

ATDTS0Recalls the stored phone number as AT&Z0 by tone dial

ATDPS0Recalls the stored phone number as AT&Z0 by pulse dial

AT+MS=X Sets protocol for modem connection

(X=V90, V34)

AT+MS=V90 (default setting)

Try to connect with V.90 (max 56 Kbps)

AT+MS=V34

Try to connect with V.34 (max 33.6 Kbps)

Using the LAN

Ideal for customers who want basic 10/100 connectivity. Delivers industry-leading performance through Intel's latest 82559 chip design. Common drivers and Intel's PROSet utility enable widespread compatibility and ease of installation.

Installing the LAN Driver in Windows Me

Before you begin verify that the "3Com 10/100 Mini PCI Ethernet Adapter" is installed otherwise you will have to install it.

Install the LAN Driver

Windows Me has its own PCI Ethernet Adapter driver, simply install the LAN driver according to the instructions below.

1. Start > Settings > Control Panel > System, double-click the system icon.
2. Click the *Device Manager* tab.
3. Double-click *Network Adapters* in the list area.
4. Click the *Driver* tab, then click *Update Driver*.
5. Select "Specify the location of the driver (Advanced)" and click *Next*.
6. Select "Search for a better driver than the one your device is using "Removable Media (Floppy, CD-ROM...)" and "Specify a location" then click *Browse* (Recommended)".

Select the *D:\Driver\LanDrv\WinMe* from your CD-ROM. and after click *Next*.

7. Click *Next*.
8. Click *Finish*. (Windows has finished installing an updated driver for your hardware device)
9. Click *Yes*, to restart your computer and complete the driver installation.

Configuring Network Environment

1. After you complete the installation of the Network Adapter Driver, double-click the *Network* icon in the control panel.

2. Click the *Network Configuration* tab, then ensure that "3Com 10/100 Mini PCI Ethernet Adapter" is Installed.



Figure 40. Installing the LAN Driver

3. Select *TCP/IP -> 3Com 10/100 Mini PCI Ethernet Adapter* in the list of network components in the installed list, and click *Properties*.
4. From the *TCP/IP Properties*, click the *IP Address* tab. Select *Specify an IP address* and then enter your *IP address* and the appropriate *subnet mask*.
If you use DHCP server, select "Obtain an IP address automatically".
5. Click the *Gateway* tab, then enter gateway address in the *New gateway* and Click *Add*.
If you use DHCP server, this process is not needed.
6. Click the *DNS Configuration* tab, then select *Enable DNS*, and enter the host name in the *Host*, enter the domain name in the *Domain* and DNS server address in the *DNS server Search Order*.
Click "Add". If you use DHCP server, this process is not needed.
7. If you finish the TCP/IP set-up, click *OK*.
8. From the *Network* dialog box, click *Add*.

9. From the Select Network Component type dialog box, select protocol and then Click *Add*.
10. From the Select Network Protocol dialog box, select Microsoft in the Manufactures list and then select *IPX/SPX-compatible Protocol*. Click *OK*.
11. Repeat 8 and 9. Select Microsoft in the Manufactures list, and then select *NetBEUI*. Click *OK*.
12. Click Network "*Identification*" tab, type in anything you wish to identify this computer in *Computer Name*, *Workgroup*, *Computer Description*. Keep in mind that each *Computer Name* is unique on a network.
13. When you finish the network set-up, click *OK* from the Network dialog box.
14. Restart your computer to update the system.

Installing the LAN Driver in Windows 98

You can install the LAN driver as shown in the following.

LAN Driver Installation

Windows 98 has its own Intel (R) PRO/100+ PCI adapter driver, but install the LAN driver according to the instructions below.

1. From the *Control Panel*, double-click the *System* icon.
2. Click the *Device Manager* tab.
3. Double-click *Other Devices* or *Network Adapters* in the list area.
4. Double-click a *PCI Ethernet Controller* (or *Intel (R) PRO/100+ PCI adapter*).
5. Click the *Driver* tab, then click *Update Driver*.
6. Click *Next* at the *Update Device Driver Wizard*.
7. Select "*Display a list of all the drivers in a specific location...*" and click *Next*.
8. Click *Disk* and select *Have Disk*.
9. Insert the Intel PRO/100+ adapter disk or System Software CD and select *Specify a location*, then enter the appropriate drive for your disk media (A:, D:, etc.), and Click *OK*.

10. The Update Wizard displays the message that it has found the driver and select *Intel (R) PRO/100+ PCI Adapter*, then Click *OK*.
11. From the Update Device Driver Wizard, Click *Next*.



If a dialog box displays file not found message, enter the driver directory, and click *OK*.

12. From the Update Wizard, Click *Finish*.
13. Restart your computer when prompted to update your computer.

Configuring Network Environment

1. If you complete installing Network Adapter driver, from the *control panel*, double-click the *Network* icon.
2. Click *Network Configuration* tab, then ensure that *Intel (R) PRO/100+ PCI Adapter* is installed.
3. Select *TCP/IP > Intel (R) PRO/100+ PCI Adapter* in the The following network components are installed list, and click *Properties*.
4. From the TCP/IP Properties, click the *IP Address* tab. Select *Specify an IP address* and then enter your IP address and the appropriate subnet mask. If you use DHCP server, select *Obtain an IP address automatically*.
5. Click the *Gateway* tab, then enter gateway address in the *New gateway* and Click *Add*. If you use DHCP server, this process is not needed.
6. Click the *DNS Configuration* tab, then select *Enable DNS*, and enter the host name in the *Host*, domain name in the *Domain* and DNS server address in the *DNS server Search Order*. Click *Add*. If you use DHCP server, this process is not needed.
7. If you finish the TCP/IP setup, click *OK*.
8. From the *Network* dialog box, click *Add*.
9. From the *Select Network Component type* dialog box, select protocol, click *Add*.
10. From the *Select Network Protocol* dialog box, select Microsoft in the *Manufactures* list and then select *IPX/SPX-compatible Protocol*, click *OK*.
11. Repeat 8 and 9. Select Microsoft in the *Manufacturers* list, and then select *NetBEUI*, click *OK*.
12. If you finish the network setup, from *Network* dialog box, click *OK*.
13. Restart your computer to update the system.

Windows Me Sound Card Driver Installation

When you add a new sound device Windows Me will recognize the addition of *PCI Multimedia Audio Device* and start the driver installation process automatically.

Sound Card Driver Installation

When Windows ME automatically detects a 'PCI Multimedia Audio Device', click the *Next* and *Finish* buttons.

1. Insert the *System Utility* CD.
2. Click the *Start* button, point to *Settings* and then click *Control Panel*.
 - Double-Click *System* icon.
 - Choose *Device Manager* tab.
 - Select *Sound, Video and Game controller* and *ESS Allegro PCI Audio (WDM)*.
 - Click *Properties*.
3. Click *Update Driver*.
4. Select *Specify the location of the driver (Advanced)* and click *Next*.



Figure 41. Device Driver Update Wizard (Specify Location)

5. Check *Specify a location* and type *D:\Audio\Winme* and then click *Next*.



('D:' may be the name of your CD-ROM Drive. If not type in the actual drive letter of your CD-ROM Drive).



Figure 42. Device Driver Update Wizard (File Location)

6. Click *Next* when the dialog appears saying that Windows is now ready to install the driver.



Figure 43. Device Driver Update Wizard (Install Start)

7. Click *OK* when the dialog appears saying that Windows has finished installing.



Figure 44. Device Driver Update Wizard (Install Complete)

8. Restart the system to update your files.

Using System Setup

The System Setup program enables you to configure your computer hardware and set security and power-savings options. The settings you choose are stored in battery-maintained CMOS memory that saves the information even when the computer's power is turned off. When your computer is turned back on, it is configured with the values found in this memory.

Run System Setup if you get a message prompting you to run the program. You may also want to run System Setup, particularly the first time you use your computer, to set the time and date, use security or power-management features, or alter the settings of other features.



Your computer's version of System Setup may not include all the fields listed here or may include additional fields. Field names and order of appearance can vary according to the version of the BIOS (basic input/output system) on your computer.

You can use the configuration listing at the back of this manual to record information specific to your computer. (See "Recording the Computer Hardware Configuration" on page 133.) Fill it out as you complete your System Setup configuration. This list helps you describe your computer if you must contact your authorized reseller for service or product information.

Starting System Setup

To start System Setup, turn on your computer and then press <F2> when prompted. The System Setup screen appears.

The top of the System Setup screen has a menu bar with the selections listed in Table 4.

Table 4. System Setup Menus

Menu	Function
Main	Changes the basic system configuration.
Advanced	Configures advanced features on your computer.
Security	Enables security features, including passwords and backup and virus-check reminders.
Power	Configures power-management features.

Boot	Specifies the order of boot devices and configures boot features.
Exit	Specifies how to exit System Setup.

To open a menu, use the left or right arrow keys to select the menu name and then press <Enter>.

Table 5 lists the keys you can use to navigate through System Setup.

Table 5. System Setup Navigation Keys

Navigation Key	Alternate Key	Function
<F1>	<Alt+H>	Displays the General Help window.
<Esc>		Exits the current menu.
<Left Arrow> and <Right Arrow> keys	Keypad arrow keys	Select a different menu. Pressing <ESC> at the Main menu brings you to the Exit menu.
<Up Arrow> and <Down Arrow> keys	Keypad arrow keys	Move the cursor up and down between fields.
<Tab>		Moves the cursor forward through the cells for a highlighted field. If the field has only one cell, the <Tab> key moves the cursor down to the next field.
<Tab+Shift>		Moves the cursor backward through the cells for a highlighted field. If the field has only one cell, the <Tab+Shift> key combination moves the cursor up to the previous field.
<Home>	<PgUp>	Moves the cursor to the field at the top of the window.
<End>	<PgDn>	Moves the cursor to the field at the bottom of the window.
<F5>	<->	Scrolls backwards through the options for the highlighted field.
<F6>	<+> or <Space>	Scrolls forward through the options for the highlighted field.
<F9>		Sets the parameters for the current menu to their default values.
<F10>		Sets the parameters for the current menu to their previous values.
<Enter>		Executes commands or opens a submenu.

A pointer symbol appearing to the left of a field indicates that you can open a submenu from this field. A submenu contains additional options for a field. To open a submenu, highlight the field and press <Enter>. Use the same keys to enter values and move from field to field within submenus as you use within menus.

When you highlight a field, information about the field appears on the right side of the screen. System Setup also provides a General Help screen that can be opened from any menu by pressing <F1> or <Alt+H>. The General Help screen lists the navigation keys with their corresponding alternates and functions.

When a scroll bar appears to the right of a help window, more information is available than can be displayed in the window. Use the <PgUp> and <PgDn> keys or the <Up Arrow> and <Down Arrow> keys to scroll through the entire help document. Press <Home> to display the first page, or press <End> to go to the last page. To exit the help window, press <Enter> or <Esc>.

If your computer will not boot after you have changed settings in System Setup and exited the program, reboot and press <F2> to reenter System Setup. Once in System Setup, you can try to change the values that caused your computer boot to fail. If the problem persists, press <F9> to load the default values.

Main Menu

When you open System Setup, the Main menu appears. You can make changes to your computer's basic system configuration from this menu. The fields displayed in this menu are described below.

System Time:

Sets your computer to the time that you specify, usually the current time. Enter the hour, minute, and second in the format *hh:mm:ss*. Use a 24-hour clock. Use the tab key to move between the hour, minute, and second cells. Use the hyphen key <-> or <Space> bar to decrease or increase the numbers.

System Date:

Sets your computer to the date that you specify, usually the current date. Enter the month, day, and year in the format *mm:dd:yyyy*. Use the tab key to move between the month, day, and year cells. Use the hyphen key <-> or <Space> bar to decrease or increase the numbers. This field supports year dates of 2000 and beyond.

Legacy Diskette A:

Specifies a drive type for floppy drive A. *1.44 MB, 3 1/2"* (default) floppy disk can be used.

Primary Master and Secondary Master:

Your computer can support two IDE drives. The Main menu contains two IDE adapter fields to configure these drives. *Primary Master* defines the hard drive installed in the computer. *Secondary Master* defines the CD-ROM and DVD-ROM drives or Removable drives.

To configure a replacement or upgrade hard drive, move the cursor to select the *Primary Master* field in the System Setup Main menu, and then press the <Enter> key. The submenu appears.

Normally, you can use the *Auto* option of the *Type* field in the submenu to automatically set the values for the other fields in the submenu. Manually set the other fields in this submenu only if the drive you have installed in your computer is not recognized by System Setup.



Set the *Auto* option of the *Type* field in the *Secondary Master* submenu to enable the system to boot from Bootable CD-ROMs, you will also need to check the boot device priority field and Bootable CD check field.

After you make your selections from this submenu, press the <Esc> key to exit back to the Main menu.



Before attempting to configure a hard drive, make sure you have the configuration information supplied by the manufacturer of the hard drive. Incorrect drive settings can cause your computer to malfunction.

The Primary and Secondary Master fields calls up a submenu. The following fields are found in the submenu:

Type:

Configures the hard drive type. Normally, select *Auto* at this field to have your computer attempt to automatically detect the drive type and set the values for the remaining fields in this submenu manually, specify *User*. Manually enter the number of cylinders, heads, sectors per track, and write precompensation for your drive. Refer to your drive's user documentation or look on the drive to obtain this information.

If no drive is installed or if you are removing a drive and not replacing it, select *None*.

Maximum Capacity:

Shows the maximum capacity of the drive. This field is for reference only.

Multi-Sector Transfers:

Sets the number of sectors per block to the highest number supported by the drive. Configuration options are *Disabled*, *2 Sectors*, *4 Sectors*, *8 Sectors*, and *16 Sectors*.

LBA Mode Control:

Enables or disables 28-bit addressing of the hard drive, without regard for cylinders, heads, and sectors. Note that enabling this field may decrease the access speed of the hard drive.

32 Bit I/O:

Enables or disables 32-Bit I/O (input/output). When *Enabled* (default), your hard drive can work with applications with 32-bit input and output. If the field is *Disabled*, your computer works with 16-bit input and output and has lower performance.

Transfer Mode:

Selects the method for transferring data between the hard drive and system memory. Refer to your drive's user documentation to specify the correct option for this field. Options are *Standard*, *Fast PIO 1*, *Fast PIO 2*, *Fast PIO 3*, and *Fast PIO 4*.

Ultra DMA Mode:

Enables the hard drive to use ultra DMA (direct memory access) transfer mode to transfer data between the drive and system memory. Options are *Mode 0*, *Mode 1*, *Mode 2*, and *Disabled*.

CPU Type: Displays the CPU type detected during start up.

CPU Speed: Displays the CPU speed detected during start up.

System Memory: Displays the amount of conventional memory detected by your computer during startup. This field is for reference only.

Extended Memory: Displays the amount of extended memory detected by your computer during startup. This field is for reference only.

BIOS Version: Displays the BIOS version of your system.

Micom Version: Displays the Firmware version of your system.

Advanced Menu

Selecting *Advanced* from the menu bar displays the Advanced menu.

Installed O/S:

Select the operating system installed on your system which you will use most commonly. An incorrect setting can cause the unexpected system behavior.

PS/2 Mouse:

Disabled prevents both the touchpad and external PS/2 port from functioning. *Single*

mouse (default) enables the external PS/2 port or the touchpad, and external PS/2 port has priority. *Dual Mouse* allows the use of both the touchpad and PS/2 port.

Screen Expansion:

Enables or disables the Screen Expansion mode. If you set this field to *Enabled*, the system expands VGA mode (DOS mode or 640x480 Graphic mode) to use the full size of the LCD. If this field is *Disabled* VGA mode appears as a 640x480 box in the LCD.

TV Out Mode:

Select TV standard such as *NTSC* (default), *PAL*.

Display Configuration:

Enable you to set the default display. Options are *LCD*, *CRT* and *Both*. Choose *LCD* to use the built-in display only, *CRT* to use an external monitor only or *BOTH* to have both built-in and external displays used as the default. If you select *CRT* and no external monitor is attached you will see no display until you attach the external monitor. The default is *LCD*.

I/O Device Configuration:

Opens the *I/O Device Configuration* submenu if you press <Enter> when this field is highlighted. If you attempt to set two ports to the same settings, the fields will be marked with asterisks.

The submenu contains these fields:

Serial port:

Configures serial port. The options for this field are *Enabled* (default), and *Disabled*. If you set this field to *Enabled*, you can set the *Base I/O Address* field to *3F8 IRQ4* (default), *2F8 IRQ3*, *3E8 IRQ4*, or *2E8 IRQ3*. When the field is set to *Enabled*, the computer's operating system uses the default configuration or the configuration you choose. If you select *Disabled*, you free up an IRQ for use by another device.

Infrared port:

Configures the infrared port. The options for this field are *Enabled*, and *Disabled* (default). If you set this field to *Enabled*, you can set the *Base I/O Address* field and the *Mode* field and the *Mode* field. Settings for the *Base I/O Address* are *3F8 IRQ4*, *2F8 IRQ3* (default), *3E8 IRQ4*, or *2E8 IRQ3*. *Mode FIR* (fast infrared) enables you to set the *DMA channel* to 3 or 1.

When the *Infrared port* field is set to *Enabled*, the computer's operating system uses the default configuration or the configuration you choose. If you select *Disabled*, you free up an IRQ for use by another device.

Parallel port:

Configures the parallel port. The options for this field are *Enabled* (default), and

Disabled. If you set this field to *Enabled*, you can set the *Mode* field and the *Base I/O Address* field. Settings for the *Base I/O Address* are *378 IRQ7*(default), *378 IRQ5*, *278 IRQ7*, *278 IRO5*, *3RC IRQ7*, and *3RC IRQ5*. Settings for the *Mode* are *Output only*, *Bi-directional*, *EPP* (enhanced parallel port), and *ECP* (extended capabilities port). Selecting the ECP setting enables you to set the DMA Channel to 1, 2, or 3.

When the *Parallel port* field is set to *Enabled*, the computer's operating system uses the default configuration or the configuration you choose. If you select *Disabled*, you free up an IRQ for use by another device.

Floppy disk controller:

Configures the floppy disk controller. The options for this field are *Enabled* (default), and *Disabled*. When the *Floppy disk controller* field is set to *Enabled*, the computer's operating system uses the default configuration for the controller.

Local Bus IDE adapter:

Enables the integrated IDE local bus adapters. Options are *Enabled* (default), *Disabled*, *Both*, and *Primary*.

Large Disk Access Mode:

Enables your computer's operating system to work with drives larger than 540 MB. Choose *DOS* (default) for Microsoft operating systems. Choose *Other* for any other operating systems.

Security Menu

Selecting *Security* from the menu bar displays the Security menu. Your computer's advanced security system allows you to set two different passwords to prevent unauthorized access to system resources, data, and System Setup. From the Security menu, you can enable a boot password, disk access, a system backup reminder, and a virus check reminder.

Security fields marked with an asterisk (*) can only be changed if you start System Setup with a system supervisor password or if no passwords are in effect. You cannot access these fields with a user password.

Set User Password:

Enables you to set a user password to control access to the system at boot. See "Creating a Password" on page 86 for instructions on setting a password. The user password allows restricted access to the System Setup Security menu; the user has access only to changing his own password and to enabling or disabling *Password on boot*. A supervisor password must be set before a user password can be set.

Set Supervisor Password:*

Enables you to set the supervisor password to control access to the System Setup utility. See "Creating a Password" on page 86 for instructions on setting a password.

Password on boot:

Determines whether the computer prompts for a password when starting up. The options are *Enabled* and *Disabled*. A supervisor password must be set before you can enable this option.

Fixed disk boot sector:*

Enables you to write-protect the hard drive boot sector to protect against viruses and alterations. Only a user with the supervisor password can access this field. The options for this field are *Normal* (default) and *Write Protect*.

Processor Serial Number:

Controls detection of the processor serial number.

Power Menu

The Power menu of System Setup allows you to enable and adjust your computer's sophisticated power-saving features. Enabling these features extends the life of the battery.



If your computer shipped with Windows 98 or Windows Me installed, the Power Management works with the settings in the Power Options of Control Panel. But if your computer has DOS, Windows 95 the Power Management works with the settings in System Setup.

Intel (R) Speedstep (TM): When CPU supports Speedstep (TM), this field will appear on this menu. The main idea of Speedstep is to save the power. The CPU supported by the Speedstep adjusts its speed according to the power supply method, such as by the battery or by the AC adapter. If this field is set to *Performance*, it reduces the battery usage time by the high CPU speed, or set to *Battery* increases the battery usage time by the slower CPU speed. And when it is set to *Automatic*, the system adjusts its speed according to the power supply method, such as by the battery or by the AC adapter. *Disabled* means that this function does not activated.

Power Savings:

Enables and disables Maximum Performance mode. The options are *Maximum Performance*, *Maximum Power Saving* (default), *Customized* and *Disabled*. If you set this field to *Maximum Performance*, the microprocessor and hard drive run at full speed, unless affected by other power-savings settings. If you set this field to *Maximum*

Power Saving, the microprocessor and the hard drive run at slow speed, when there is no user input or device activity. Choose *Customized* to alter these settings and *Disabled* to turn off the Power management function.

Idle Mode:

Turns on or off the idle mode power savings. *On* slows down the CPU when the system is not busy.

Suspend Time out:

Sets the period of computer inactivity from Suspend that must pass before your computer automatically goes into rest mode. When the rest time-out expires, your computer goes to the rest mode according to Suspend Mode.

Standby Mode:

Specifies the type of rest mode your computer enters:

- *Save to RAM*: Saves power by turning off the microprocessor and all devices except system memory and controller, video memory and controller.
- *Save To Disk* (default): Provides the greatest power-saving capabilities by essentially turning off your computer. In the save to disk mode, all system logic (except for your computer wakeup circuitry and battery charger) is turned off. During save to disk mode, the system and video memory are saved to the hard drive and are restored when your computer resumes from rest.

When the computer enters save to disk mode, it will not resume normal operation at a specified time no matter how the *Resume On Time* field is set.

Resume On Modem Ring:

Enables the computer to resume operation from rest mode in the event of modem communication. The computer will resume only if the *Suspend Mode* field is set to *Save to RAM*, not *Save To Disk*. The default setting is *Off*. Windows 98 does not use this item.

Resume On Time:

Enables the computer to resume operation from rest mode at a scheduled time. The computer will resume only if the *Suspend Mode* field is set to *Save to RAM*, not *Save To Disk*. If you set this field to *On*, you must set the *Resume Time* field as well. The default setting is *Off*. Windows 98 does not use this feature.

Resume Time:

Specifies the time for your computer to automatically resume from rest mode. Enter two-digit numbers to indicate the hour, minutes, and seconds in the format *hh:mm:ss*. Use a 24-hour clock. Use the tab key to move between the hour, minute, and second cells. Use the hyphen key <-> or <Space> bar to decrease or increase the numbers. You must set this option if you enable *Resume On Time*.

Smart Battery Calibration:

Enables you to discharge the system battery completely for a more accurate battery level detection. This option only works with the smart battery if the AC Adapter is not plugged in.

Calibration reminder:*

Enables the computer to prompt you to start the battery calibration. The prompt appears each time you start your computer or reboot until you respond with *Y* (yes). The options for this field are:

- *Monthly*: When you start your computer for the first time each month, the prompt appears.
- *Disabled*: The prompt never appears. This is the default setting.

Boot Menu

The Boot menu enables you to select a boot device and set boot options.

Logo Screen:

Enables (default) or Disables the display of the boot time logo. If you select *Disabled*, the diagnostic POST screen is displayed during boot

Summary screen:

Displays the system configuration when the computer starts. The options are *Enabled* and *Disabled* (default).

Boot Device Priority:

Enables you to select the order in which the computer attempts to boot from different devices. The field has four options: *Diskette Drive*, *Removable Devices*, *Hard Drive*, and *ATAPI CD/DVD-ROM Drive*.

To choose a device as the first, second, or third boot device:

1. Press <Enter> at the *Boot Device Priority* field
2. Highlight the option with the <Up Arrow> or <Down Arrow> key.
3. Use <+>, <-> keys until the option moves up or down in the list of options and the number *1*, *2*, *3*, or *4* appears beside the option.
4. Press <Esc> to return to the Boot menu.

The default setting is *1. Diskette Drive*, *2. Removable Devices*, *3. Hard Drive*, *4. ATAPI CD/DVD-ROM Drive*.



If you want to start the system using a bootable CD, change the ATAPI CD-ROM Drive to be the first priority and make sure that Auto is set in the Type field of the Secondary Master Submenu at Main page.

Exit Menu

Select *Exit* or press <Exc> from the menu bar to display the Exit menu.



Pressing <Esc> does not exit this menu. You must select one of the options from this menu or a menu bar item to exit this menu.

Exit Saving Changes:

Enables you to exit System Setup and saves your changes. When you select this item and press <Enter>, a message appears asking you if you want to save your changes and exit System Setup. Choose *Yes* and press <Enter> to save your changes and exit. Choose *No* and press <Enter> to remain in System Setup.

Exit Discarding Changes:

Enables you to exit System Setup without saving your changes. When you select this item and press <Enter> a message appears asking you if you want to save changes before exiting. Choose *No* and press <Enter> to exit without saving changes. Choose *Yes* and press <Enter> to save changes and exit.

Load Setup Defaults:

Loads the default values for all System Setup parameters. When you select this option and press <Enter>, a message appears asking if you want to load the default configuration. Choose *Yes* and press <Enter> to load default settings and remain in System Setup. Choose *No* and press <Enter> to retain your changes and remain in System Setup.

Discard Changes:

Enables you to discard the selections you have made and restore the values you previously saved. When you select this option and press <Enter>, a message appears asking if you want to load the previous configuration. Choose *Yes* and press <Enter> to load the previous settings and remain in System Setup. Choose *No* and press <Enter> to retain your changes and remain in System Setup.

Save Changes:

Saves your selections without exiting System Setup. When you select this option and press <Enter>, a message appears asking if you want to save configuration changes.

Choose *Yes* and press <Enter> to save changes and remain in System Setup. Choose *No* and press <Enter> to discard changes and remain in System Setup.

Using System Security

This section describes the security options provided with your computer.

System Passwords

The computer provides two levels of password security: administrative-level (supervisor) and user-level (user). Either password prevents unauthorized access to the computer. The supervisor password enables full access to all System Setup fields. The user password enables full access to only the *Set User Password* and *Password on boot* security fields and read access to all other System Setup fields. (See "Security Menu" on page 78 for a complete list of System Setup security fields.)

If multiple users have access to the computer (such as in a network environment), a supervisor password can prevent unauthorized access to certain security options.

Choose the type of password security that is appropriate for your work. If you want to set a user password, you must set a supervisor password first.

Creating a Password

To create a password:

1. At startup, press <F2> to open System Setup.
2. Use the <Right Arrow> key to select the Security menu.
3. Use the <Down Arrow> key to select *Set Supervisor Password* or *Set User Password*.
4. Press <Enter>. The Set Password dialog box appears.
5. Type a password of up to seven characters. You can enter letters or numbers, but you cannot use the function keys, such as <Shift>. Your computer does not distinguish between capitalized and lowercase letters in your password. As you type the password, the cursor moves but your password does not appear on the screen.
6. Press <Enter> after you have typed your password. The computer prompts you to reenter your password for verification.

7. Type your password again and press <Enter>. A message appears telling you that the changes have been saved. Press <Enter> again to return to the Security menu.
8. Press <Esc> to go to the Exit menu.
9. Select *Exit Saving Changes*, press <Enter>, and press <Enter> again to restart the computer.

Deleting a Password

To delete the password:

1. At startup, press <F2> to open System Setup.
2. Type your password when prompted and press <Enter>.
3. Use the <Right Arrow> key to select the Security menu.
4. Use the <Down Arrow> key to select *Set Supervisor Password* or *Set User Password*.
5. Press <Enter>. The computer prompts you to enter the current password.
6. Press <Enter>. The computer prompts you to enter a password. Do not type anything.
7. Press <Enter>. The computer prompts you to re-enter the password. Do not type anything.
8. Press <Enter>. A message appears telling you that the changes have been saved. Press <Enter> again to return to the Security menu.
9. Press <Esc> to go to the Exit menu.
10. Select *Exit Saving Changes*, press <Enter>, and press <Enter> again to restart the computer.

Requiring a Boot Password

After you create a supervisor or user password, you can enable the computer to prompt for a password each time it starts.

To enable the prompt, select the option *Enabled* in the *Password on boot* field in System Setup. For more information about the *Password on boot* field, see “Security Menu” on page 80.

Using Power Management Options

Your computer includes power-management options that can help the battery charge last longer and extend the life of the battery, LCD panel, and other components. Power-management options slow down or shut off system components when the components are not being used.

Power management may slow down system performance. Your computer runs fastest with the power cord attached, when power management is disabled.

Windows 98/ Me have two Power Management strategies:

- ACPI (Advanced Configuration and Power Management Interface) mode: Under the ACPI mode, All the settings in System Setup have no effect on Windows 98/ Me. Battery low and battery very low warnings are configured using the Power Management option.

If you want to use Hibernation function in ACPI mode (Windows 98/ Me), then click Start > Settings > Control Panel and double click Power Options icon. Select *Hibernate* on the *When I press the sleep button on my computer field* in *Advanced* tap. Then you can use the power button for activating the hibernation function.

If you want to shut down your computer by pressing the power button, see “ACPI (Advanced Configuration and Power Interface) Mode” on page 13.

Maximum Power Saving Mode

For maximum power saving mode, the microprocessor may run at slow speed to conserve power. To enable this mode, set the *Idle Mode* field in System Setup to *enabled*.

Suspend Mode

The *Suspend Time-out* field in System Setup enables you to specify the time period the computer can remain idle (no user input or device activity) before the computer enters rest mode. You can disable this option by selecting *Off*, or you can specify a *Suspend Time-out* delay time of from 5 to 60 minutes.

The *Suspend Mode* field in System Setup defines what type of Rest mode your computer enters:

- *Save to RAM*: Saves power by turning off the microprocessor and all devices except system memory and controller, video memory and controller.
- *Save To File*: This mode provides the greatest power-saving capabilities by essentially turning off your computer. In this mode, all system logic (except for your computer wakeup circuitry and battery charger) is turned off. During save to file mode, the DRAM and video memory are saved to the hard drive and are restored when your computer resumes operation.

You can press <Fn+F9/Rest> to manually place your computer into Suspend mode.



When you use the <Fn+F9/Rest> key combination, your computer may postpone entering Suspend mode during a critical operation, such as reading from or writing to the hard drive.

To resume to full-power mode, press the power button.

Once all devices return to full-power mode, all active software applications and system states are restored to exactly how they were before your computer entered rest mode.

When your computer enters or resumes from Save To File mode, screens appear indicating system status. These status screens do not appear when the computer enters or resumes from power on suspend.

Standby Mode Precautions

Observe the following precautions when using Suspend mode:

- Save all open files before you press <Fn+F9/Rest> to manually place your computer into Standby mode.
- Do not try to resume to full-power mode using battery power if the battery charge is below <20%. If the battery charge is too low, the system may not be able to resume fully. Plug in the power cord if your computer cannot resume normal operation because of a low battery charge.



Recommendations:

When it is in power on suspend or save to file mode, do not connect or remove any devices because you may damage the computer or resume to full power may fail. If a floppy disk is in the FDD, do not remove it or switch it with another disk. However, you can plug in the AC adapter if the resume to full power fails because of a low battery charge. When the computer is in save to disk mode, you can remove and replace the battery.

Creating a Save to Disk Partition



Save to Disk Partition: [Not Windows Me]

It enables you to store data from the system and video memory to hard drive during Save To Disk mode for computer shipped with Windows 95, 98 installed. Windows Me does not need this partition.

If you want to use a new hard drive to your system, you need to create a Save to Disk Partition area on the new hard drive.

See the below notes and cautions before partitioning your HDD;

- Back up data files of your old hard drive.
- If you do not intend to use Save to Disk mode, you do not need to create a Save to Disk Partition.
- For system boot with CD-ROM, under the Boot menu in System setup, set Bootable CD Check to Enabled and set Boot Device Priority ordered starting from [DVD/CD-ROM]. Use DVD Software CD in this process.
- Before you set partition and format HDD, set Fixed Disk Boot Sector to Normal in Security menu of System setup.

To create FDISK

1. Set the system boot with CD-ROM, press <F8> key to boot with “Safe mode command prompt only”.
2. Operate Fdisk.exe, type “A:\>fdisk” and press Enter.
3. When 'Do you wish to enable large disk support (Y/N)...?' shows, select Y and press Enter.
4. Select '1. Create DOS partition or Logical DOS Drive' field in [FDISK Options].
5. Select 'Create Primary DOS Partition' field in [Create DOS Partition or Logical DOS Drive] and press Enter to start creating 'Primary DOS Partition'.
6. 'Do you wish to use the maximum available size for a Primary DOS Partition and make the partition active (Y/N)...?' shows, then select N to divide HDD into several drives or using Save to Disk mode. If you select Y, it means you are not using Save to Disk Partition and use HDD sector as active DOS only.
7. Type the partition size in the blank of 'Enter partition size in Mbytes or percent of disk space (%) to create a Primary DOS Partition...:[]' and press Enter.

(HDD size) - (Save-To-Disk Partition + 5MB)
(e.g.) Partition size for 6.4 GB HDD = 6250 - (140 + 5) = 6105

8. Finish the Fdisk by <Esc> key and press the power button to reboot the system.

To create PHDISK

1. Set the system boot with CD-ROM, press <F8> key to boot with “Command prompt only”.
2. Operate Phdisk.exe as follows.
3. Type ‘E:\sysutil>phdisk /c 143360 /p’ and press Enter.
143360 is calculated as below formula, and it could be different according to system memory.
 $143360 = \{ \text{system memory}(64\text{MB}) + \text{video memory}(8\text{MB}) + \text{extended memory}(64\text{MB}) + \text{buffer space}(1\text{MB}) \} \times 1024$
4. Press any key to restart the system.

To format the HDD

1. Boot system by CD-ROM.
2. Operate Format.exe, type ‘A:/format c: /s’ and press Enter.
3. Warning message saying all the data will be removed shows, type Y for ‘Proceed with Format (Y/N)?’ and press Enter.
4. Type the drive label and press Enter.

To install Windows and device drivers

Use *System Recovery CD* to install OS and *System Software CD* to install device drivers.

Return Operating System to Original Setup

Notebook computers that ship from the factory include *System Recover CD-ROM* and *System Software CD-ROM*, which contains a copy of the applications and drivers needed for computer's operating system.

In the unlikely event that programs on the computer hard drive become corrupted or are erased, you can use the *System Recovery CD-ROM* to reinstall your operating system and then *System Software CD-ROM* to reinstall your original applications and drivers.



Under the Boot menu in System Setup, set *Diskette Drive* as the first boot device and *CD-ROM Drive* as the second. (see “Using System Setup” on page 74 for information on setting options.)



See the documentation that accompanied your operating system for detailed information on installation and setup.

To (re)install your operating system

1. Turn your machine on.
2. During the Boot Sequence, press F2 to enter System Setup.
3. Insert the *System Recovery CD-ROM*.
4. Enter the Boot Menu and ensure that Bootable CD Check is Enabled.
5. Select the Boot Device Priority menu option, press Enter. Ensure that ATAPI CD-ROM Device is first on the list.
6. Press F10 to save and exit System Setup and confirm yes by pressing *ENTER*.
7. When the Recovery Menu appears, select number as you insist.
 1. *Restore Manufacturer's originally pre-installed software.*
 2. *Exit to the DOS Prompt.*



System Recovery Utility

This utility will destroy all data on your hard disk. If you have any data files or other software that you do not wish to lose, make a backup to diskette by using the Backup utility or by copying the files or software directly to diskettes before proceeding.

To (re)install your original applications and drivers:

Use the *System Software CD-ROM* included in the packing. And follow the instruction in the CD cover.

Video Features and Configuration

Your computer includes a TFT LCD or active-matrix display. The capabilities of the screen plus the video drivers installed on the computer determine the quality of the image your LCD can display.

The following sections describe the display capabilities of your computer.

Resolution and Color Depth

The resolution of the LCD is the sharpness of the image it can display. Resolution is measured by the number of pixels (individual dots) displayed on the entire screen. In general, the more pixels the LCD can display, the better the image.

Your LCD screen is XGA. In XGA, the screen has a maximum display of 1024x768, about 800,000 pixels.

The number of colors the LCD can display is measured by how many bits the LCD uses to represent each pixel:

- 8-bit color can support 256 different colors.
- 16-bit color can support 64 K (65,536) colors.
- 24-bit color can support 16 M (16.8 million) colors.
- 32-bit color can support 16 M (16.8 million) colors.

24-bit color uses the RGB color model.

32-bit color uses the CMYK color model which gives better printed color matching.

The video mode capabilities and maximum colors supported in Windows 98/ Me, Windows 2000 are same in your computer and Table 6 shows video capabilities.

Table 6. Video Driver Capabilities

Resolution Supported with 8MB SGRAM (16MB SDRAM)	Number of Colors
640x480, 800x600, 1024x768, 1280x1024, 1600x1200	256
640x480, 800x600, 1024x768, 1280x1024, 1600x1200	65,536
640x480, 800x600, 1024x768, 1280x1024, (1600x1200)	16.8 million (24 bit)
640x480, 800x600, 1024x768, (1280x1024)	16.8 million (32 bit)

All these video modes can be displayed on an external monitor. However, if you disconnect an external monitor that was attached to your computer and then start the computer, the LCD may revert to a different resolution than the one you chose for the external monitor.

Configuring Display Features

The following sections describe how to configure the display settings on your computer.

Selecting a Monitor Type

When you attach an external monitor to your computer, Windows 98/ Me automatically selects display settings for it. If you wish, you can adjust the display settings by selecting a monitor type:

1. Click the *Start* button on the Windows taskbar.
2. Select *Settings*.
3. Click *Control Panel*. The Control Panel window appears.
4. Double-click the *Display* icon. The Display Properties window appears.
5. Click the *Settings* tab. The Settings screen appears.
6. Click the *Advanced* button. The Advanced Properties screen appears.
7. Click the *Monitor* tab.
8. Click the *Change* button. The *Update Device Driver Wizard* screen appears.
9. Click the *Next* button.
10. Select the *Display a list of all the drivers in a specific location, so you can select the driver you want* radio button and click the Next button.

11. Select the *Show all hardware* radio button.
12. Select a manufacturer and model setting that matches your external monitor. Your computer has an intelligent video chip set that automatically matches your LCD panel resolution and frequency when an external monitor is not present.
13. Click the *Next* button.
14. The *Update Device Driver Wizard* screen appears showing the driver location of the device you have selected. Click the *Next* button.
15. Follow any prompts that appear on the screen.

Changing Color Depth and Resolution

To change the colour depth and resolution of your LCD or external monitor:

1. Click the *Start* button on the Windows taskbar.
2. Select *Settings*.
3. Click *Control Panel*. The Control Panel window appears.
4. Double-click the *Display* icon. The Display Properties window appears.
5. Click the *Settings* tab. The Settings screen appears.
6. To change the colour depth, click the arrow next to *Color palette* and select the colour depth you want.
7. To change the resolution, click and drag the knob under the *Screen area* until you select the resolution you want.
8. Click the OK button.
9. Follow the prompts that appear on the screen.

Changing the Video Driver

It is possible that you may want to update your video driver or that your installed video driver has become corrupt so that the display is unusable.

Windows 98/ Me:

1. Click on the *Start Button* and the Start Menu appears.

2. Select *Settings* and click on *Control Panel*, double click on *Display*. The Display Properties window appears.
3. Select *Settings* tab.
4. Click the *Advanced* button. The properties screen for your currently installed video driver appears.
5. Select the *Adapter* menu.
6. Click the *Change* button. The Update Device Driver Wizard window appears.
7. Click the *Next* button.
8. Select *Display a list of all the drivers in a specific location, so you can select the driver you want*. Click the *Next* button.
9. Click the *Have disk* button. If the driver is on a floppy disk insert it into the floppy drive. Click the *Browse* button and locate driver you want to install. Click the OK button.
10. Select the new driver in the *Select Device* screen and click the *Ok* button.
11. Click the *Next* button to install the new driver and follow any directions on the screen to finish setting the display properties.

Windows Me Reinstallation

If your system crashes and you have to reinstall Windows Me you will have to reinstall the S3 Savage IX Video Driver.

To reinstall the driver complete the following steps.

1. Insert System Recovery Disk 2 CD to CD-ROM drive.
2. Click Start > Settings > Control Panel > double click on the *Display* icon.
3. Click Settings > Advanced in *Display Properties*.
4. Click on the *Adapter* tab and click *Change*.
5. The Update Device Driver Wizard window appears.
6. Select *Specify the location of the driver [Advanced]* and click *Next*
7. Select *Specify a location* and input "D:\Driver\Graphics\WinME".
8. *Next*
9. *Next*

10.Finish Restart your system.

Windows 2000

You may use two different method to install video driver.

1st Method; (System Properties)

1. Click *Start* on the task bar and the Start menu appears.
2. Select *Settings* and click on *Control Panel*, double click on *System*. The *System Properties* window appears.
3. Select *Hardware* menu. Click the *Device Manager* button. The *Device Manager* window appears.
4. Double click Video Controller, The properties screen for your currently installed video driver appears.
5. Click *Reinstall Driver* button. The *Upgrade Device Driver Wizard* window appears.
6. Click *Next*.
7. Select *Search for a suitable driver for my device*, then click *Next*.
8. Check *Specify a location*. Click *Next*.
9. Click the *Browse* button and locate driver you want to install. Click *OK*.
10. Click *Next* to install the new driver and follow any directions on the screen to finish the display properties setting.

2nd Method; (Display Properties)

1. Click *Start* on the task bar and the Start menu appears.
2. Select *Settings* and click on *Control Panel*, double click on *Display*. The *Display Properties* window appears.
3. Select *Settings* tab.
4. Click the *Advanced* button. The properties screen for your currently installed video driver appears.
5. Select *Adapter* menu.
6. Click *Properties*.
7. Select *Driver* menu.

8. Click *Update driver*. The *Upgrade Device Driver Wizard* window appears.
9. Click *Next*.
10. Select *Search for a suitable driver for my device*, then click *Next*.
11. Check *Specify a location*. Click *Next*.
12. Click *Browse* and locate driver you want to install. Click *OK*.
13. Click *Next* to install the new driver and follow any directions on the screen to finish the display properties setting.

Using the TV-Out Port

This feature is only available with Windows 98/ Me. Using the TV-out port, a compatible TV or other compatible display device can be connected and an image displayed. No Audio is transmitted through the TV-Out port. To check if and how your TV displays the TV-out signal see the documentation included with your TV.



Concurrent enabling LCD and TV doesn't support. So, either TV or LCD is recommended. While TV is ON, pressing Fn+CRT/LCD cause TV-Out disable. Then, you should follow from step4.(DOS mode-you should restart.)

To enable TV-out:

1. Connect the TV to the TV-Out port using an appropriate cable.
2. Enter System Setup and under the Advanced menu, set *TV Standard* to the appropriate standard for your TV. (see “Using System Setup” for information on setting options.)
3. Reboot your computer.
4. You can see TV display.
5. Click the *Start* button on the Windows taskbar and select *Settings*.
6. Click *Control Panel*. The Control Panel window appears.
7. Double-click the *Display* icon. The Display Properties window appears.
8. Click the *Settings* tab. The Settings screen appears.
9. Click the *Advanced Properties* button. The Advanced Properties screen appears.

10. Click the *S3DuoVue* tab. The system will now try to detect a TV connected to the TV-out port.

11. Put a tick in the box under the TV symbol.



If the TV symbol is greyed out then the system has not detected a TV, check that the TV standard in the System Setup is set correctly and that the TV is turned on and connected properly. And you can not use TV-out port in DOS mode.

12. Click *OK* and follow the prompts that appear on the screen.

Using Duo View Mode

Single View mode is used to be the basic display method until now which displays same view on all the display devices connected to a system. While *Duo View mode* is the "Extended screen mode" supported in Windows 98/ Me, which displays separate views on each display devices connected to a system.



The default setting on your system is Single View mode.

Setting Duo View Mode

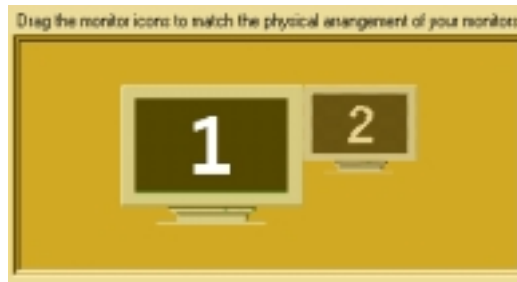
To set Duo View mode on your system;

1. Connect peripheral display device such as monitor or TV to your system and start the system.
2. Select *Start > Settings > Control panel > Display* and start *Display properties*.
3. Click *Settings* tab.
4. Click the second monitor among two monitor pictures.
5. When ~ *Do you want to enable this monitor?* message appears, then select *Yes*.
6. Click *Apply* or *OK*.

To confirm whether the system is set properly with Duo View mode;

1. Open *Display properties* and click *Settings* tab.
2. Place the mouse pointer on the first monitor picture and click over a second, then digit number 1 will be shown on the first actual monitor screen. And place the mouse pointer on the second monitor picture and click over a second, then digit number 2 will be shown on the second actual monitor screen.
3. The monitor displays digit number 1 is the primary monitor and number 2 is the secondary monitor.
When you start *Windows explorer*, then the program displays on the primary

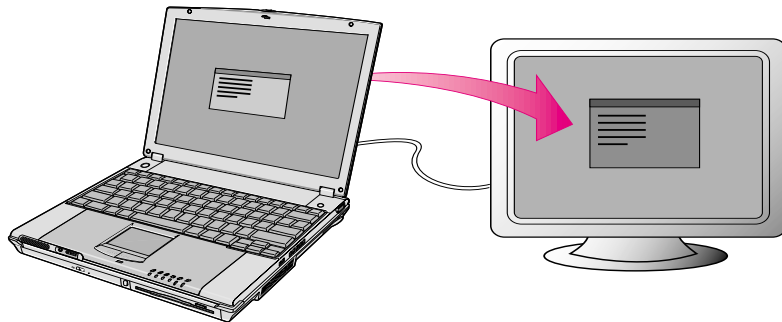
monitor, if you can drag it to secondary monitor, then Duo View mode is now working properly.



The secondary monitor has a display of 256 colors (color depth) and 640x480 pixels (resolution) at first. The color depth and resolution of primary/secondary monitors are separately changeable.

To reset the system to Single View mode;

- a. Start *Display properties*.
- b. Click *Settings* tab.
- c. Click the second monitor among two monitor pictures.
- d. Uncheck *Extend my Windows desktop onto this monitor*.
- e. Click *Apply* or *OK*.



Limits and Cautions of Using Duo View Mode

Support capabilities of the primary and secondary monitors are different.

- Primary CRT Controller Capabilities
 - VGA Mode
 - Accelerator Mode
 - Hardware Overlay
 - Hardware Cursor and Hardware Icon
 - Ratiometric Expansion (from up to 1024x768 source)
- Secondary CRT Controller Capabilities
 - No VGA Mode
 - Accelerator Mode
 - No Hardware Overlay
 - Hardware Cursor and Hardware Icon
 - No Ratiometric Expansion

LCD, CRT and TV display devices are supported in your system.

Table 7 shows the limits and possible usage when you use two or three display devices.

Table 7. Using several display devices

	Primary CRTC	Limits	Secondary CRTC	Limits
Two Displays	LCD		CRT	C, O
	LCD		TV	C, O
	CRT		TV	C, O
	LCD + CRT	R		
	CRT + TV	R		
Three Displays	LCD + CRT	R	TV	C, O

C = Coprocessor mode only

E = No Expansion

O = No Overlay

R = Same Refresh rate



The same CRT controller can not be used for both LCD and TV.

Basically, the program should be started in the primary monitor, then you can drag the program to the secondary monitor to use. But, some programs are not able to drag from the primary monitor to secondary monitor.

The order of Icons on the Windows desktop could be changed after using Duo View mode.

Limits on Video Driver while using Duo View mode

1. Certain combinations of display modes, color depth and refresh rate, when Duo View mode is active, are not supported because of video memory bandwidth limitation.
2. When using Duo View in simultaneous display mode, frame rates in Direct Draw applications are slightly lower because of the need to synchronize buffer flip.
3. If the primary/secondary monitor on Duo View mode is set to high resolution and high refresh rate display mode, the full frame rate setting on DVD-ROM may not played properly. Playing DVD-ROM on Single View mode is highly recommended.
4. It is not possible to use 16 bit colors in Windows 98. If so, secondary monitor on Duo View mode can not support the VGA mode.
5. The video memory uses one memory pool for two screen and Direct Draw application on Duo View mode in Windows 98. So activating the Direct Draw application which does not support that mode could cause fail in changing mode.
6. The program which does not have Duo View compatibility can not be used in the secondary monitor on Duo View mode.
7. The S3 video driver supports VPE (Microsoft video port specification) for multimedia function. So the programs using VPM (Cirrus logic video port specification) may not be supported.
8. Changing Duo View mode to Single View mode while you maximize the window of a program (such as Windows Explorer) could fail. Set the resolution of the secondary monitor lower than the primary monitor, or adjust the window size to smaller (not full screen).
9. When you use CRT and TV together as the same primary monitor or secondary monitor, the display size of the CRT is smaller than TV. The reason is that the frequency bandwidth is different from TV to CRT.

10. When you use Duo View mode, or a display device is set to secondary, the hotkey toggle does not work.

Working with PCMCIA (PC) Cards

By installing PC Cards, you can add functions to your notebook computer similar to those found on add-in boards for desktop computers. Available PC Cards include:

- Input/output, such as modem, network, pager, video capture, and SCSI cards.
- Storage, such as hard drive and flash (SRAM) cards.

Your computer includes the following PC Card support:

- One PC-Card slot: You can install Type I or II cards in the slot.
- CardBus hardware and software: CardBus enables the computer to use 32-bit PCMCIA Cards. Windows 98/ Me supports 32-bit and 16-bit PC Cards.
- Zoomed video: Both PC Card slots and the video chip on your computer support zoomed video. When you install a zoom video PC Card slot, data can be transferred directly from the PC Card to video and audio systems without going through the microprocessor. Video conferencing and real-time multimedia devices, such as video cameras, are supported by zoomed video.

Maintaining PC Cards

To maintain your PC Cards, follow these guidelines:

- Keep cards away from excessive heat, direct sunlight, and liquids.
- Do not drop, bend, flex, or crush cards when handling.
- Keep dust, magnets, and static electricity away from PC Cards.
- When a card is not in use, carry it in its protective carrying case.
- Some PC Cards include cables that extend from the back of the cards. Be careful not to bend or put excessive strain on these cables.

Using PC Cards

You can install PC Cards while the computer is on.

To insert a PC Card into a slot:

1. Push the slot door in with the PC Card.

2. Align the card with a slot and insert the card into the slot until it locks in place. See “Inserting a PC Card” on page 105.

The eject button for the card slot operates in two steps, therefore to remove a PC Card:

1. Push the eject button once to pop it outward.
2. Push the eject button again, then the card will be ejected.

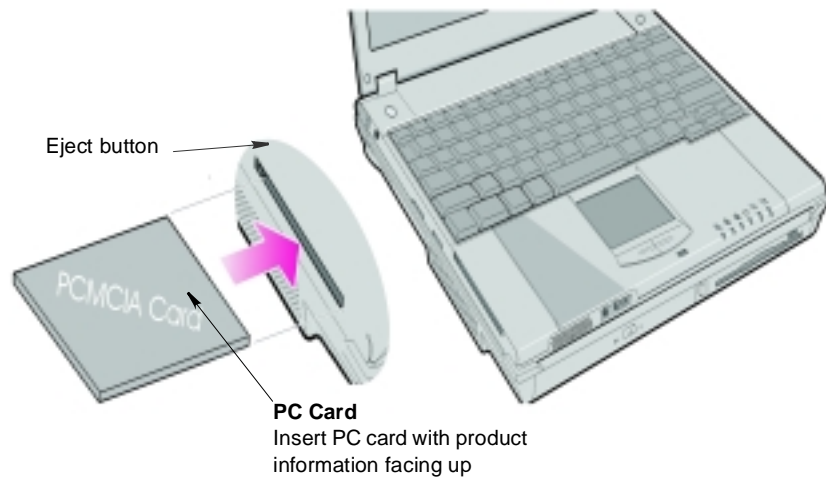


Figure 45. Inserting a PC Card

Windows 98/ Me

Windows 98/ Me automatically assigns computer resources (such as communication ports and memory addresses) to a PC Card installed in your computer. For further information on configuring a PC Card in Windows 98/ Me, see the index entry *PC card* in the Windows Help. Windows 98/ Me also handles power management for PC Cards.

To remove a PC Card from your computer if your operating system is Windows 98/ Me:



Use the following procedures to remove PC Cards, or you may lose data that is being stored to a card.

1. Click the PC Card icon on the taskbar.
2. Select the name of the card you want to remove, and then click the Stop button.
3. Push the card eject button on the side of the PC Card slot when prompted to do so.

4. Pull the card out of the PC Card slot.

Using Options

You can order the following options for your Notebook computer from your authorized reseller:

- An extra AC adapter.
- An extra battery pack. [Standard or large size]
- An upgraded hard drive. Optional hard drives are available to fit in the hard drive compartment or the Multi-Bay docking station. [IBM HDD is currently supported]
- 64,128 and 256 MB SDRAM memory modules that enable you to upgrade your computer's memory to a maximum of 320MB.
- A CD-ROM drive module. [5.25" Multi-bay]
- A DVD-ROM drive module. [5.25" Multi-bay]
- A CD-RW drive module. [5.25" Multi-bay]
- A Zip 250 Mb drive. [3.5" Multi-bay]
- Docking options that enable you to use your computer like a desktop computer.

The options that are available may change periodically. Contact your reseller for updated information on current and new options.

Battery Pack

You can order another smart lithium-ion battery pack for your computer. See "Using the Battery" on page 45 for information on the battery.

Hard Drives

You can order optional hard drives for your system. A hard drive can be installed in the 3.5" compartment of the Multi-bay docking station. See "Using the Multi-Bay Docking Station" on page 30 for information on installing a device in the Multi-Bay docking station.

Memory Modules

You can increase system memory by installing optional memory modules. You can install a 32, 64 or 128 MB modules.



To avoid possible system problems, use only approved memory modules in your computer.

Before You Install Memory



To prevent personal injury and damage to the equipment, follow the precautions listed here before installing a memory module.

Take the following precautions when installing a memory module:

- Before you remove the memory module compartment door, turn off the computer, unplug the power cord, and remove the battery. Also, disconnect any peripheral devices.
- Before handling a memory module, discharge any static electricity by touching a grounded surface or using a grounding wrist strap.
- Do not insert objects with conductive material, such as metal screwdrivers or graphite pencils, into the memory-module compartment.
- Be careful in handling the metal plate of the memory door.

Installing a Memory Module



Handle a memory module carefully. Hold them only by the edges.

To install a memory module:

1. Turn the computer over so that the bottom faces up.
2. Using a screwdriver, remove the screw that holds the memory-module compartment door in place (Figure 48).

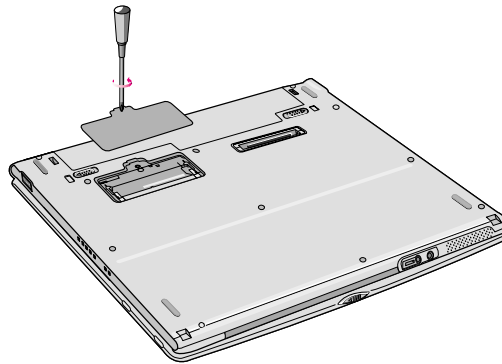


Figure 46. Removing the Memory Module Compartment Door

3. Grasp the edge of the door and pull the door off the chassis.
4. Remove installed modules if necessary:



When removing modules, pull on the plastic portion of the connector slots tabs only. Do not pull on the metal part of the tabs, or you may damage the tabs.

- a. Pull the tabs on the connector slot outward slightly, until the edge of the memory module pops up.
 - b. Hold the memory module by the edges and pull it forward out of the compartment.
5. Align the connector on the memory module with the connector of the slot.
 6. Push the memory module into the slot at a slight angle until the connectors are fully engaged (Figure 49).



Figure 47. Installing a Memory Module

7. Push down on the edge of the memory module until the module snaps into place.
8. Align the memory module compartment door with the compartment and push the door down until it snaps into place.

9. Reinstall the screw you removed in step 2.
10. Turn on the computer and perform a complete POST to check the memory integrity.

CD-ROM Drive

If your system did not ship with a CD-ROM drive included, you can order a drive. See "Using the CD/DVD-ROM Drive" on page 33 for directions on installing the CD-ROM drive.

DVD-ROM Drive Module

If your system did not ship with a DVD-ROM drive included, you can order a drive. The DVD-ROM drive module can be inserted into your computer exactly as you would insert a CD-ROM. See "Using the CD/DVD-ROM Drive" on page 33 for directions on installing and using the CD-ROM drive. There is MPEG-2 software included with the drive that will enable you to play DVD movies from the DVD-ROM drive.

Docking Options

Contact your reseller for a list of docking options available for your Notebook computer. User's manuals are included with the docking options. See "Using the Multi-Bay Docking Station" on page 30 for a list of options available.

Troubleshooting

If you ever have difficulty running your computer, follow these steps:

1. Consult the following sections for advice on how to handle system problems.
2. If steps 1 do not help you to resolve the problem, contact your reseller.

Operating Problems

This section tells you what to do if you have problems running your computer. If any problem persists after you take corrective action, contact your reseller for assistance.

The computer does nothing when you turn it on.

Has the battery run down? Connect the power cord to get power and recharge the battery. Try turning on the computer again.

Nothing appears on the LCD panel when you turn on the computer.

Adjust the brightness on a TFT LCD. Are you using an external monitor? If so, press <Fn+F5> to return to the LCD panel.

Nothing appears on the external monitor when you switch the display to it.

Is the monitor properly connected to the computer? Is the monitor's power cord connected to an AC wall outlet? Check the brightness and contrast controls on the monitor. Does the program appear on the LCD panel instead of the external monitor? If so, press <Fn+F5> to switch to the monitor. Try turning the monitor off and on again.

The external monitor displays flashes or waves.

Check the cables between the monitor and the computer. Are they properly installed?

Some of the letter keys type numbers instead of the indicated letters.

Is the Num Lock light on? If so, the numeric keypad on the keyboard is active. To return the keypad keys to typing letters, press <Num Lock>.

Battery power seems to run out faster than expected.

If you are running the computer from the battery rather than the power cord, make sure that you set the *Idle Mode* field in System Setup to *On*. This setting enables

the microprocessor and the hard drive to slow down when the computer is not busy.

Certain software programs “hang” during operations when there is no interaction with the keyboard or peripheral devices.

Your computer may be in Suspend or Rest mode. Tap the touchpad to resume from Suspend or press the power button to resume from rest.

A PC Card does not work correctly.

Make sure that the PC Card is inserted left side up in the PC Card slot. Check that the card is inserted fully into the slot. If you are using a PC Card modem, check the modem cable connections. For the Windows 98 operating system, try setting the *Installed OS* field in System Setup to *Yes* to enable Windows 98 to autosense an older PC Card.

The System Setup settings are not retained when you turn off the computer.

The CMOS battery inside the computer may need to be replaced. The CMOS battery provides power to save the system BIOS information when the computer is turned off. Normally, the CMOS battery lasts for several years. Do not attempt to open the chassis and replace this battery yourself or your warranty is void. Have an authorized the manufacturer’s service center replace the CMOS battery.

Infrared Problems

If your computer’s operating system is Windows 98/ Me, you can enable and use the infrared port.

If you are unable to transfer files with the infrared port, check the following:

- Make sure the *Infrared port* field in System Setup is set to *2F8, IRQ 3*. The field is in the *I/O Device Configuration* under *Advanced Menu*.
- The receiving device must be positioned properly. There must be no more than three feet of distance between the computer’s infrared port and the receiving infrared device.
- The sending and receiving devices need to be on the same level vertically. Place them on the same table if possible.
- Make sure the infrared ports on the sending and receiving devices face each other, with no more than a 30 degree angle between the two infrared ports.
- Make sure that nothing is obstructing the file transfer path between the computer’s infrared port and the receiving infrared device.

If you still cannot transfer a file, see the online help.

Modem Problems

My modem doesn't connect to services or disconnects during communication

If your modem has difficulty in connecting to on-line services and sustaining communications, firstly check the quality of the phone line. Interference from certain devices or poor line power conditions may degrade the quality of your connection. Under these conditions gradually reduce the communication speed of your modem until a reliable connection is achieved.

Check your on-line service provider. Service line or service may be halted.

When using a PBX phone system I can't dial on my modem.

If you use a PBX phone system you may need to press a number i.e. '9' to connect to an external line, you should enter the following command before trying the connection and check modem initialization.

```
ATX3&W
```

And add "9," as the external line prefix (in our example) of the phone number when using the dial command "ATDT9, 123-4567".

Screen displays random or garbage characters during communications.

After your modem has connected to the on-line service, your screen may display garbage characters or after-images in screen transitions. This problem is caused by a mismatch of the terminal modes between communications service and communications programs. You need to match the terminal modes to each other.

Refer the user's guide of the communications program you're using.

Reports error message that insufficient Hard Disk space is available.

Delete the unnecessary messages or data you received by Modem or Fax every one to three months as required.

If you're using WWW of the internet, many picture and data files can get downloaded to your HARD DISK every time you visit a home page, which will consume a lot of your HARD DISK space. Delete the unnecessary messages or data you received by Modem or Fax every one to three months as required. For more detailed information about the method of deleting, refer to the help of the Web browser you've been using or your user's guide.



Depending on telephone line status, or types of Fax machines/programs that send/receive the Fax, Fax transmission/reception may not work correctly. In that case, please try other Fax programs. (e.g. Microsoft Fax)

Specifications

Table 9 gives the specifications for computers.

Table 8. Hardware Specifications

Dimension	
* LCD viewing area	
LCD viewing area (12.1 TFT)	26.7 x 18.6 cm
Width [Docking Station] <Notebook>	[27.4 cm] <27.3 cm>
Depth [Docking Station] <Notebook>	[23.0 cm] <22.7 cm>
Height [Docking Station] <Notebook>	[25.0 cm] <19.8 - 22.3 cm>
Weight (with integrated floppy drive, Li-Ion battery & 14.1" TFT LCD & weight saver)	~3200 g
Environment	
Ambient temperature, operating	50°–90° F (10°–32°C)
Ambient temperature, storage	23°–104° F (-5°–40° C)
Relative humidity (noncondensing), operating	20–80%
Relative humidity (noncondensing), storage	5–90%
Altitude, operating	0 to 8,000 ft (0 to 2,348 m)
Altitude, storage	0 to 40,000 ft (0 to 12,192 m)
Shock, operating	10 G for 11 ms half sine
Shock, nonoperating	60 G for 11 ms half sine
Lithium-Ion Smart Battery [Large]	
Normal Weight	0.99lb (450g)
Nominal open circuit voltage	7.4 VDC
Capacity, typical	53 whr
Charging time, approximate, with computer turned off, typical	~3.0 hr
Charging time, approximate, with computer turned on, typical	~5.0 hr

Average battery life, with no power management enabled	~5 hr
--	-------

Lithium-Ion Smart Battery [Small]

Normal Weight	0.99lb (450g)
Nominal open circuit voltage	7.4 VDC
Capacity, typical	24 whr
Charging time, approximate, with computer turned off, typical	~3.0 hr
Charging time, approximate, with computer turned on, typical	~5.0 hr
Average battery life, with no power management enabled	~2.5 hr

External AC Adapter

Operating voltage	100-240 VAC
Line frequency	50-60 Hz
Input current	1.2 A 100 V ~ 0.6 A 240 V
Output current	3.2 A
Output voltage	12.0 VDC

Abbreviations

Your computer's documentation uses the following abbreviations:

A	Amperes
AC	Alternating current
ACPI	Advanced Configuration and Power management Interface
APM	Advanced Power Management
ATA	AT attachment (refers to the hard-drive interface in an AT-compatible computer)
ATAPI	AT attachment packet interface
BBS	Bulletin board system
BIOS	Basic input/output system
C	Centigrade
CD	Compact disc
CD-ROM	Compact disc read-only memory
cm	Centimeters
COM	Communication (as in communication port)
CMOS	Complementary metal-oxide semiconductor
DC	Direct current
DMA	Direct memory access
DPMS	Display power-management signaling
DRAM	Dynamic random access memory
DSTN	Double layer super twist nematic
ECP	Extended capabilities port
EPP	Enhanced parallel port
F	Fahrenheit
FIR	Fast infrared
ft.	Feet
g	gram
G	Gravity
GB	Gigabytes
hr	hour

Hz Hertz
IDE Integrated drive electronics
in Inches
I/O Input/output
IrDA Infrared Data Association
IRQ Interrupt request line
ISA Industry Standard Architecture
KB Kilobytes
kg Kilograms
LAN Local-area network
lb Pounds
LBA Logical block addressing
LCD Liquid-crystal display
m Meters
mA Milliampere
mAh Milliampere hour
MB Megabyte
mm millimeter
MPEG Motion Picture Experts Group
MPU Microprocessor unit
ms Millisecond
PDF Portable document format
PC Personal computer
PCI Peripheral component interconnect
PCMCIA Personal Computer Memory Card International Association
POST Power-on self-test
PNP Plug and play
PS/2 Personal System/2
RAM Random-access memory
ROM Read-only memory
SVGA Super video graphics array
S-VHS Super VHS
TFT Thin-film transistor

USB Universal serial bus
V Volt
VAC Voltage alternating current
VCC Voltage collector current
VDC Voltage direct current
whr Watt hour

Glossary

AC adapter

The AC (or alternating current) adapter regulates current coming into your computer from the wall outlet. The current at the wall outlet is alternating current and needs to be changed by the adapter to DC (direct current) before your computer can use it for power.

ACPI

ACPI (Advanced Configuration and Power Interface)- a method for describing hardware interfaces in terms abstract enough to allow flexible and innovative hardware implementations and concrete enough to allow shrink-wrap OS code to use such hardware interfaces.

BIOS

BIOS stands for basic input/output system. The BIOS is software (often called firmware) that is independent of any operating system. It enables the computer to communicate with the screen, keyboard, and other peripheral devices without using programs on the hard disk.

The BIOS on your computer is flash BIOS, which means that it has been recorded on a flash memory chip that can be updated if needed.

Boot

To start your computer. A cold boot resets the entire computer and runs through all computer self-tests. A warm boot clears out computer memory only.

Boot disk

A disk containing operating system programs required to start your computer. A boot disk can be a floppy disk, hard drive, or compact disc.

Byte

The basic unit of measure for computer memory. A character—such as a letter of the alphabet—uses one byte of memory. Computer memory is often measured in kilobytes (1,024 bytes) or megabytes (1,048,576 bytes).

Each byte is made up of eight bits. For more information on bytes and bits, see an introductory book on computers.

Cache memory

Cache is very fast, zero-wait-state memory located between the microprocessor and main memory. Cache reduces the average time required by the microprocessor to get the data it needs from the main memory by storing recently accessed data in the cache.

CardBus

CardBus technology enables the computer to use 32-bit PC Cards. Hardware in the computer and the Windows 98 operating system provide support for the 32-bit cards. The voltage of 32-bit cards (3.3 volts) is lower than that of 16-bit cards (5 volts). The 32-bit cards can transmit more data at a time than the 16-bit cards, thus increasing their speed.

CMOS memory

CMOS (complementary metal oxide semiconductor) memory is powered by the CMOS battery. The System Setup settings and other parameters are maintained in CMOS memory. Even when you turn your computer off, the information in CMOS memory is saved.

COM port

COM stands for communication. COM ports are the serial ports in your computer.

Compact Disc

A compact disc (CD).

Conventional memory

The first 640 KB of system memory. Operating systems and application programs can directly access this memory without using memory-management software.

Disk

The device used by the computer to store and retrieve information. *Disk* can refer to a floppy disk, hard disk, or RAM disk.

Disk cache

A software device that accumulates copies of recently used disk sectors in RAM. The application program can then read these copies without accessing the disk. This, in turn, speeds up the performance of the application.

A cache is a buffer for transferring disk sectors in and out of RAM. Data stored in a disk cache is a copy of data already stored on the physical disk.

DMA (direct memory access)

A method of transferring data from a device to memory without having the data pass through the microprocessor. Using DMA can speed up system performance.

DPMS

Display Power Management Signalling. Displays or monitors that comply with this can be managed by the Power Management features found in the system setup.

Floppy disk

A removable disk, also called *floppy* or *diskette*.

Hard drive

Also called *fixed* disk. A hard drive is connected to the computer and can be installed or removed. Data written to a hard drive remains until it is overwritten or corrupted.

The 2.5-inch hard drive in your computer was designed for use in a notebook computer. Because hard drives in notebook computers are smaller than those in desktop computers, their maximum storage capacity may be less than that of desktop hard drives. However, because of their smaller size, the drives handle shock and vibration better than larger drives, which is important for a notebook computer.

I/O

Input/output. Refers to peripheral devices, such as printers, that are addressed through an I/O address.

I/O address

I/O stands for input/output. Peripheral devices, such as printers, are addressed through the I/O port address.

IRQ (interrupt request line)

The IRQ is a hardware line that a device uses to signal the microprocessor when the device needs the microprocessor's services. The number of IRQs is limited by industry standards.

LCD (liquid-crystal display)

The LCD screen on your computer differs from the display screen of a desktop monitor. Most desktop monitors use CRT (cathode-ray tube) displays, which work by moving an electron beam across phosphor dots on the back of the screen. The phosphor dots light up to show the image. LCDs use a liquid-crystal solution between two sheets of polarizing material. Electric current passing through the

liquid aligns the crystals so that light can or cannot pass through them, creating an image.

MB (megabyte)

1,024 kilobytes.

Megabit

1,048,576 bits or about 128 kilobytes.

Operating system

A program that supervises the computer's operation, including handling I/O. Application programs and users can request operating-system services. A user might request operation-system services to copy files or format a disk. An application program might use the operating system to obtain keyboard input, write data to a file, or write data to a screen.

PC Card

PC Card stands for personal computer card. The Personal Computer Memory Card International Association (PCMCIA) defines the standards used to develop all PC Cards. PC Card types include: modems, Ethernet adapters, SCSI adapters, ATA cards, and memory cards.

PC slot

The PC slot is the hardware slot in the computer where the PC Card is placed.

Pixel

A pixel is an individual dot in a graphic displayed on your computer. The pixels are so close together that they look as though they are connected. An LCD screen displays thousands or millions of pixels.

Plug and Play

A plug and play operating system automatically configures computer components to work with your system. With this type of operating system, you normally do not need to set jumpers on devices or set memory addresses or IRQs.

POST

POST stands for power-on self-test. POST is a test performed by the computer whenever you turn on the power. POST checks system integrity.

RAM (random access memory)

The computer's system memory, including conventional and extended memory. You can write to and read from RAM. Information stored in RAM is temporary, and is erased when the system is turned off.

Refresh rate

The refresh rate is the rate at which the image on the LCD screen is rewritten to the screen. A fast refresh rate helps keep the image from flickering.

Resolution

The resolution is the sharpness or clarity of the image on your LCD screen. Resolution is measured by the number of pixels the computer's screen can display. For example, a resolution of 800x600 means that the screen can display 800 pixels in row and can display 600 rows. The more pixels displayed, the higher the resolution and the better the image.

ROM (read-only memory)

Permanent computer memory dedicated to a particular function. For example, the instructions for starting the computer when you first turn on power are contained in ROM. You cannot write to ROM. (ROM is not the same as RAM).

Sector

Also known as *disk sector*. The portion of a track that is numbered and can hold a specified number of characters (usually 512 KB).

Shadow RAM

A write-protected area of RAM that contains a copy of the BIOS. As the computer boots, the BIOS is copied from its permanent location in ROM to RAM. The BIOS can be executed much faster in RAM than in ROM. The BIOS remains in shadow RAM until you turn off the computer.

TFT (thin film transistor) LCD

A TFT LCD uses a separate transistor circuit to control each pixel. This technology provides the best resolution for an LCD screen. A TFT LCD is also sometimes called an active matrix LCD.

Zoomed video

Zoomed video technology enables zoom video PC Card to transfer data directly from the card to video and audio systems without going through the microprocessor. This process improves video performance. Video conferencing and real-time multimedia devices, such as video cameras, are supported by zoom video.

Computer Hardware Configuration

In the spaces provided, write the System Setup program settings. If your computer ever loses configuration information, you can enter the information from this section into System Setup to restore it.

MAIN MENU

Legacy Diskette A: 1.44/1.25 MB 3 1/2" Disabled

IDE ADAPTER SUBMENU

Primary Master:

Type: _____

Multi-Sector Transfers: _____

LBA Mode Control: Enabled Disabled

32 Bit I/O: Enabled Disabled

Transfer Mode: Standard Fast PIO 1

Fast PIO 2 Fast PIO 3

Fast PIO 4

Ultra DMA Transfer Mode: Mode 0 Mode 1

Mode 2 Disabled

Secondary Master:

Type: _____

Multi-Sector Transfers: _____

LBA Mode Control: Enabled Disabled

32 Bit I/O: Enabled Disabled

Transfer Mode: Standard Fast PIO 1

Fast PIO 2 Fast PIO 3

Fast PIO 4

Ultra DMA Transfer Mode: Mode 0 Mode 1

Mode 2 Disabled

ADVANCED MENU

- Installed O/S:** Other Win95/Win98APM
 Win98ACPI/Win2000
- PS/2 Mouse:** Disabled Single Mouse
 Dual Mouse
- Screen Expansion:** Enabled Disabled
- TV Out Mode:** NTSC PAL
- Display Configuration:** LCD CRT Both

I/O DEVICE CONFIGURATION SUBMENU

- Serial port:** Enabled Auto Disabled
 Base I/O Address 3F8, IRQ 4 2F8, IRQ 3
 3E8, IRQ 4 2E8, IRQ 3
- Infrared port:** Enabled Auto Disabled
 Base I/O Address 3F8, IRQ 4 2F8, IRQ 3
 3E8, IRQ 4 2E8, IRQ 3
- Mode** FIR
- DMA Channel** DMA 3 DMA 1
- Parallel port:** Enabled Auto Disabled
 Mode Output only Bi-directional
 EPP ECP
- Base I/O Address** 378, IRQ 378, IRQ 5 278, IRQ 7
 278, IRQ 5 3BC, IRQ 7 3BC, IRQ 5
- DMA Channel** DMA 1 DMA 3
- Floppy disk controller:** Enabled Auto Disabled
- Local Bus IDE adapter:** Both Disabled
 Primary Secondary
- Large Disk Access Mode:** DOS Other

SECURITY MENU

Set password _____

Password on boot:

Enabled Disabled

Fixed disk boot sector:

Normal Write Protect

POWER MENU

Intel (R) Speedstep (TM)

Performance Battery

Automatic Disabled

Idle Mode:

Off On

Suspend Mode:

Save to RAM Save To Disk

Suspend Time-out:

Off Time _____

Resume On Modem Ring:

On Off

Resume On Time:

On Off

Resume Time: _____

BOOT MENU

Logo Screen:

Enabled Disabled

Summary screen:

Enabled Disabled

Boot Device Priority:

Boot option 1: _____

Boot option 2: _____

Boot option 3: _____

Boot option 4: _____