and enhanced features can only be solved by using the drivers provided with this Notebook PC.

8. Click **OK** after reading the message on initializing the display drivers.



- Click **Close** to exit to the display “Settings” page.

- Click **Close** to exit the “Display Properties”.

**NOTE:** The “Desktop Area” and other settings shown here were set at the end of Windows NT4 setup for greater convenience. This is not the optimized setting for this Notebook PC, nor is it a reflection of your settings.

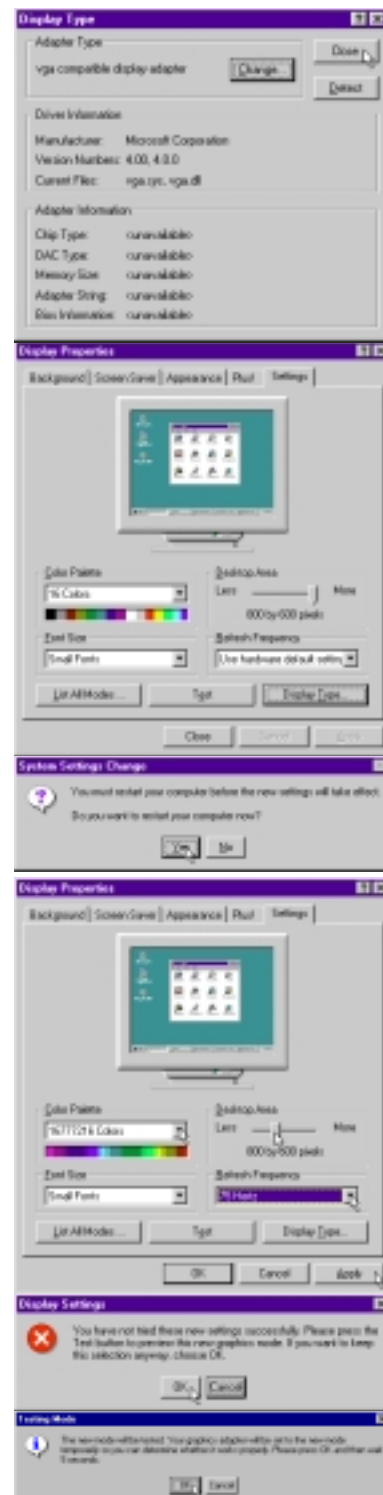
- Click **Yes** to restart the computer. The display drivers will be properly initialized the next time Windows NT4 is started.

- Adjust the “Desktop Area” to 800x600 for the 12.1” display and 1024x768 for the 13.3” display.

**NOTE:** Exceeding the specified physical “Desktop Areas” will result in panning to cover the set area. You may try this feature and readjust “Desktop Area” anytime in the future.

- Clicking **OK** or **Apply** will result in a warning that you should test this new mode.

- Click **Test** and then **OK** to test the display for the desired mode.





## 2. Control Panel

1. Insert the support CD and click **Control Panel** on the autorun menu.
2. Click **Next** to create program icons in the default folder or select another folder or type in a new folder name for the program icons.
3. Click **Finish** when the program installation is completed.



### 3. Audio Driver

1. Insert the support CD and click **Audio Driver** on the autorun menu.
2. Click **OK** to install the audio drivers.
3. Click **Finish** to restart your computer and initialize the audio drivers.



## 4. ASUS PC Probe

**NOTE:** In order for PC Probe to run, Intel's LDCM and other hardware monitoring software cannot be installed. You must first uninstall other such software before installing PC Probe.

### Installing the PC Probe Utility

1. Insert the support CD and click **ASUS PC Probe** on the autorun menu.
2. Click **Next** after reading the "Welcome" screen.
3. Click **Next** to install into the default directory or click **Browse** to change the destination directory.
4. Click **Next** after reading the "Information" screen.



5. Configure the settings if you desire (you can also make settings any time after you install PC Probe). The default setting runs a check on the system every 5 seconds for the Temperature. Decreasing this value increases real-time accuracy but decreases system performance. Increasing this values produce the reverse effect. Click **Next** to continue.
6. Click **Next** after verifying the configuration settings.
7. Click **Next** to create program icons in the default folder or select another folder or type in a new folder name for the program icons.
8. Click **Finish** when the installation is completed. You may choose to run PC Probe now and/or to automatically run PC Probe each time Windows starts.



## 5. PortDock Driver

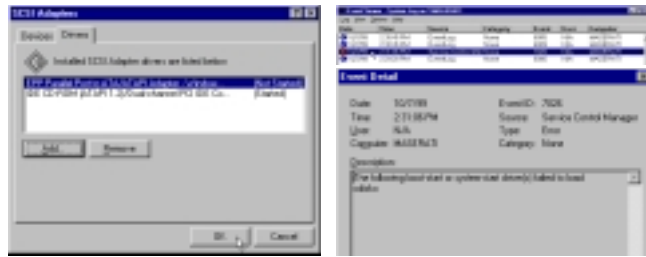
### Installing the PortDock Driver

1. Double-click **My Computer**, **Control Panel**, and then **SCSI Adapters**.
2. Click **Next** after reading the “Welcome” screen.
3. Click the **Drivers** tab.
4. Click **Add...** to add the PortDock driver.
5. Wait while the list of drivers are created.
6. Click **Have Disk...**
7. Enter the letter of your CD-ROM drive and the **\PORTDOCK\NT** path on the Notebook PC support CD. Click **OK** to continue.
8. Click **OK** when “EPP Parallel Port to ATA/ATAPI Adapter - Windows NT” is shown. Although this is not a SCSI adapter, this is the driver necessary to access a hard disk drive or CD-ROM drive in the PortDock in the Windows NT4 operating system.
9. Enter the letter of your CD-ROM drive and the **\PORTDOCK\NT** path on the Notebook PC support CD again and click **Continue**.
7. Click **Yes** to restart your computer and initialize the PortDock drivers.



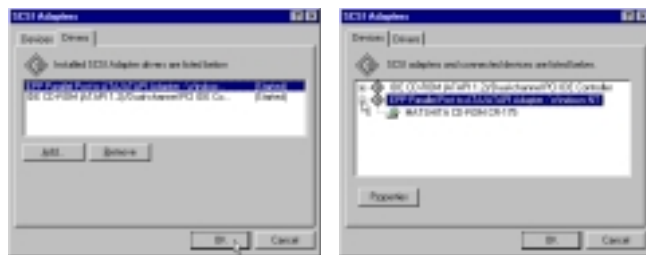
## No IDE Device in the PortDock

If an IDE device (hard disk drive or CD-ROM drive) *is not* detected in the PortDock, the driver *will not* start while entering Windows. “Event Viewer” will also give an error that “cdiskx” failed to load. This is normal and has no negative affect on the Notebook PC or Windows NT4. Currently, there is no way to enable the IDE device in the PortDock after Windows NT4 has started.



## IDE Device in the PortDock

If an IDE device (hard disk drive or CD-ROM drive) *is* detected in the PortDock, the driver *will* start while entering Windows. You can see your device in “SCSI Adapters” under “EPP Parallel Port to ATA/ATAPI Adapter - Windows NT”. “My Computer” will also show the hard disk drive or CD-ROM drive as an icon with a drive letter.



## CDISKX Driver Failed to Load

Even if the PortDock is disconnected. The error for the “cdiskx” driver will still be shown each time Windows NT4 is started. To disable these messages, you can disable the driver from loading at startup by setting the “cdiskx” device to “Manual” startup instead of “Boot” startup.

Double-click **My Computer**, **Control Panel**, and then **Devices**. Select **cdiskx** and click **Startup...**

Select **Manual** in “Startup Type” and click **OK**.



Click **Yes** to confirm the change. This is a general message that appears for any device startup change.

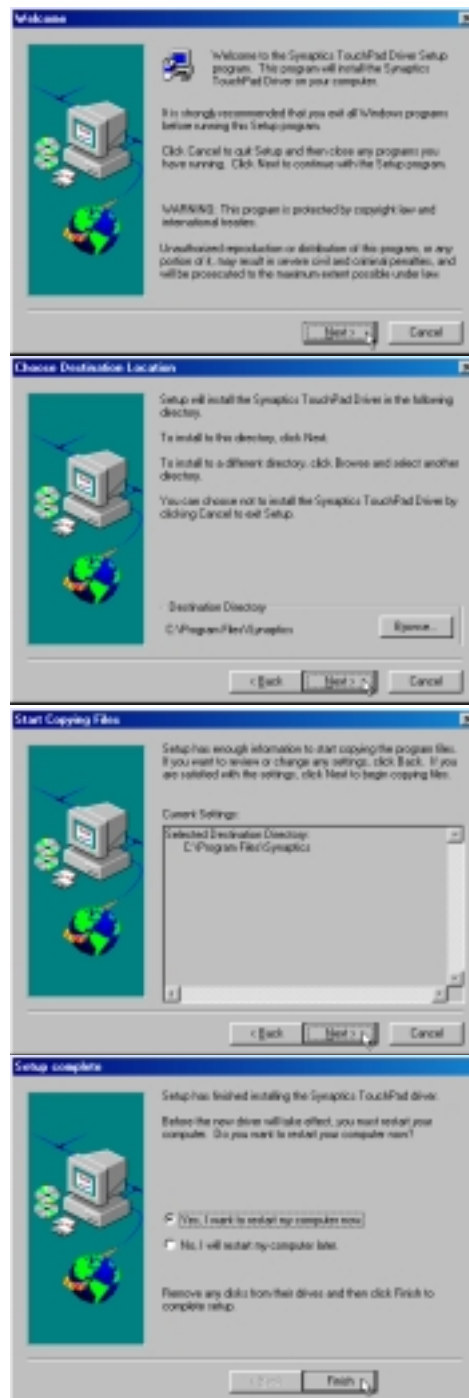
The result can be seen under “Startup” in the “Devices” window.

If you wish to use an IDE device in the PortDock in the future you will have to set the Startup to “Boot” and then restart Windows NT4 with the IDE device inserted into the PortDock.

## 6. TouchPad

### Installing the TouchPad Utility

1. Insert the support CD and click **TouchPad** on the autorun menu.
2. Click **Next** after reading the “Welcome” screen.
3. Choose another destination folder or click **Next** to use the default.
4. Review the target locations for the installation and click **Next**.
5. Click **Finish** to restart your computer or select “No...” to install other items and restart your computer later.



## 7. Lan Driver

1. Double-click the **Network** icon in “Control Panel”.
2. Click **Yes** to install networking components.

3. The “Network Setup Wizard” will begin setup. Wait until the next screen is displayed.

4. Select “Wired to network:” and click **Next**.

5. Click **Select from list...** so that drivers from the Notebook PC support CD can be selected.

### Warning:

**Do not click “Start Search”. The automatically installed “Intel 82557-based 10/100 Ethernet PCI Adapter” driver will cause your Windows NT4 to hang the next time you enter Windows NT4.**

6. Click **Have Disk...** so that drivers from the Notebook PC support CD can be installed.





6. Enter the \LAN path on the support CD. (For example D:\LAN if your CD-ROM drive letter is "D:")
7. Click **OK** when you see "Intel(R) PRO Adapter" selected. This is the only model shown by the LAN driver.
8. Click **Next** when only "Intel(R) PRO Adapter" is selected. Make sure that no other adapter is selected unless you are using your own PCMCIA LAN card.
9. Select the Network Protocols that your network require. If in doubt, select them all. You will have the option of removing or modifying the network protocols later. Click **Next** to continue. Click **Next** again to install the drivers.
10. The next screen will display the "Network Services". Click **Next** to accept all the services.
11. Enter the path (usually \I386) to your Windows NT4 setup files in order for networking files to be installed.



12. Since the built-in network device uses a 32-bit high-speed design, CardBus drivers are required to be installed. Select the **Intel(R) Pro PCI Adapter** and click **Continue**. The other models cannot be used.
13. A question will be asked whether DHCP services are available and whether you wish to use DHCP. DHCP service can automatically assign you TCP/IP, DNS, Gateway, WINS, and other information so that you do not have to make these configurations manually. Click **Yes** or **No**.
14. Network bindings may be rearranged or disabled using this page but should only be done so by experienced network administrators. Click **Next** to continue.
15. Windows NT4 must start the network service in order to detect domain controllers on the network. Make sure that the Notebook PC is correctly connected to the network and that the “Link” and “Activity” LEDs are working. Click **Next** to start networking services.
16. Your network should have at least one domain controller which is a computer running a server operating system. These can be seen using Network Neighborhood on a correctly setup computer on the network. Enter the name of the domain (the first level name, do not enter the computer name). If there is no domain controller (for example in a small office or at home, enter a Workgroup name-this can be any Microsoft Windows defined group).
17. Click **Finish** to close the network installation wizard.
18. To initialize the network device and load all the associated networking drivers, you must click **Yes** to restart your computer. If your system hangs after restarting, remove the LAN dongle cable before restarting again, and then recheck you driver installation.



## 8. Modem Driver

### Installation during Windows NT4 Setup

1. “Remote access to the network” will initiate the modem setup if selected during Windows NT4 setup. Click **Yes** to begin.
2. Since the modem is built-in, it is already turned ON. Click **Next** to allow Windows NT4 to try to detect your modem.
3. Wait until the next screen appears.
4. A message will appear that “Windows NT did not find any new modems attached to your computer.” Click **Next** to select a modem manually.
5. Click **Have Disk** and **Browse** to the **\MODEM** directory on the support CD and click **OK**.



6. Enter the \MODEM on the support CD. If you use **Browse** while the default “A:\” is entered, you will get a message that “A:\ is not accessible” if you do not have a diskette in the A:\ drive. Click **Cancel** to browse to other drives.



7. Click **Next** when “LT Win Modem” is selected. This is the correct model of your Notebook PC’s built-in modem.

8. Select **COM1** with your cursor and click **Next** to begin installing modem drivers.

9. Fill in the “Location Information” and click **Next** to continue with modem setup.

10. When your modem has been set up successfully, click **Finish**.

11. Click **OK** when “COM1-LT Win Modem” shows in the selection.

12. Click **Continue** to close “Remote Access Setup” and to finish Windows NT4 setup.

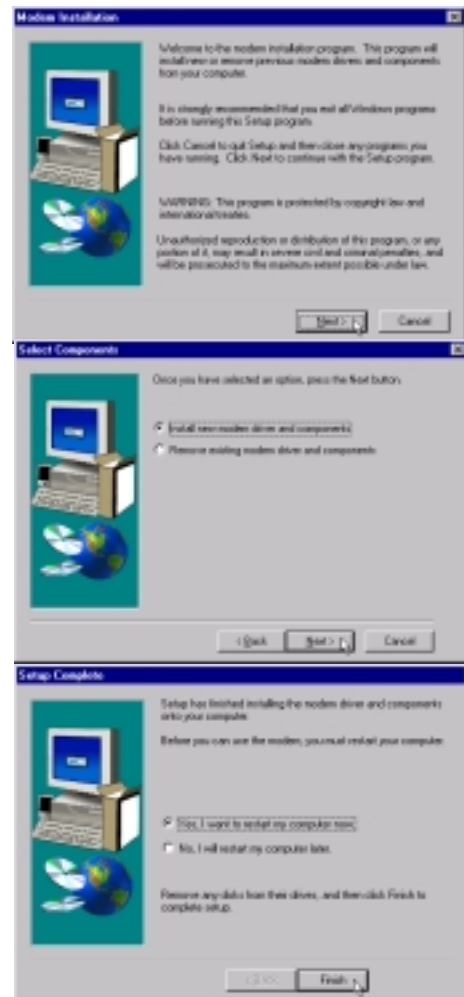
**WARNING:** You must install Service Pack 3, 4, or 5 for Windows NT4 before restarting your system or else your system will hang during the next restart.



## Installation after Windows NT4 Setup

**WARNING:** You must install Service Pack 3, 4, or 5 for Windows NT4 before restarting your system after modem installation or else your system will hang during the next restart. You may also install the Service Pack before beginning the modem setup. (Service Pack # will show on the blue screen during Windows NT4 startup).

1. Click **Modem Driver** on the autorun screen.
2. Click **Next** to Install modem drivers and components.
3. If Service Pack 3, 4, or 5 is already installed, click **Finish** when setup is complete and restart your computer to initialize the drivers and modem. If Service Pack was not installed, Select “No, I will restart by computer later” and click **Finish** to exit. Install Service Pack 3, 4, or 5 and then restart your computer. (Service Pack # will show on the blue screen during Windows NT4 startup).



**NOTE:** You may use the Repair Disk to restore “[ ] SYSTEM (System Configuration)” if you experience problems entering Windows NT4.

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***NOTEBOOK PC***

***SUPPORT CD***

***SOFTWARE REFERENCE***

***(WINDOWS 98/NT4)***

## Support CD Driver Reference

This section will explain any necessary settings that are required or available after installing the drivers. Some of the functions and features will also be discussed briefly. For detailed information or help, see the online help and electronic documentation provided with each driver and utility. **NOTE:** The screen captures for this section are done in Windows 98 and may not exactly reflect screens in Windows NT4.

### VGA Driver (see 1. Lynx Display)

Once the Lynx display driver is installed, you can change your display's resolution and color through Display Properties. Right click the desktop and choose Properties or choose Display from the Control Panel. See the previous section "Software Setup" for a basic procedure on setting the display. Please see your Windows documentation or help files for detailed information if necessary.

### Control Panel (see 1. Lynx Display)

Special display functions for your Notebook PC can be configured through Display Properties. Right click the desktop and choose Properties or choose Display from the Control Panel. The installation of the Control Panel gives you the "LynxEM" page and special features in the "Settings" page. Some information is given in this section.

### ASUS PC Probe (see 2. PC Probe)

Launch this utility by double-clicking the magnifying glass icon on the taskbar or through "Start | Programs | ASUS Utility | Probe VX.XX". See this section for information on this utility.

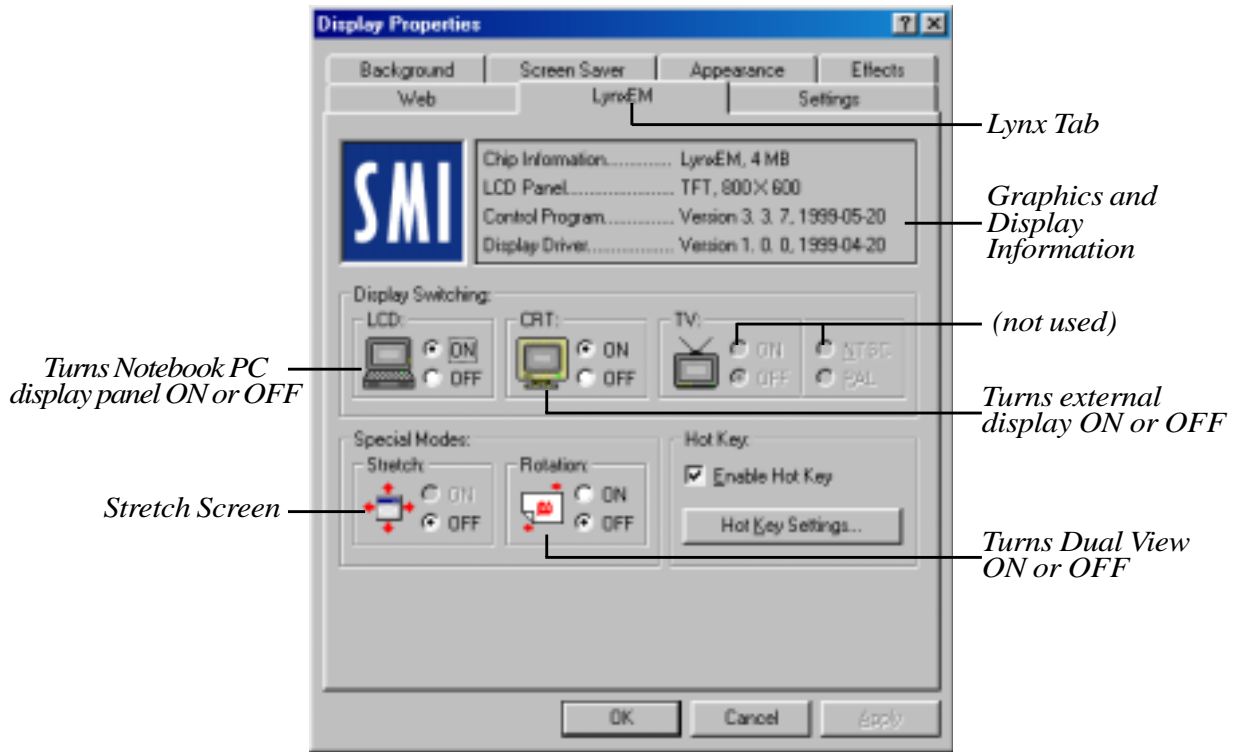
### PortDock Driver (see 3. PortDock)

There is no configuration necessary for this driver.



Double-clicking on the **SMI** icon or **right-clicking the desktop** and choosing **Properties** will give you the Display Properties screen. The Display Properties screen is a standard feature in Windows but a **Lynx** tab will be added to the standard tabs.

## Lynx Display Properties



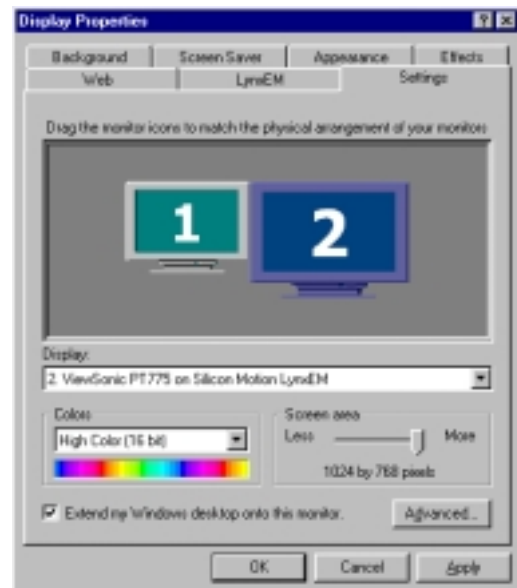
## Graphics and Display Information

You can see your VGA memory and the display panel type. 800x600 will be shown for 12.1" panels and 1024x768 for 13.3" panels.

## Dual Display Settings

Dual display settings are only available when the Notebook PC display is set to 800 by 600 pixels (12.1” or 13.3” displays) or 1024 by 768 pixels (13.3” display) and **High Color**. You may need to click OK to activate the advanced features (will also close Display Properties). When you enter the Display Properties again, two displays will be shown which allow you set the resolution, color, and monitor type independently from the Notebook PC in order to make adjustments to your desire. Dual display provides the following two features:

1. **Dual Application** – Display independent applications (graphics or video) on two different displays.
2. **Dual View** – Display a selectable rectangular portion of the primary display full screen on a secondary display.



When you choose the second display, you will be asked whether you want to activate the second display. Select Yes to enable the second display. You can uncheck the “Extend my Windows desktop onto this monitor” at any time to disable the second display on the Notebook PC.

**NOTE: Making dual display settings do not require a second display to be connected, but using either Dual Application or Dual View requires a second display to be connected to the VGA port on the Notebook PC.**

## Display Arrangement

You can drag either display with your cursor in order to arrange the two displays in a configuration that is convenient for your use.



## How To Run The Program

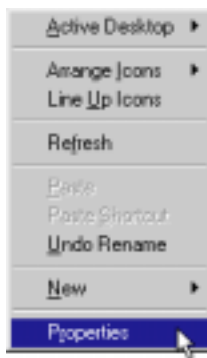
After installation of the Control Panel program is complete, the setup program will create a folder in accordance with user input. The setup program will also add the Control Panel icon into the startup folder, so that the program will automatically load every time Windows is started.

When the Control Panel program is running on the system, there will be a small blue icon located beside the system clock on the Windows taskbar on the lower right corner of the screen.

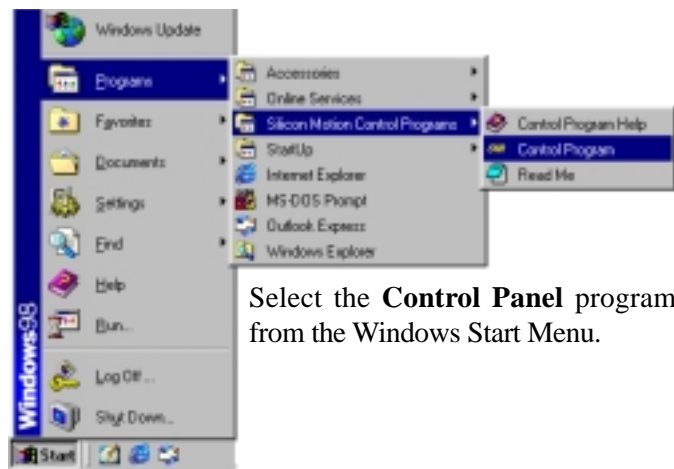
If the Control Panel program is accidentally or intentionally closed, there are several ways to manually restart the program:



Double-clicking the **SMI** icon on the taskbar.



Invoke Windows Display Properties by right-clicking on the desktop and click on the **LynxEM** tab.



Select the **Control Panel** program from the Windows Start Menu.

**NOTE:** Whenever special features like Stretch Mode, Rotation Mode etc. are in effect, the Control Panel program must be kept running on the system. Closing the Control Panel program will cause these features to be turned OFF automatically.

## Control Panel Information Box

The Control Panel Information box provides the following information:

**Chip ID** - reports the graphics controller chip ID

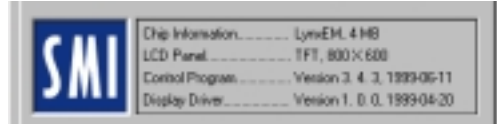
**Video Memory** - reports amount of video memory (e.g. 2MB)

**Panel Information** - reports LCD panel information. It includes the panel type (TFT or DSTN) and panel resolution.

Note that the panel resolution can be different from the current screen resolution. Panel resolution is always fixed, while screen resolution is adjustable.

**Control Panel Program Information** - reports the version number and build date of the control Panel program that is installed on the system.

**Display Driver Information** - reports the version number and build date of the display driver that is installed on the system.



## Display Switching

Silicon Motion Control Panel program supports three types of displays: LCD, CRT, and TV (NTSC or PAL). Display Switching enables users to switch between these different displays.

The followings are the possible display switching combinations:

- LCD only - Display output to LCD panel only.
- CRT only - Display output to CRT only.

**NOTE:** Be sure to connect a CRT first before setting CRT only mode.

**NOTE:** SMI TV function is not supported on this Notebook PC. Third party PCMCIA or USB TV devices may be purchased for this Notebook PC.

## Special Modes

The Silicon Motion Control Panel program supports the following special modes:

### Stretch Mode – For LCD display:

Stretch mode expands resolutions less than the LCD panel size

to fill the entire panel. Specifically it can (1) Stretch a lower

resolution graphics mode (e.g. 800x600 on a 1024x768 panel)

to fill the display and (2) Display lower resolution screen content (e.g. DOS game) in full screen mode. To

activate Stretch Mode, click on the Control Panel Program menu item (see Control Panel Menu Items), or

select via hot key (see Hot Keys). Stretch mode cannot be activated if:

- you're already in any of the special modes.
- a hardware video is playing.
- the current resolution setting already matches the panel size

**Rotation Mode** – Display the screen content with 90, 180 or 270 degrees rotation.

## Hot Keys

The “Enable Hot Key” check box is used to enable the hot key settings. When enabled, all hot key settings specified will take effect whenever the Control Panel program is running. The “Hot Key Settings” button allows the user to specify the hot key settings. When disabled, there will be no hot keys in effect. The “Hot Key Settings” button will also be disabled.

Hot Key Setting Example: Set “Ctrl-Alt-L” as the hot key to switch the display to LCD only mode

- Click on the hot key entry area under “To LCD:”
- Press Control, Alt, and L key at the same time. The entry area will automatically show the “Ctrl+Alt+L” string.
- Release all keys and the hot key is set for this function.
- Press OK for the hot key settings to take effect.

**NOTE: Please do not assign the same hot key for different functions. Doing so will cause the second function to not be accessible through the hot keys.**

## Notes:

- 1) For operating systems which natively support multi-display capability (e.g. Windows 98), DualApp and DualView capabilities will be handled via the native support mechanism, instead of the Control Panel program.
- 2) When in any of the special modes: Display switching is disabled. Turn off the special mode first before display switching.
- 3) Do not disable the Control Panel program while in any of the special modes. Closing the Control Panel program will turn off special modes automatically.
- 4) DualApp mode will automatically be turned off if:
  - the Control Panel program is deactivated.
  - the current display resolution or color depth is changed.
  - exit Windows.
- 5) DualApp mode cannot be activated if:
  - you're already in any of the special modes.
  - more than one hardware video window is playing. For Lynx product, no hardware video windows should be playing.
  - current resolution setting does not match LCD panel resolution.
  - selected color depth is greater than 16-bit.
- 6) DualView mode will automatically be turned off if:
  - the Control Panel program is deactivated.
  - exit Windows
  - the video being mapped to the secondary display is closed.
- 7) DualView mode cannot be activated if:
  - you're already in any of the special modes.
  - more than one hardware video window is playing.
  - current resolution setting does not match LCD panel resolution.
- 8) For all chipsets:
  - Closing the video on LCD side will cause the mapped video to stop playing. Some media players e.g. Active Movie will suspend video play if the media player is minimized or if the video is fully covered by some other window. If this occurs, just restore the media player or uncover the video window.
- 9) Rotation mode will automatically be turned off if:
  - if the Control Panel program is deactivated.
  - if exit Windows
- 10) Rotation mode cannot be activated if:
  - you're already in any of the special modes.
  - a hardware video is playing.
  - a Direct Draw application is running.
  - color depth is 24-bit
  - there is insufficient memory for Rotation mode at the selected resolution and color depth.

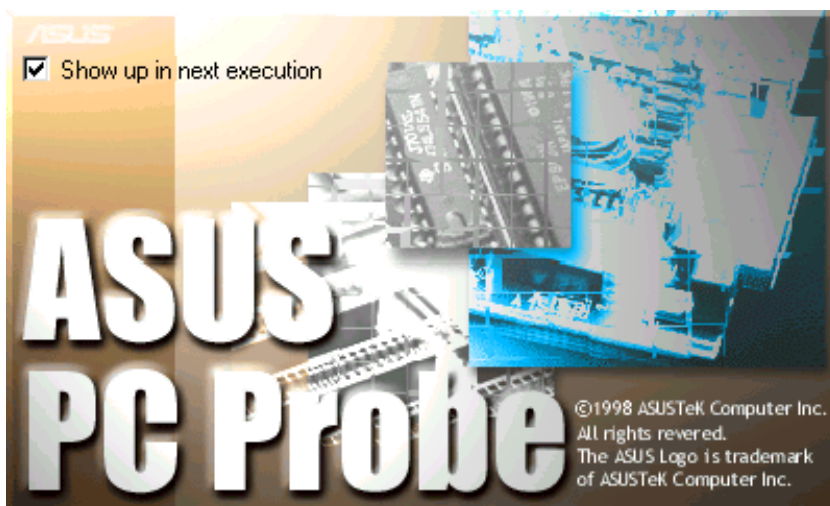
## Using ASUS PC Probe


ASUS PC Probe is a convenient utility to continuously monitor your computer system's vital components, such as fan rotations, voltages, and temperatures. It also has a utility that lets you review useful information about your computer, such as hard disk space, memory usage, and CPU type, CPU speed, and internal/external frequencies through the DMI Explorer.

## Starting ASUS PC Probe

If the ASUS Probe icon (magnifying glass) is not shown on the taskbar (see below), click the Windows **Start** button, point to **Programs**, and then **ASUS Utility**, and then click **Probe VX.XX**.

When ASUS PC Probe starts, a splash screen appears allowing you to select whether to show the screen again when you open PC Probe or not. To bypass this startup screen, clear the **Show up in next execution** check box.



The PC Probe icon  will appear on the taskbar's system tray indicating that ASUS PC Probe is running. Clicking the icon once will allow open the PC Probe interface.



**NOTE:** PC Probe will constantly use resources to check the system status while Windows is operating. It is suggested to exit PC Probe while using high demanding applications.

# Using ASUS PC Probe Monitoring

## Monitoring

### Monitor Summary

Shows a summary of the items being monitored.



### Temperature Monitor

Shows the PC's temperature.

*Temperature Warning threshold adjustment  
(Move the slider up to increase the threshold level or down to decrease the threshold level)*



### Voltage Monitor

Shows the PC's voltages.





## Settings

Lets you set threshold levels and polling intervals or refresh times of the PC's temperature, fan rotation, and voltages.

## History

Lets you record the monitoring activity of a certain component of your PC by date, time, and target history.

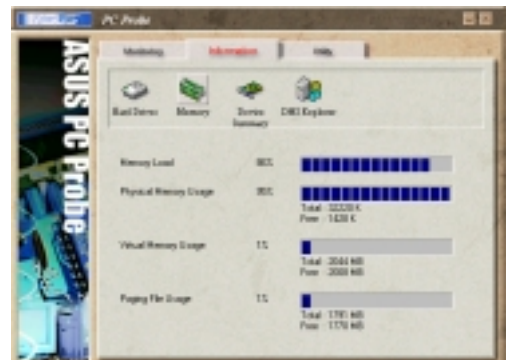
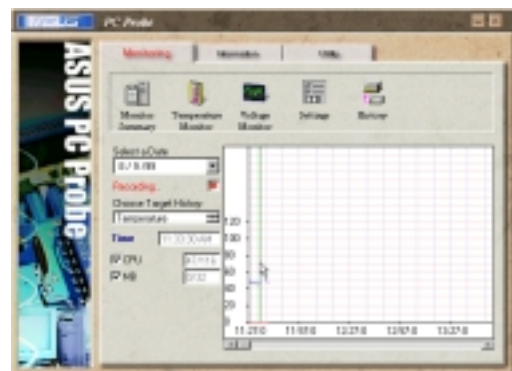
## Information

### Hard Drives

Shows the used and free space of the PC's hard disk drives and the file allocation table or file system used.

### Memory

Shows the PC's memory load, memory usage, and paging file usage.



**Device Summary**

Shows a summary of devices in your PC.



**DMI Explorer**

Shows information pertinent to the PC, such as CPU type, CPU speed, and internal/external frequencies, and memory size.



**Utility**

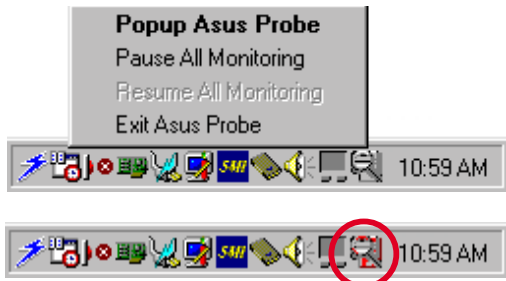
Lets you run programs outside of the ASUS Probe modules. To run a program, click **Execute Program**. **NOTE:** This feature is currently unavailable.



**ASUS PC Probe Task Bar Icon**

Right clicking the PC Probe icon will bring up a menu to open or exit ASUS PC Probe and pause or resume all system monitoring.

When the ASUS PC Probe senses a problem with your PC, portions of the ASUS PC Probe icon changes to red, the PC speaker beeps, and the ASUS PC Probe monitor is displayed.



## Using PortDock Driver

The PortDock is a fully Plug'n'Play device. Not only does the system identify the I/O address automatically but also loads and unloads driver depending on the device's presence without the need to reboot the Notebook PC.

### Driver Location

Use the time of the files to determine the release version.

- DSTPBUS.VXD in \windows\system directory
- CDISK.MPD in \windows\system\iosubsys directory

### Command Line Options

Under normal operation, the driver program will automatically select the best transfer rate for your Notebook PC. There is no need for you to set any of these software switches unless you experience some data reliability problems.

Click on the following path: **Control Panel | System | Device Manager | SCSI Controller | EPP Parallel Port to ATA/ATAPI Adapter-Windows95/98 | Settings** then type in one of these options.

#### **ForceUniDir=1**

Forces unidirectional 4 bit mode read

#### **ForceBiDir=1**

Forces bidirectional 8 bit mode read

#### **DelayCount=X**

Specifies the EPP delay count X=0~7

#### **ForceEPP=1**

Forces EPP mode where is available

## Using New Hard Disk Drives

When you purchase a new hard disk drive, there will not be any partitions on it unless it was pre-configured for your Notebook PC by your dealer. Partitions are necessary for a hard disk drive to accept data. Each user accessible partition will have its own drive letter and the CD-ROM will then add its own drive letter to the end.

**NOTE:** Formatting will not be allowed on non-partitioned hard disk drives and formatting hard disk drives will not remove partitions.

## Creating a Bootable Diskette

A bootable system diskette is necessary to enter the command prompt when there are no active system partition on your hard disk drive. To create a bootable floppy diskette, type "FORMAT A:/S" from the DOS prompt or use Window's format (from "My Computer") and check "Copy system files." You must copy FDISK.EXE and other DOS utilities from the "C:\WINDOWS\COMMAND" directory of Windows 95 or 98. Do not include AUTOEXEC.BAT or CONFIG.SYS system files on the boot disk because some utilities cannot be used with memory managers usually loaded through the AUTOEXEC.BAT and CONFIG.SYS system files.

## Using the FDISK.EXE Utility

The FDISK.EXE utility can add or remove partitions on a hard disk drive. This utility is only required if the hard disk drive is new and has never been formatted or used (remember the ability to format a hard disk drive means that there is at least one partition). You do not need to use this utility after formatting a hard disk drive. Be careful not to remove existing partitions that you may need, you will not be able to recover it!

1. Boot from a system diskette with the "FDISK.EXE" utility.
2. Type "FDISK" from the "A:\>" prompt, then press [Enter].
3. Create a primary partition and set it active by following the on-screen menu, and also create extended partitions if needed.

## Formatting the Hard Disk Drive

Formatting a hard disk drive actually only erases all the data on one partition. In order to erase data on other partitions, you must specify those drive letters when using the format utility. The /S command will place system files on the partition to allow bootup. Type "FORMAT /?" for a list of other options.

1. Boot from a system diskette with the "FORMAT.COM" utility.
2. Type "FORMAT C: /S" from the "A:\>" prompt then press [Enter].
3. Type "Y", then press [Enter] to confirm format.
4. Enter a Volume label, or press [Enter] to leave blank.

## Using Save-to-Disk

The “Save-to-Disk” function requires that the “Suspend Mode” be set to “Save-to-Disk” in the “Power” menu of the BIOS setup and you must have a Save-to-Disk file or partition. The Save-to-Disk file or partition can be created or deleted at any time using the PHDISK utility.

The Save-to-Disk partition will occupy its own space on the hard disk drive that cannot be used for other purposes which is safer than a Save-to-Disk file. Because the Save-to-Disk partition is not user-accessible, it does not have a drive letter. The limitation with a Save-to-Disk partition is that it requires a free non-partitioned space on your hard drive which must first be setup using a partition management utility.

The Save-to-Disk file is a new feature supported by the current PHDISK which creates a hidden file called “SAVE2DSK.BIN” which is stored on your current partition and does not affect any of your current files or partitions. The limitation is that it is not a dedicated space and therefore is prone to problems that are associated with common files (e.g. accidental deletion, virus, and fragmentation). But the convenience of using a file is that it can be created, deleted, or changed at any time without concern for the current partition(s).

PHDISK can be used to create a space which is a slightly larger than the current system memory plus video memory size. But future memory upgrades will require that the Save-to-Disk file or partition be deleted and recreated to allow for the extra data that may be stored in memory.

## Creating a Save-to-Disk Partition

Follow this procedure to create a Save-to-Disk partition:

1. Copy “PHDISK.EXE” from the Support CD to your hard drive or floppy disk.
2. Enter the DOS environment and type “PHDISK /CREATE /PARTITION” followed by pressing <Enter> in the same directory at “PHDISK.EXE”.

## Creating a Save-to-Disk File

Follow this procedure to create a Save-to-Disk file:

1. Copy “PHDISK.EXE” from the Support CD to your hard drive or floppy disk.
2. Enter the DOS environment and type “PHDISK” followed by pressing <Enter> in the same directory at “PHDISK.EXE”.
3. Type “1” followed by pressing <Enter> to create file.
4. Type the size desired for the Save-to-Disk file that is greater than the minimum amount shown.
5. Confirm the Save-to-Disk file by reading the “Save to File Information:” and Type “4” followed by pressing <Enter> to exit the utility.

**NOTE: If you have both a Save-to-Disk File and Save-to-Disk Partition, the Save-to-Disk File will be used. But you should delete one or the other to reclaim hard drive space.**

## CD-ROM Support Under MS-DOS

**NOTE:** To boot from a bootable CD, BIOS setup must define “ATAPI CD-ROM Drive” as the first item in the boot sequence.

When installing an operating system on an empty hard disk drive, a DOS real-mode CD-ROM driver needs to be loaded in the CONFIG.SYS and AUTOEXEC.BAT files in order to use the CD-ROM drive. The floppy disk drive on the other hand can be used without any device drivers.

The CD-ROM device driver should be pre-configured from the factory as shown below. Because hardware and software are constantly improved or customized for a particular market, the examples in this User’s Manual may not exactly reflect those of your Notebook PC.

**CONFIG.SYS:**        DEVICE=C:\CDROMDRV.SYS /D:OEMCD001  
**AUTOEXEC.BAT:**   MSCDEX.EXE /D:OEMCD001 /L:D

The CDROM driver is located in the Support CD \CDROM\TEAC or \CDROM\TOSHIBA\. Use the driver under TEAC or TOSHIBA depending on your CD-ROM manufacturer.

## Windows Startup Disk

The Windows 98 “Startup Disk” is the most convenient solution to giving you CD-ROM access under the DOS environment because it contains all the CD-ROM drivers compressed into a single floppy diskette. When booting with the “Startup Disk,” the CD-ROM will automatically be made available. Create a “Startup Disk” through **Add/Remove Programs** in the **Control Panel**.



**NOTE:** PCMCIA cards, especially those for external hard drives, are not recommended under the DOS environment. If necessary, consult your PCMCIA card documentation or dealer for configuration under the DOS environment.

## Microsoft Windows 98

Microsoft Windows 98 may be pre-installed on your Notebook PC. If installation or configuration changes are necessary, please refer to the documentation provided with the Windows 98 operating system. Once Windows 98 is running, you should use the Windows 98 CD-ROM device driver instead of the DOS real-mode CD-ROM driver. A DOS driver has poor performance, poor memory management, and may cause conflicts with other devices.

### Removing the DOS real-mode CD-ROM driver

Removing the device line or adding “REM” (upper or lower case) in front of the line will disable the DOS driver and allow Windows 98 to use its own CD-ROM device driver. Windows 98 may already add the letters “REM” in front of the DOS CD-ROM drivers in AUTOEXEC.BAT such as:

```
CONFIG.SYS:    rem - By Windows Setup - DEVICE=C:\CDROMDRV.SYS /D:0EMCD001  
AUTOEXEC.BAT: rem - By Windows Setup - MSCDEX.EXE /D:OEMCD001 /L:D
```

If running Windows 98 setup, it will automatically check for real-mode drivers and guide you using a wizard to remove undetected ones. If these two lines exist and do not have “REM” in front, add them yourself by opening the files with NOTEPAD.EXE provided by Windows or EDIT.COM provide by DOS or you may simply delete these two lines.

## Modem AT Command Set

The communication software included with your modem should be sufficient to meet your communication needs. There may be times when you need to access the modem manually with AT commands. Commands may be sent to your modem from a PC running communications software.

### Command Format

All commands must begin with the **AT** prefix, followed by the parameter and ending with the **ENTER** key. All commands may be typed in either upper or lower case, but not mixed. A command without any parameters will be considered as specifying the same command with a parameter of "0". The maximum command length is eight (8) characters. The modem does not count the **AT** prefix, carriage returns, or spaces.

Example, this command causes your modem to hang up: **ATH [ENTER]**

### Basic AT Commands

In the following listings, all default settings are printed in **bold text**.

#### Command Function

##### **A/ Repeat last command.**

Do not precede A/ with **AT** or follow with **ENTER**

##### **A Answer**

##### **Bn Bell or ITU-T Standard**

- B0** Selects V.22 1200 bps
- B1 Selects Bell 212A 1200bps
- B2 Unselect V23 reverse channel
- B3 Unselect V23 reverse channel
- B15 Selects V.21 if at 300bps
- B16 Selects Bell 103 if at 300 bps

##### **Cn Carrier control option**

- C0 Transmit carrier always off
- C1 Normal transmit carrier (default)**

##### **D\_ Dial command**

- P Select pulse dialing; affects current and subsequent dialing
- T Select tone dialing; affects current and subsequent dialing
- \$ Enable Bong Tone detection
- W Wait for second dial tone before processing dial string
- @ Wait for silence after dialing



**En Command echo**

- E0 Disables echo
- E1 **Enables echo (default)**

**Hn Switch hook Control**

- H0 **Hangs up the telephone line (default)**
- H1 Picks up the telephone line

**Ln Speaker volume**

- L0 Off or low speaker volume
- L1 Low volume
- L2 **Medium volume (default)**
- L3 High volume

**Mn Speaker control**

- M0 Speaker always off
- M1 **Speaker is on until carrier present (default)**
- M2 Speaker is off during dialing, speaker on until carrier present
- M3 Speaker on during dialing only

**Nn Modulation Handshake**

- N0 Handshake only at communication speed set by S37 register
- N1 **Begin handshake at communication speed set by S37 register, then fall back if necessary.**

**Qn Result code display control**

- Q0 **Enables result codes (default)**
- Q1 Disables result codes

**Vn Result code format**

- V0 Choose numeric format
- V1 **Choose text format (default)**

**Wn Response code data rate**

- W0 **Reports DTE speed response codes (default)**
- W1 Reports DTE speed response codes
- W2 Reports DCE speed response codes
- W3 Reports DTE speed response codes and error correction and data compression information

**X Blind Dial**

- X3 Dial without detecting dial tone

## **&Cn Data Carrier Detect (DCD) option**

&C0 Ignores remote modem status; DCD always on

**&C1 DCD set according to remote modem status (default)**

## **&F Load factory defaults**

## **&Kn Select serial port flow control**

&K0 Disables flow control

**&K3 Bidirectional hardware flow control (default)**

&K4 Enables XON/XOFF software flow control

## **%Cn Data compression control**

%C0 No compression

**%C1 Enables data compression (default)**

## **\Jn Auto Negotiation Feature**

\J0 Off

**\J1 On**

## **\Nn Error Control**

\N0 No Error Control. Buffered mode

\N3 Direct Mode

\N2 MNP Reliable mode

**\N3 V.42/MNP Autoreliable mode**

\N4 Forced Error Control. (V.42 or disconnect)

## **S-Registers**

S-registers generally affect how the AT commands perform. Contents of the registers can be displayed or modified when the modem is in command mode.

### **To display the value of an S-register:**

TYPE: ATSn? where n is the register number. PRESS: Enter

### **To modify the value of an S-register:**

TYPE: ATSn = r where n is the register number, and r is the new register value. PRESS: Enter

## Common S-Registers

### S0 Auto Answer Ring Number

This register determines the number of rings the modem will count before automatically answering a call. Enter 0 (zero) if you do not want the modem to automatically answer at all. When disabled, the modem can only answer with an ATA command.

#### Range: 0-255

Default: 0

Units: rings

### S1 Ring Counter

This register, Ring Counter, is read only. The value of S1 is incremented with each ring. If no rings occur over a six second interval, this register is cleared.

#### Range: 0-255

Default: 0

Units: rings

### S2 AT Escape Character (user defined)

This register determines the ASCII valued used for an escape sequence. The default is the + character. The escape sequence allows the modem to exit data mode and enter command mode when online. Values greater than 127 disable the escape sequence.

#### Range: 0-255

Default: 43

Units: ASCII

### S3 Command Line Termination Character (user defined)

This register determines the ASCII values as the carriage return character. This character is used to end command lines and result codes.

#### Range: 0-127, ASCII decimal

Default: 13 (carriage return)

Units: ASCII

### S4 Response Formatting Character (user defined)

This register determines the ASCII value used as the line feed character. The modem uses a line feed character in command mode when it responds to the computer.

#### Range: 0-127, ASCII decimal

Default: 10 (line feed)

Units: ASCII

## **S5 Command Line Editing Character (user defined)**

This register sets the character recognized as a backspace and pertains to asynchronous only. The modem will not recognize the backspace character if it is set to a value that is greater than 32 ASCII. This character can be used to edit a command line. When the echo command is enabled, the modem echoes back to the local DTE the backspace character, an ASCII space character, and a second backspace character. This means a total of three characters are transmitted each time the modem processes the backspace character.

### **Range: 0-32, 127**

Default: 8 (backspace)

Units: ASCII

## **S6 Wait Before Dialing**

This register sets the length of time, in seconds, that the modem must wait (pause) after going off-hook before dialing the first digit of the telephone number. The modem always pauses for a minimum of two seconds, even if the value of S6 is less than two seconds. The wait for dial tone call progress feature (W dial modifier in the dial string) will override the value in register S6. This operation, however, may be affected by some ATX options according to country restrictions.

### **Range: 2-65**

Default: 2

Units: seconds

## **S7 Connection Completion Time-Out**

This register sets the time, in seconds, that the modem must wait before hanging up because carrier is not detected. The timer is started when the modem finishes dialing (originate), or goes off-hook (answer). In originate mode, the timer is reset upon detection of an answer tone if allowed by country restriction. The timer also specifies the wait for silence time for the @ dial modifier in seconds. S7 is not associated with the W dial modifier.

### **Range: 1-255**

Default: 50

Units: seconds

## **S8 Comma Dial Modifier Time**

This register sets the time, in seconds, that the modem must pause when it encounters a comma (,) in the dial command string.

### **Range: 0-65**

Default: 2

Units: seconds

## **S10 Automatic Disconnect Delay**

This register sets the length of time, in tenths of a second, that the modem waits before hanging up after a loss of carrier. This allows for a temporary carrier loss without causing the local modem to disconnect. The actual interval the modem waits before disconnecting is the value in register S10.

### **Range: 1-254**

Default: 20

Units: .1 seconds

## **S11 DTMF Dialing Speed**

This register determines the dialing speed which is prefixed for each country.

### **Range: 50-150**

Default: 95

Units: .001 seconds

## **S12 Escape Guard Time**

This register sets the value (in 20 ms increments) for the required pause after the escape sequence (default 1 s).

### **Range: 0-255**

Default: 50

Units: .02 seconds

## **S28 V.34 Modulation Enable/Disable**

This register enables/disables V.34 modulation.

### **0 = disabled, 1-255 = enabled**

Range: 0-255

Default: 1

## **S30 Inactivity Timer**

S30 specifies the length of time (in minutes) that the modem will wait before disconnecting when no data is sent or received. This function is only applicable to buffer mode.

### **Range: 0-255**

Default: 0

Units: minutes

## **S32 Synthetic Ring Volume**

This register specifies a synthetic ring volume in dB with an implied minus sign.

### **Range:**

Default: 16

### S33 Synthetic Ring Frequency

This register specifies a synthetic ring frequency. Valid ranges are 0-5, with 0= disabled and 1-5 corresponding to 5 ring frequencies.

#### Range: 0-5

Default: 0

### S35 Data Calling Tone

Data Calling Tone is a tone of certain frequency and cadence as specified in V.25 which allows remote Data/FAX/Voice discrimination. The frequency is 1300 Hz with a cadence of .5 s on and 2 s off.  
0 = disabled, 1 = enabled

#### Range: 0-1

Default: 0

### S36 Negotiation Fallback (default 7)

This register specifies the action to take in the event of negotiation failure when error control is selected.

#### S36 = 0, 2 Hang up.

S36 = 1, 3 Fall back to an asynchronous connection.  
S36 = 4, 6 Attempt MNP. If MNP fails, hang up.

#### S36 = 5, 7 Attempt MNP.

If MNP fails, fall back to asynchronous connection.

S37 Dial Line Rate (default 0)	S37 = 10 12000 bits/s
S37 = 0 maximum modem speed	S37 = 11 14400 bits/s
S37 = 1 reserved	S37 = 12 16800 bits/s
S37 = 2 1200/75 bits/s	S37 = 13 19200 bits/s
S37 = 3 300 bits/s	S37 = 14 21600 bits/s
S37 = 4 reserved	S37 = 15 24000 bits/s
S37 = 5 1200 bits/s	S37 = 16 26400 bits/s
S37 = 6 2400 bits/s	S37 = 17 28800 bits/s
S37 = 7 4800 bits/s	S37 = 18 31200 bits/s
S37 = 8 7200 bits/s	S37 = 19 33600 bits/s
S37 = 9 9600 bits/s	

## S38 56K Dial Line Rate (Default 1)

This register sets the maximum 56K downstream speed that the modem attempts to connect.

S38 = 0 56K disabled	S38 = 9 46000 bits/s
S38 = 1 56K enabled - automatic speed selection	S38 = 10 48000 bits/s
S38 = 2 32000 bits/s	S38 = 11 50000 bits/s
S38 = 3 34000 bits/s	S38 = 12 52000 bits/s
S38 = 4 36000 bits/s	S38 = 13 54000 bits/s
S38 = 5 38000 bits/s	S38 = 14 56000 bits/s
S38 = 6 40000 bits/s	S38 = 15 58000 bits/s
S38 = 7 42000 bits/s	S38 = 16 60000 bits/s
S38 = 8 44000 bits/s	

## S48 LAPM Error Control and Feature Negotiation (default 7)

S48 = 7 Negotiation enabled.

S48 = 128 Negotiation disabled; forces immediate fallback options specified The following chart lists the S36 and S48 configuration settings necessary to negotiate certain types of connections.

### S48=7 S48 =128

S36 = 0, 2 LAPM or hangup do not use

S36 = 1, 3 LAPM or async async

S36 = 4, 6 LPAM, MNP, or hangup MNP or hangup

S36 = 5, 7 LAPM, MNP, or async MNP or async

## S89 Timer to Control Sleep Mode

This command displays the number of seconds of inactivity (no characters sent from the DTE, no RING) in the off-line command state before the modem places itself into standby mode. A value of zero prevents standby mode.

**Note: If a number between 1 and 4 is entered for this register, it will set the value to 5, and the inactivity before standby will be 5 seconds. This is done for compatibility with previous products which allowed time-outs down to 1 s.**

### Range: 0, 5-255

Default: 10

## S90 Local Phone Status

This register tells the status of the Local Phone. It is read only.

0 = local phone on-hook

1 = local phone off-hook

## Modem Troubleshooting

This section presents solutions to some common problems you may experience when installing your modem. Some solutions may not apply to your operating system or environment. If you cannot resolve your difficulty, contact your dealer or vendor for assistance.

### MODEM DOES NOT RESPOND TO COMMANDS

- 1) Make sure the modem is not configured with a conflicting COM port and IRQ setting. Your modem cannot be configured as COM1 if another device in your computer is also configured as COM1.
- 2) Make sure the modem is initialized correctly. Issuing AT&F and pressing the ENTER key will reset the modem to its factory default settings.
- 3) Make sure the baud rate setting in the communications software is set to the correct value. An incorrect baud rate prevents the modem from operating properly.

### MODEM DOES NOT DIAL

- 1) Make sure the modem is connected to a working phone line. Replace the modem with a telephone to ensure that the line is working.

### MODEM DIALS BUT DOES NOT CONNECT

- 1) Make sure the communications software is configured to the same COM Port and IRQ setting as the modem.
- 2) Be sure the phone line is working properly. Replace the modem with a regular phone and dial the number. If the line sounds noisy, you may have difficulty connecting to the remote device.

### MODEM EXPERIENCES ERRORS OR DISCONNECTS

- 1) Make sure the phone line does not exhibit excess noise.
- 2) Make sure RTS/CTS hardware flow control is enabled and XON/XOFF software flow control is disabled in the communications software.



# Modem Specifications

## Interface Standards

Plug-N-Play PCI Bus

## Operating System Compatibility

Windows 95, Windows NT 4.00

## Fax Compatibility

ITU-T; V.17, V.29, V.27ter, V.21 ch2—Speeds: 14,400, 12,000, 9600, 7200, 4800, 2400, 1200, and 300bps.  
Group 3 fax support, Class 1

## Data Transmission (bps)

V.90/K56Flex; ITU-T: V.34+, V.34, V.bis, V.32, V.23, V.22 bis, V.22 AND V.21—Bell: 212A AND 103  
Speeds up to 56,000 bps  
Industry-standard AT command set

## Voice Operation

Answering machine function – Record and playback message capabilities, through the sound chip only.  
Distinctive Ring Support

## Error Correction / Data Compression

MNP 2-4, V42, LAPM – MNP5, V.42bis

## DTE Speeds (max.)

115,200 bps

## Operating Modes

Auto dial/answer; auto feature negotiation – Full-Duplex

## Dialing Modes

Tone and Pulse

## Test Modes

CCITT V.54 – Analog loop, Digital loop, Remote Digital loop and pattern test

## Command Set

Extended AT Commands; EIA Class 1

# Communication Regulations (Notebook PC with modem)

## FCC Regulations

The following statements are provided in accordance with the Federal Communications Commission (FCC) regulations. Please read these statements carefully before installing your modem.

### FCC Part 68 Requirements

This equipment complies with Part 68 of the FCC Rules. On the bottom of this equipment is a label that contains, among other information, the FCC Registration Number and Ringer Equivalence Number (REN) for this equipment. If requested, this information must be given to the telephone company.

The REN is used to determine the maximum number of devices connected to your telephone line that will ring in response to an incoming call. In most, but not all, areas, the total REN of devices connected to a line should not exceed five (5.0). To find out the total permitted in your area, contact your local telephone company.

If your telephone equipment causes harm to the telephone network, the telephone company can discontinue your service temporarily. If possible, the company will notify you in advance. But if advance notice isn't practical, you will be notified as soon as possible. You will be informed of your right to file a complaint with the FCC.

Your telephone company can make changes in its facilities, equipment, operations, or procedures that could affect the operation of your equipment. If so, you will be notified in advance so you can make the changes needed to maintain uninterrupted service.

If you experience trouble with this equipment, please contact the manufacturer at the address given in this manual. The telephone company may ask that you disconnect this equipment from the network until the problem has been corrected or until you are sure that the equipment is not malfunctioning.

This equipment may not be used on public coin service provided by the telephone company. Connection to party lines is subject to state tariffs.

## Declaration Of Conformity (Notebook PC with modem)

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 and television reception, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient 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 technician for help.

**WARNING!** CHANGES OR MODIFICATIONS NOT EXPRESSLY APPROVED BY THE PARTY RESPONSIBLE FOR COMPLIANCE COULD VOID THE USER'S AUTHORITY TO OPERATE THE EQUIPMENT

## Canadian Department Of Communications (CDOC):

**Notice: The Canadian Department of Communications label identifies certified equipment. This certification means the equipment meets certain telecommunications network requirements. The Department does not guarantee the equipment will operate to the user's satisfaction.**

Before installing this equipment users should ensure that connection to the line is allowed by the local telecommunications company. The equipment must also be installed using an acceptable method of connection. In some cases, the company's inside wiring associated with a single line individual service may be extended by means of a telephone extension cord. Compliance with the above conditions may not prevent degradation of service in certain situations.

Repairs to certified equipment should be made by an authorized Canadian maintenance facility designated by the supplier. Any repairs or alterations made by the user to this equipment, or equipment malfunctions, may give the telecommunications company cause to request the user to disconnect the equipment.

Users should ensure for their own protection that the electrical ground connections of the power utility, telephone lines, and internal metallic water pipe system, if present, are connected together. This precaution may be particularly important in rural areas.

**WARNING!** Users should not attempt to make such connections themselves, but should contact the appropriate electric inspection authority, or electrician, as appropriate.

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