# 1 Introduction

This manual is an introduction to your notebook computer system, its main features, and how to get it working.

In this chapter we cover:

- How to use this manual.
- A system map
- A Quick Start Guide for “advanced users”.

## USING THIS MANUAL

Depending on how your system is configured, some or all of its features may already be set up. If they aren't, or if you need to re-configure (or re-install) portions of the system, refer to this manual.

## PAGES

Each page of the book has three parts:

| | |
|---|---|
| **Outer Margin** | This area is reserved for warnings (be on the lookout for a ), special notices or tips (☑) |
| **Main Section** | for introductory text and descriptions |
| **Inner Margin** | for advanced explanations & procedures (watch for a ) and software setup instructions (watch for a ) |

☑

*For Beginners*

If you are new to the wonders of notebook computers, or just feel like a beginner, you should still look over all of the documentation. Don't worry if you don't understand everything the first time around. Just keep this manual near your computer, and learn as you go.

*Advanced Advice*

Advanced users should check the sidebars which look like this.
You'll find setup information about drivers, tips and more detailed information about the notebook's various features.
"Beginners" are welcome too. As you get used to your computer, you may be surprised at how much of this stuff you can understand.

## CHAPTERS

Each chapter highlights one of the computer's main sub-systems, what it does, and how to get it working.

| | |
|---|---|
| **Preface** | This has the usual legalities, table of contents, and most importantly, safety instructions. |
| **Chapter 2: System** | Has information about the keyboard, TouchPad, video & audio systems, and PC Card (PCMCIA). |
| **Chapter 3: Media** | Looks at media storage devices: HDD, CD-ROM and Floppy. |
| **Chapter 4: Firmware** | Is about the notebook's built-in software: the *POST* and *Setup* utilities. |
| **Chapter 5: Power** | Examines the power system, both hardware and software, including power management options. |
| **Chapter 6: Extras** | Is about improving the system with additional RAM, utilities, some "non-essential" or "enhancement" software, and the optional port replicator. |
| **Appendicies A & B** | These have information and explanations of the system's specifications and troubleshooting tips. |
| **Glossary & Index** | Have definitions for terminology that may be new to you and a quick way to locate specific topics. |

***Warning***

***Pay careful attention to warning and safety information indicated by the "" symbol and in the* Preface.**

***Improper usage or maintenance of the the computer and/or its power system could damage the system and/or data as well as void your warrantee.***

## NOT HERE

Operating systems (i.e. *Windows 95, Windows NT 4.0 , OS/2 Warp, UNIX,* etc.) have their own manuals as do application software (e.g. word processing and database programs). If you have questions about those programs, you should consult those manuals.

# System Map

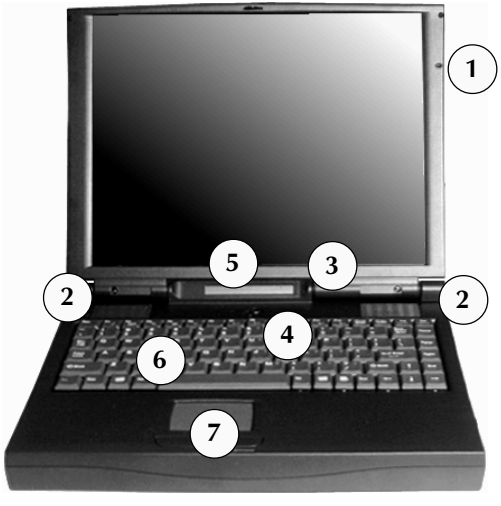
The following graphics are a general map of the notebook computer. Explanations of the various subsystems are covered in the chapters indicated.

## Front View: LCD, Work Panel & TouchPad

**Latch** To open the notebook cover, slide this latch to the right.

**TouchPad** *Chapter 2: System* covers basic functions. *Chapter 6: Enhancements*, has a supplemental driver.

**LCD** Video functions are covered in *Chapter 2: System*.




**Work Panel View**

Fig. 1 – 1

1. microphone
2. speakers
3. close-cover switch
4. power button
5. status screen
6. keyboard
7. TouchPad & buttons

## Left View: CD-ROM Bay, and Power Bay

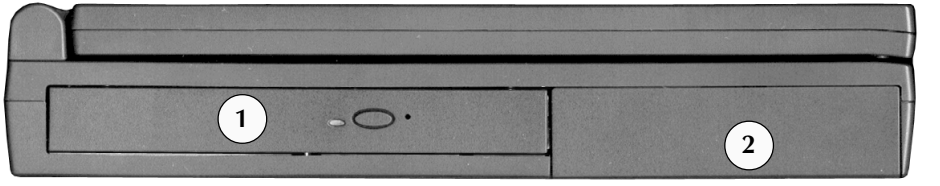
**CD-ROM** *Chapter 2: System* covers basic functions, *Chaprer 6: Enhancements*, has additional audio utilities.

**Power Bay** Refer to *Chapter 5: Power* and *Appendix A: Specifications* for all aspects of the power system.

### Left Panel

Fig. 1 – 2

1. CD-ROM Bay
2. Power Bay



# RIGHT VIEW: DRIVES, AUDIO & PC CARD

**HDD Bay** Refer to *Chapter 3: Modules* for more on how to setup or replace a HDD.

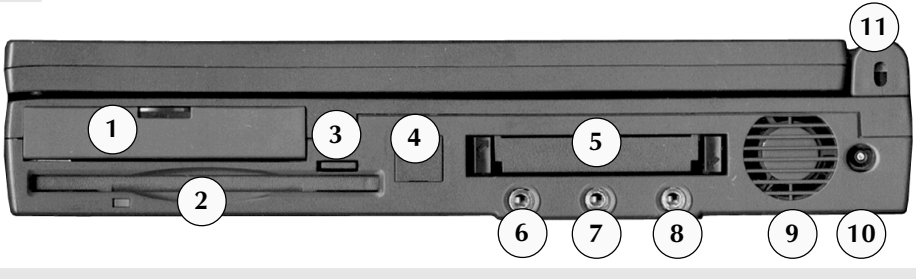
**FDD** *Chapter 3: Modules*, covers the options available for this bay.

(**Fax-Modem**) For more on this option, refer to *Chapter 2: System*. If your system doesn't have a fax-modem installed, this slot will have a cover. Do not remove it. Ask your dealer about installing a fax-modem module.

(**PC Card**) Your computer uses newer technologies than the drivers included in *Windows 95*. Use the setup procedure detailed in *Chapter 2: System*. Supplemental PC Card drivers are detailed in *Chapter 6: Extras*, "Card Wizard".

(**Audio**) Setup for these ports is covered in *Chapter 2: System*.

**Kensington Lock** This is a standard security port.




**Warning**

***Don't block the fan. Overheating may cause system instablility.***

### RIGHT PANEL

FIG. 1 – 3

1. HDD Bay
2. Floppy
3. Floppy eject button
4. fax-modem (option)
5. PC Card slots
6. mic-in
7. phones - using this port disables the speakers.
8. audio line-in
9. system cooling fan
10. adapter port
11. Kensington lock port

## Rear View: Ports

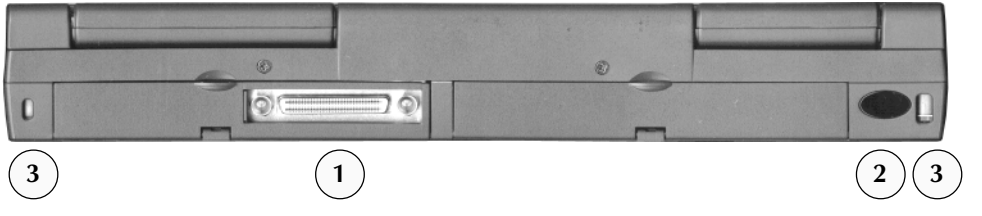
The principal peripherals plug in on this panel. To be safe, turn off both the system and peripherals *before* connecting them. Turn the peripherals on *first*, *before* you turn on the system.

[**Expansion Port**] With the main hinged door closed, connect to this port through the sliding door. The optional port replicator is covered in *Chapter 6: Extras*.

**IrDA** This port uses (serial) COM2 resources. The infrared connection supports the SIR, FIR and ASK standards. Its most common use is for a printer, modem or LAN.
Note: Newer versions of *Windows 95* have an IrDA driver built -in For older versions, support is available from Microsoft Corp. For other operating systems and IrDA standards, consult your system vendor. Also consult the user's guides for the device this port is going to work with.

**Rear Panel (cover closed)**
Fig. 1 – 4

1. expansion door (open)
2. serial 2 IrDA port
3. port-replicator guides



### *PS/2 Note*

You can only use one type of PS/2 device per system session. If you want to use a different device (mouse or keyboard), you must shut down and restart the system. However, you can detach and reconnect the same device during a system session.

[**PS/2 Port**] Use this with any standard PS/2 external keyboard or mouse. For details, refer to *Chapter 2: System*, "TouchPad".

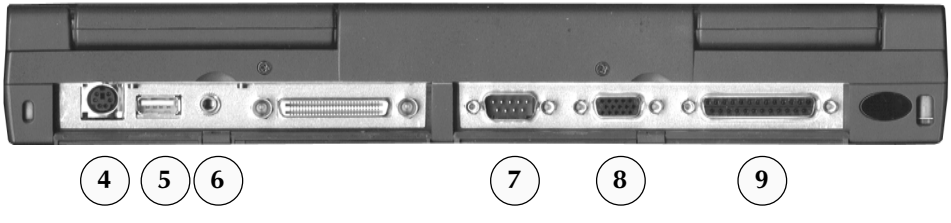
(**USB**) Refer to *Chapter 2: System* on how to activate this port.

[**TV-out**] Jack This is explained in *Chapter 2: System*.

[**COM1** (serial)] Use this with any 9-pin serial device (e.g. a mouse, serial printer or modem). Consult the user's guides for the device this port is going to work with. For pointing devices, refer to *Chapter 2: System*, "TouchPad".

### *Warning*

***The default settings in* Setup *makes all ports "hot". Depending on the peripheral, this could cause a problem when you attach it. Check your peripheral's manual before you make a connection.***




**Rear Panel (cover open)**

Fig. 1 –5

4. PS/2 port
5. USB port
6. TV-out
7. COM1 serial port
8. external monitor port
9. LPT1 parallel port

[**External Monitor**] Use this port with any standard color VGA monitor. For details, refer to *Chapter 2: System.*

[**Parallel Port**] This port supports several standards:

- Output only (Standard AT)
- Bidirectional
- Enhanced (EPP) -versions 1.7 & 1.9
- Extended Capabilities ECP

Most printers use the Standard mode. The *Setup*'s Help bar (refer to *Chapter 4: Firmware*) explains how to adjust this setting. Your peripheral's manual explains how to configure the device.

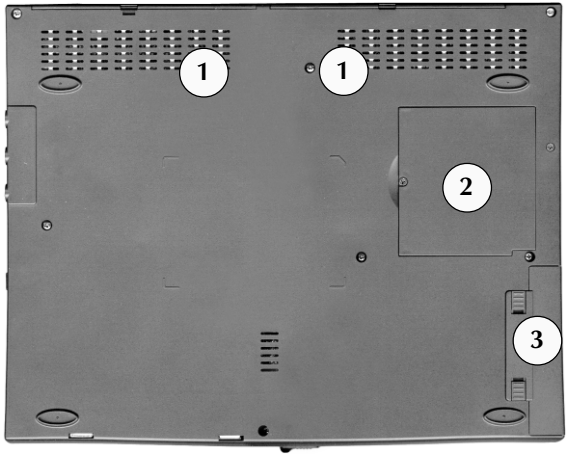
This port also serves as the external FDD connection. Refer to *Chapter 3: Modules* for more on this feature.

*Printer Note*

Your operating system may include drivers for many printer models. Consult your printer dealer for the most recent driver for your model, as this can greatly affect the performance of the printer.

## BOTTOM VIEW: COMPARTMENTS

The Drive bay is covered in *Chapter 3: Modules*.




**Warning**

***Don't block the cooling vents. Overheating may cause system instablility.***

**Warning**

***Follow the safety instructions for using batteries.***

**BOTTOM PANEL**

FIG. 1 – 6

1. system cooling vents
2. RAM compartment
3. Battery compartment

## HOT KEY CONTROLS

Some of the features are managed by **Fn**+key combinations:

*Key Combinations*

Whenever you use a key combination, start pressing them in the order they are listed. Don't release any of the keys in a sequence until you've pressed the last one.

Table 1 – 1
**HOT KEY CONTROLS**

| Keys | Control | Comment |
|---|---|---|
| **Fn** + | freeze | activates "Save to Disk" if the Save to Disk partition/file is available otherwise activates "Suspend" (to RAM) |
| **F2** | enter *Setup* | If pressed immediately after boot-up, this starts the Setup utility |
| **Fn** + | Standby/Suspend | activates "Suspend" (to RAM) |
| **Fn** + | LCD/monitor | toggles between display devices: monitor, LCD and combinations. (refer to video setup information) |
| **Fn** + | Speakers On/Off | toggles the on-board speakers on/off (does not affect phones) |
| **Fn** + | volume up | increases audio volume |
| **Fn** + | volume down | reduces audio volume |
| **Fn** + | brightness up | increases LCD brightness |
| **Fn** + | brightness down | reduces LCD brightness |
| **Fn** + | contrast up | increases LCD image contrast (DSTN display only) |
| **Fn** + | contrast down | reduces LCD image contrast (DSTN display only) |
| (**any key**) | resume | ends power-saving modes, including "Suspend" (to RAM), but not "Save to Disk" |

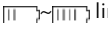
## STATUS SCREEN INDICATORS

Your notebook lets you know what it's doing with the following status screen indicators:

| Indicator | Meaning | Effect |
|---|---|---|
|  | NumLock | Embedded numeric keyboard is on – pressing the affected keys produces numeric characters. |
|  | CapsLock | CapsLock is on. Pressing alphabetic keys produces capitalized characters – other keys are unaffected. |
|  | Scroll Lock | Scroll Lock is on. |
|  | HDD bay | HDD is being accessed. |
|  | Floppy | Floppy is being accessed. |
|  | PC Card | PC Card socket(s) are in use |
|  | Drive bay | CD-ROM is being accessed. |

Table 1 – 2
STATUS SCREEN INDICATORS

Table 1 – 2 (cont.)
**Status Screen Indicators**

| Indicator | Meaning | Effect |
|---|---|---|
|  | Full Power | All subsystems are fully powered |
|  | Doze mode | The CPU doesn't initiate activity, all storage devices are in "idle" mode, all peripheral devices & ports are fully powered. |
|  | Sleep mode | The CPU clock is on "hold", all subsystems are in a reduced-power mode, and the LCD is OFF. |
|  | Suspend to RAM | The CPU and other chips are turned OFF, RAM is refreshed slowly, system fan is OFF, peripheral devices and ports are in power-saving mode. |
|  | Battery > 80% | Battery has more than 80%, considered "Full" |
|  | Battery < 80 to 20% | |
|  | Battery < 20% | "Low" battery range, recharge with the adapter |
|  | Battery empty | |
|  lines blink | Charging | lines correspond to charge level, cycling lines indicate "dumb battery" charging |
|  frame blinks | system problem | consult your service representative |
|  all lines blink | battery problem | replace the battery. **Do Not Attempt Repair** |
|  | AC-in | System is receiving AC power. |

## *Packing Contents*

Keep the packing materials in a safe place in case you need them for shipping or long-term storage.

# QUICK START

If you're already familiar with notebook computers, the steps listed below tell you how to start up the notebook for the first time. They assume that you know where all of the parts of the computer are. You should review these steps, *before* you take any action. If you aren't sure about one of the procedures, check the relevant chapter before continuing.

1. Follow the safety instructions on page *iv*, especially the instructions on placement.
2. Remove all packing materials, floppy disks and any PC Cards.
3. Secure the battery pack in its compartment. (Ch. 5)
4. Securely attach any peripherals you want to use with the notebook (i.e. mouse or keyboard) to their ports. (Ch. 1)
5. Attach the AC adapter to the port on the side of the computer. (Ch.5)
6. Plug the AC power cord into an outlet.
7. Connect the AC power cord to the AC adapter.
8. Raise the lid/LCD to a 90° angle.
9. Push in the ⏻ button (power switch) to turn "on".

### *Battery Charges*

When you get your system, the battery(ies) may not be fully charged. Follow the procedure in *Chapter 5: Power, First Time Use and Storage* (page 5-8), to charge it.

### *Suspend To Disk*

If you plan to use the *Suspend to Disk* partition option in the future, setup the partition *before* you install the operating system. This involves creating partitions and formating your hard disk. Refer to *Chapter 5: Power* and your operating system documentation for details.

*NOTES:*

# 2 System

This chapter is about how to use and setup the most visible parts of the system:

| | |
|---|---|
| input: | • the keyboard<br>• the TouchPad |
| Output: | • Video subsystem<br>• Audio subsystem |
| Communications | • PC Card<br>• Fax/modem |

*Other Systems*

Some operating systems lack supporting software for some components. If the software you need is not included on our CD-ROM, contact your dealer or service representative.

# Setup Procedures

This chapter describes the basic setup for the Windows 95 and Windows NT 4.0 operating systems. These procedures are described in the inner margins and indicated by a "".

If you're using another system (i.e. OS/2 Warp, Windows 3.1, Windows NT 3.51 or DOS), check the appropriate "README" files on the accompanying CD-ROM.

For additional, nonessential, utilities check out *Chapter 6: Extras*.

# KEYBOARDS

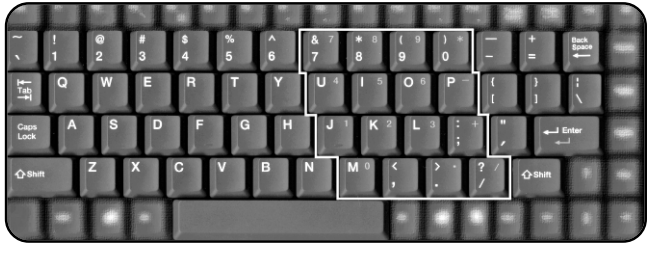
The notebook keyboard is like a full-sized version with typewriter-like keys and function keys. But, since it's a notebook, it also has special function keys (listed on page 1-14) .

### *Special Characters*

Some software applications allow the number-keys to be used in conjunction with **Alt** to produce special characters. These special characters can only be produced by using number keys on the embedded numeric keypad. Regular number keys won't work.

### *Function Keys*

Many software packages make use of Function keys (F1 ~ F12), so you should consult those manuals.



**TYPE KEYS**
FIG. 2 – 1
The embedded numeric keypad (outlined) is activated by pressing **NumLock** – its LCD will appear)

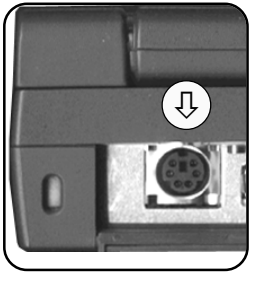
**FUNCTION KEYS**
FIG. 2 – 2

## External Keyboards

You can attach an external keyboard to the (PS/2) port. If you don't have a 6-pin keyboard connector, use a 5-to-6 pin adapter cable. The system automatically detects and enables the external keyboard as well as the notebook's. However, for those functions requiring the **Fn** key, use the Ctrl + Alt key combination.

If you have a Y-connector, you can attach both a keyboard and PS/2 mouse. However whatever the arrangement, the port can only accept one type of device configuration per system session. For example, if you connect a PS/2 mouse to this port, you cannot connect a keyboard to the port during the same system session. Doing so will cause a system conflict. If you already have a mouse attached, and want to use a keyboard, you must shut down and restart the system. However, you can detach and reconnect the same device during a system session.

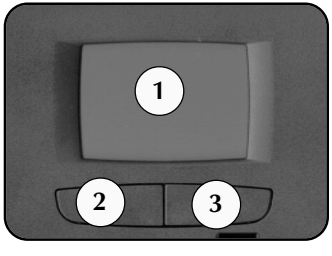
**PS/2 Keyboard Port**
Fig. 2 – 3



# TouchPad

The system automatically enables the built-in TouchPad. If you're using any version of *Windows* or *OS/2*, you don't have to install a driver for it. However, you must install a driver (if your dealer hasn't already done this for you) for the *DOS* environment.

If you want to use the TouchPad's advanced features, refer to the driver information in *Chapter 6: Extras*.




**The TouchPad**
Fig. 2 – 4
1. sensor pad
2. left "mouse" button
3. right "mouse" button

Note for left-handers: most operating systems allow you to reverse the mouse-button settings.

## *Configuring the TouchPad*

The TouchPad uses the PS/2 port which is factory enabled. It can use the "Microsoft, or IBM PS/2" mouse driver available with most operating systems. Optimized TouchPad software for various operating systems is on the *Software & Utilites* CD-ROM which came with the system and is covered in *Chapter 6: Extras.*

## *Using TouchPad & Serial Device*

**Windows 95**

1. Attach the serial device when the system is off.
2. Turn on the system and allow *Windows 95* to detect and configure the device on the serial port (COM1). Insert the manufacturer's driver disk(s) if required.
3. Both devices are enabled.

To switch back to the TouchPad exclusively:

1. Exit *Windows 95*.
2. Detach the serial device.
3. Start *Windows 95*. It will automatically enable the available pointing device, in this case the TouchPad.

For information on how to change mouse settings for other operating systems, consult the manuals for those operating systems.

## TouchPad & Serial Device

If you want to use a serial device as well as the TouchPad, you must make sure the device's driver can "see" it on COM1. In some operating systems, you can only use one pointing device driver at a time, either serial or PS/2. To use a serial device, attach it to the ⧈ port (while the system is OFF) and then start up and configure it with a suitable driver.

## TouchPad & PS/2 Device

If you haven't installed any specialized pointer drivers, you can also use a mouse connected to the PS/2 port. Just make the connection, and the system automatically detects an attached mouse, enabling it as well as the TouchPad using the same drivers.

Note: the PS/2 port only accepts one type of device per system session. If you want to switch to another device, you must shut down and restart the system. However, you can detach and reconnect the *same* device during a system session.

### *Using TouchPad & Serial Device (cont.)*

***Windows NT 4.0***

To use a serial device and the TouchPad at the same time in the *Windows NT 4.0* environment, you must configure the operating system as you install it the first time.

1. Attach the serial device when the system is off.
2. As Windows NT 4.0 runs its installation program, it will ask you to confirm its hardware and software components. At this point, modify the list so that the pointing device is: "Logitech Serial Mouse".

   The on-board PS/2 mouse will still be automatically enabled and if you install one, the resources will be available for a serial mouse.
3. If you want to use serial mouse on COM1, make sure it is present when you boot-up, and both devices will be active.

# VIDEO

There are three display options: the notebook's LCD, an external monitor (CRT) and TV. You can select between them with the **Fn**+ toggle or the controls embedded in the video driver interface. The interface also lets you change the screen resolution and color output to whatever is most comfortable/efficient for you.

As you examine the video driver (see the side-bars for setup information), you'll notice that some displays have more flexibility than others. This is a matter of hardware, video memory and the driver for your operating system. The driver interface shows the available options.


### THE LCD CONTROLS

FIG. 2 – 5

1. Contrast controls (not active with TFT)
2. Brightness controls
3. Display toggle (LCD/CRT/TV)

## More on Video Displays

*Appendix A: Specifications* has a chart of the system's display capabilities.

## *Video Setup*

***WINDOWS 95***

To setup the *Windows 95* video driver and utilities:

1. Open **Control Panel** > **Display**.
2. Click on **Settings** > **Change Display Type...** (or **Settings** > **Advanced Properties** >**Adapter**).
3. Click on the **Change...** button next to the Adapter Type field.
4. Insert the *Software & Utilities* CD-ROM (drive D:).
5. Select **Have Disk...**. Then **Browse...** to the DRIVERS\WIN95\VIDEO directory. Click on **OK** and then on **OK** again.
6. Select "S3 ViRAGE MX" and click on **OK**.
7. After the installation finishes, *Windows 95* will return to the **Display** page where you can change the settings. When you click on **Close**, *Windows 95* prompts you to select a "monitor". Click **Yes** and choose a "Laptop Display Panel" (any size). Next, Windows prompts you to restart the system. Close any other applications and click **Yes**.

**Warning**

***Do not allow any foreign objects (i.e. paper or plastic) to get between the lid/LC D and the work panel. They could damage or scratch the LCD and/or accidentally activate the close-cover switch.***

## SETUP

The video drivers on the accompanying *Software & Utilities* CD-ROM are optimized for specific operating systems. If the driver for your operating system isn't included, or you suspect it's outdated, consult your dealer. These drivers are required if you want to use a TV display or want enhanced performance on an external monitor as well as the LCD.

The instructions in the side-bars tell you how to install the drivers. However, your operating system's documentation may have additional tips.

**Note:** For most operating systems, video driver installation is different from any other driver's (i.e. sound).

## LCD

As you open the lid, adjust it so you can look at the screen straight-on, without any glare. If necessary, adjust the brightness and contrast controls.

**Note:** If your model has a TFT screen, the contrast controls aren't necessary.

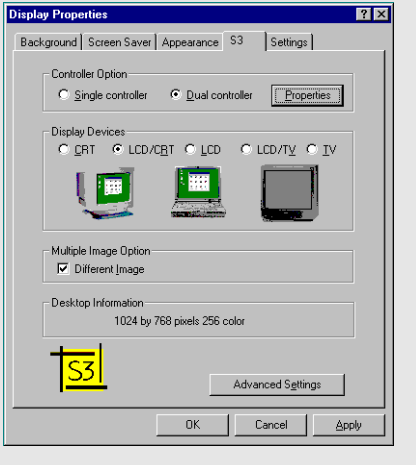
*Video Setup (cont.)*

The S3 driver adds an additional page to **Display Properties**. This has current display status information. It allows you to select the control system, output devices and image processing:

Single control devotes all video memory to a single display system (the LCD/CRT choice will display exactly the same thing)

Dual control divides the video memory to support 2 devices. It also lets you select the type of external monitor you are using.

Use the on-line help (**?**) to get more information about the various features.




**DISPLAY PROPERTIES CONTROL PANEL**
FIG. 2 – 6

## Video Setup (cont.)

***WINDOWS NT 4.0***

To setup the *Windows NT* video driver and utilities:

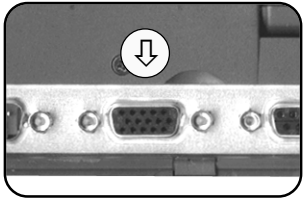
1. Open **Control Panel** > **Display**.
2. Click on **Settings** > **Display Type** .
3. Click on the **Change...** button in the **vga compatible display adapter** field.
4. Insert the *Software & Utilities* CD-ROM (drive D:).
5. Select **Have Disk...**. Then use **Browse...** to the NT40\VIDEO directory. Click on **OK** and then on **OK** again.
6. Select "S3 Incorporated Display Driver..." and click on **OK** or **Yes** to start the installation.
7. After the installation finishes, *Windows NT 4.0* will tell you to close the various screens and reboot. When you restart and return to the **Display** page, you can change the settings.

This driver doesn't support "different image" output.

# EXTERNAL MONITOR

If you prefer to use an external monitor, connect it to the VGA port on the rear panel.

**Note:** To reduce flickering on an external monitor, use faster refresh rates. But first check your monitor's documentation to make sure it can support the rates listed by the video driver.



**VGA PORT**

FIG. 2 – 7

Make sure both the external monitor & notebook are OFF before you connect them.

## TV (Factory Installed Option)

The mini-DIN plug connects to a video adapter cable. However, *before* you use this connector, make sure the driver is configured for your TV's standard: NTSC or PAL (use the video driver control panel).

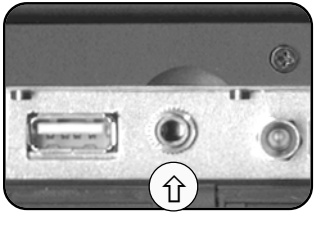
***Warning***

***The NTSC and PAL settings can only be used with the appropriate televisions.***

### TV Port (Factory Installed Option)

Fig. 2 – 8

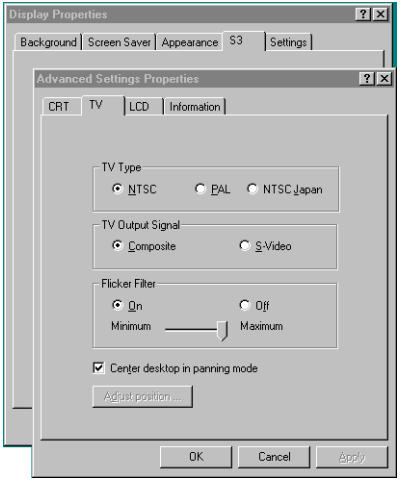
Both the TV & notebook should be OFF before you connect them.



### Display Panel TV Settings

Fig. 2 – 9

Be sure the NTSC/PAL setting on the Device page is correct.



## SWITCHING

You can switch between the notebook's LCD and monitor (CRT) by toggling **Fn**+. TV output is available only by using the video driver control panel:

| TV Standard | LCD Resolution | Display Options | Comment |
|---|---|---|---|
| **Single Control (same image on all displays)** | | | |
| **NTSC** | 640 x 400 | LCD, LCD+monitor, monitor, **TV** | NTSC resolution is 640 x 400 however the LCD treats it as VGA (640 x 480) |
| | 800 x 600 | | All resolutions larger than NTSC are viewed with the panning effect on TV |
| **PAL** | 640 x 480<br>800 x 600 | | PAL supports both VGA and SVGA resolutions |
| **Dual Control (same or different image on all displays)** | | | |
| **NTSC** | 640 x 400 | LCD, LCD+monitor, monitor, **TV**, LCD + **TV** | NTSC resolution is 640 x 400 however the LCD treats it as VGA (640 x 480) |
| | 800 x 600 | | All resolutions larger than NTSC are viewed with the panning effect on TV |
| **PAL** | 640 x 480<br>800 x 600 | | PAL supports both VGA and SVGA resolutions |

TABLE 2 – 1
**TV-OUT DISPLAY OPTIONS**

# AUDIO

The audio subsystem, in combination with the CD-ROM module, gives the notebook multimedia capabilities. To use it, You first have to install the correct drivers. These are included in the software package which comes with the system. The procedure is explained in the side-bar.

The controls and ports are on the function keys and on the left panel:

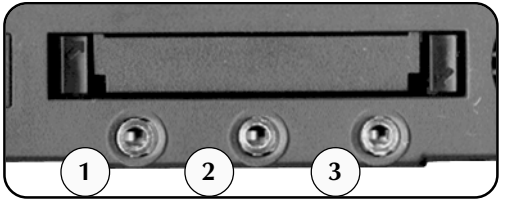
***Warning***

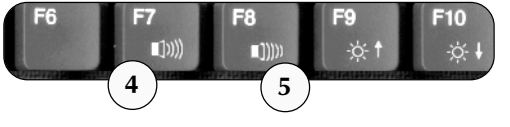
***To protect your hearing, turn down the volume before you plug-in either headphones or speakers.***

### AUDIO SUBSYSTEM PORTS

FIG. 2 – 10

1. microphone (disables internal microphone)
2. headphones /external speakers (disables on-board speakers)
3. line-in
4. volume up control
5. volume down control




## *Audio Setup*

**WINDOWS 95**

The *Yamaha Sound System* takes advantage of technical improvements since *Windows 95*'s release. To make the sound system work,

1. Open **Control Panel** > **System** > **Device Manager** (tab). Click on **Other Devices** and select "OPL3-SAx Sound.." Double-click on this item.
2. When the properties window opens, click on **Device** ( tab) > **Update Driver..**
3. When the *Update Device Driver Wizard* appears, click on **Yes** > **Next**> **Browse...**
4. Navigate to Drivers\Win95\Audio\driver on the *Software & Utilities* CD-ROM Click on **OK** > **OK** > **Finish** Note: During this procedure, you may have to repeat this step.
5. When the system asks for the Win 95 CD-ROM, insert it and click **OK** > **Close** > **OK**.
6. When the additional files are installed, return to the Device Manager page and click on **Refresh**. *Windows* will configure itself to use the new drivers.
7. Click on **Close**. A speaker icon will appear in the system tray.

When complete, the Yamaha drivers appear under **Sound, video and game controllers**.
If you want enhanced performance, click on the **OPL3-SAx Configuration** button in **Control Panel**.



## *Audio Setup (cont.)*

**WINDOWS NT 4.0**

To install the audio driver after you're into the system, load the *Software & Utilities* CD-ROM. Then,

1. Open **Control Panel** then **Multimedia** and click on the **Devices** tab then on the **Add** button.
2. Choose "Unlisted or Updated Driver" from the list. Then use the **Browse** button to choose **drive** D:\NT40\AUDIO as the location of the driver.
4. Click on **OK** when *OPL...Sound System* appears. If prompted, select the your language version and click on **OK**. In addition to the default settings which appear, click on "Use Dual DMA" and "Enable MPU401". Again, you should use the default settings. When you're finished,choose **Continue** or **OK** to confirm the resource settings. Then restart the system to activate the driver.
5. Once the system has restarted, double-click on the speaker icon of the tray on the lower right to open the sound control panel.

   If you want enhanced performance, click on the **OPL3-SAx Configuration** button in **Control Panel**.

## *ADDITIONAL AUDIO*

The utility disks which accompany your system also include supplemental audio software for *Windows 95* and *Windows 3.1/DOS*. Refer to *Chapter 6: Extras* for more details.

# PC Cards

The notebook has two PC Card expansion sockets:
***socket 0*** (lower), is Type III
***socket 1*** (upper), is Type II

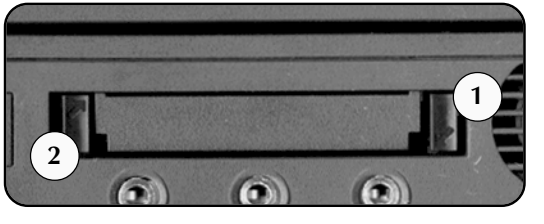
Both sockets are backward -compatible. For example, a Type III socket can handle a Type I, II, or III card.

Both support PCMCIA (rev. 2) and CardBus (PCI bus to PCMCIA socket).

Both sockets are Zoomed Video (ZV). The ZV Port is a direct connection between the PC Card and the notebook's video and audio subsystems. As such, it works directly with the CD-ROM module to support multimedia features.

Refer to the documentation which comes with your ZV card for more information about its capabilities and how to use its features.

**PC Card Sockets**
Fig. 2 – 11
1. Socket 0 (lower) eject button
2. Socket 1 (upper) eject button



## PC Card Setup for Windows 95

The PC Card components are newer than the drivers supplied by *Windows 95*, so before you can use this device, you must make some changes to your system:

1. Open **Control Panel** > **System** > **Device Manager** (tab) > **Other devices**. Remove the **CardBus Bridge** listings (there are 2).
2. Under **PCMCIA socket** remove **PCIC or compatible PCMCIA controller**.
3. Using *Window*'s *Explorer* to navigate to D:\drivers\win95\utilities\TI-1250 on your *Software & Utilities* CD-ROM.
4. Install **Ti1250.inf** (the Install command is in the File menu)
5. Return to **Control Panel**> **System Properties** and click on **Refresh**.

   When asked for the *Windows 95* CD-ROM, reinstall it. Click on **OK**.
6. Return to **System Properties**. The PCMCIA listing will have two entries for Texas Instruments devices. Double-click on the first one.
7. When its **Properties**, **General** (tab) appears, uncheck **Disable in this hardware profile**.

   Click **OK** > **OK** and **Yes** to Restart when it asks.
8. When you restart the computer, the sockets will be ready for use.

# Operating Systems

## Windows 95

The PC Card components are newer than the drivers supplied by *Windows 95*, so before you can use this device, you must make some changes (described in the side-bar) to your system. However after you activate them, they are always "hot".

The updated drivers are also PCMCIA (rev. 2) , and CardBus compliant and they recognize Plug 'n Play PC Cards. However some older, "legacy", cards may require their own drivers. You can hot swap any PC Card. If you want to use a ZV card, install the optional SystemSoft CardWorks™ driver (see *Chapter 6: Extras*).

The optional SystemSoft drivers which come with your computer take advantage of technical improvements since the release of *Windows 95* and support "legacy" and ZV cards.

**Warning**

***Do not add, remove or change cards while the system is in a power saving mode. This may cause a conflict with the stored system configuration information.***

**Warning**

***Some operating systems may experience difficulties if an I/O card (e.g. a fax/modem) is present in the socket when you warm boot the notebook. Depending on your operating system, the COM ports (I/O) for PC Card devices are reassigned.***

*Note:* Windows 95 *does not have this limitation.*

## Windows NT 4.0

The operating system automatically installs the PC Card socket drivers. This driver is only PCMCIA (rev. 2) compliant. You can install or remove cards only when the system is turned off. In particular, any I/O PC Card (e.g. LAN or SCSI) must be present when you boot-up the system. CardBus and ZV support are not available.

The optional SystemSoft Driver allows hot insertion and hot removal, and provides CardBus support (see *Chapter 6: Extras*).

## Inserting a PC Card

PC Cards require drivers specific to your operating system: one for the computer's sockets (see above), and a driver for the card you're installing. The first time you install a PC Card, *Windows 95* and *NT 4.0* prompt you for that card's driver. If your operating system supports Plug n' Play (e.g. *Windows 95*), PC Cards can be inserted and removed while the system is on.

When the card is in correctly, the system beeps once. If the PC Card is not detected, check if the correct drivers are loaded.

## Removing a PC Card

Push the appropriate eject button to remove the card. The system will beep twice when the card is ejected.

## *Setting up the Fax/Modem*

**WINDOWS 95**

When Windows 95 starts up, it detects the Fax/Modem and launches the *Update Device Driver Wizard*.

1. Click on **Next**. If you're installing from the *Software & Utilities* CD-ROM, direct the wizard to the driver in D:\Drivers\Win95\Modem.
2. Click **Finish**. During the installation, the utility may not recognize that all of its elements are in the same folder, so just redirect it as necessary.
3. When the installation is complete, *Windows 95* returns to its standard view.
4. Shut down the system and restart. When *Windows 95* resumes, run *Modem Driver Setup Program:* Open the **Start** (menu) > **Run** > **Browse...**
5. Navigate to
   D:\Drivers\Win95\Modem\setup.exe*

* this assumes you're installing from the *Software & Utilities* CD-ROM

6. Click **OK** then **Next**.

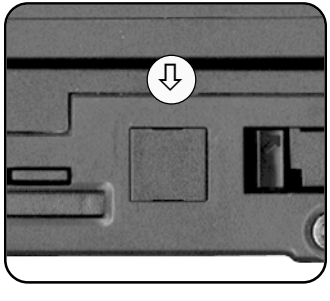
Follow the directions (we recommend the default destination directory and settings).

When finished, the system will restart itelf and reallocate system resources as it reboots. Click the **Modem** icon in the **Control Panel** to continue the setup (the modem should be assigned to COM3).

Note: For Dial-up Internet access, you must be sure to have all the proper "protocols" installed (i.e. TCP/IP). Refer to your operating system manual for this and/or your Internet Service Provider's documentation.

# *FAX/MODEM (OPTIONAL MODULE)*

If your system includes the fax/modem module, both *Windows 95* and Windows *NT 4.0* will detect it during setup. However, our module takes advantage of newer technologies so you will have to install our updated drives to take advantage of its full speed.



FAX/MODEM PORT
FIG. 2 – 12

## USAGE

Once your fax/modem is setup, you still have to configure the software that will use it. For the most part, this means working with your operating system's "Network" settings.

Be sure to keep the original installation software handy as you do this.

Additional information about how to use the fax/modem (e.g. AT commands) is included with the driver on the *Internal Fax/Modem Drivers* floppy.

### *Setting up the Fax/Modem (cont.)*

**WINDOWS NT 4.0**

To install the Fax Modem,
run *Modem Driver Setup Program:*

1. Open the **Start** (menu) > **Run** > **Browse...**
2. Navigate to
   D:\Drivers\NT40\Modem\setup.exe*

* this assumes you're installing from the *Software & Utilities* CD-ROM

3. Click **OK** > **Next**.

Choose, "Install new modem driver and components" > **OK**
Follow the directions (we recommend the default destination directory and settings).

When finished, the system will restart itelf and reallocate system resources as it reboots. Click the **Modem** icon in the **Control Panel** to continue the setup (the modem should be assigned to COM3).
Note: For Dial-up Internet access, you must be sure to have all the proper "protocols" installed (e.g. TCP/IP). Refer to your operating system manual for this and/or your Internet Service Provider's documentation.



# 3 Media

This chapter is about the system's data storage devices (or *drives*):

| | |
|---|---|
| HDD: | • How to configure the system to use it<br>• how to replace it |
| CD-ROM: | • How to access it |
| FDD (Floppy) | • How to use it and care for the media |

## INDICATORS

Whenever a drive is in use, the corresponding indicator appears:


accessing the main HDD.


accessing the FDD.


accessing a CD-ROM.
The icon does *not* appear if you are playing an audio CD.

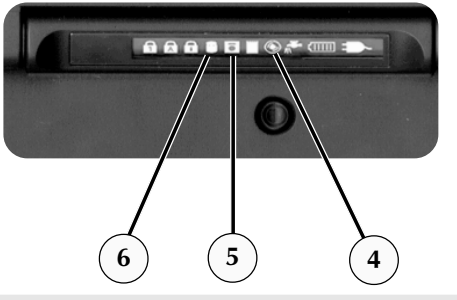
### DRIVES

FIG. 3 – 1


1. CD-ROM
2. HDD
3. FDD

### STATUS SCREEN DRIVE INDICATORS

**FIG. 3 – 2**




4. CD-ROM
5. FDD
6. HDD

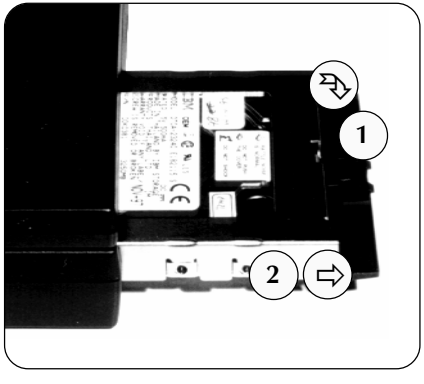
# HDD

The HDD is in a removable metal frame.

## Removing the HDD Module

If for some reason you must remove the HDD cartridge:

1. Make sure the computer is turned off and flip down the HDD bay door.
2. Grasp the HDD bay door handle and *pull* the cartridge out.




**Warning**

***Don't try to remove the hard disk (HDD) while the system is on, or a floppy disk while the system is accessing it. These actions may cause the system to "crash", result in data loss or damage.***

**Removing the HDD**

Fig. 3 – 3

1. grasp the HDD bay door
2. pull the cartridge out

## Installing the HDD Cartridge

To install the (new or upgraded) HDD cartridge, carefully slide it back into the HDD bay. Be sure that the bay door handle is securely locked in position.

## Replacing/Upgrading the Cartridge

If you're too harried or a bit of a techno-phobe, contact your dealer to purchase or replace your current HDD with an upgrade.

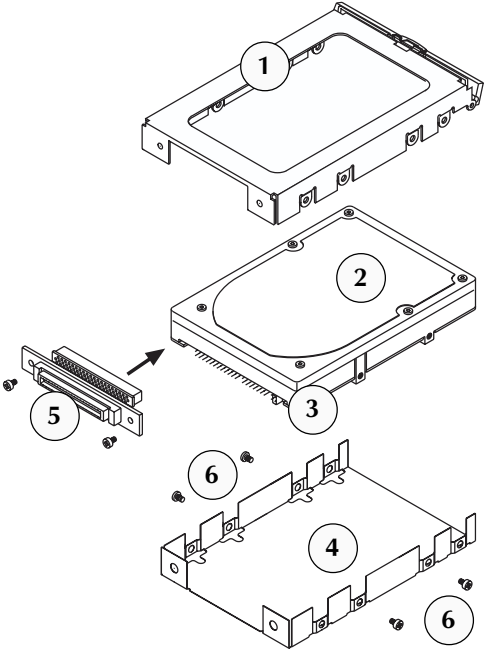
**Warning**

***Some (usually older) HDDs have a small jumper switch. It must be set to "master" or the system may not correctly recognize the drive. Check your drive's documentation.***

### Assembling the HDD Cartridge

Fig. 3 – 4

1. cartridge frame
2. HDD (electronics face-down)
3. master/slave jumper
4. mylar shield
5. connector
6. screws




### Replacing a HDD

You can replace your HDD with another 2.5", 12mm high IDE hard disk drive.

To assemble the cartridge,

1. Make sure the HDD's jumper pins are set to "master" (3). - Most HDDs don't require any settings, but check your HDD's documentation to be sure.
2. Holding the HDD (1) at an angle, plug its pins into the connector (5). Make sure all the pins are inserted fully.
3. Cover the HDD's electronic component side with the shield (4).
4. Insert the HDD and shield combination into the frame (1). As you do so, carefully fit the edges of the shield around the screw holes of the frame.
5. Secure the HDD, shield and frame with the four mounting screws (6).

## Setting Up a New HDD for the First Time

Before you can use a new HDD for the first time, you have to do two things:

- tell the computer about the HDD. (refer to *Chapter 4: Firmware*)
- prepare the HDD to accept data. (refer to your operating system manual)

***Warning***

***Whenever you install a different hard disk that has a* Save-to-Disk *partition on it, make sure you follow the procedures detailed in* Chapter 4: Firmware *and* Chapter 5: Power.**

### *Formatting the HDD*

A hard disk must be partitioned, and formatted before use. To partition the HDD, use the utility from your operating system (e.g. *MS-DOS*'s **fdisk** command) to do this. To format, use the utility from your operating system (e.g. *MS-DOS*'s **format** or **format/s** command). Consult your operating system's manual for more information on its partitioning and formatting utilities.
**Note:** If you want to use the *Save to Disk* feature, refer to *Chapter 5: Power* before you partition the HDD.

After you replace or upgrade the HDD, turn the system on and configure it for the newly-installed HDD using *Setup*. Refer to *Chapter 4: Firmware*.

#### 528MB or Larger HDDs & LBA Mode

The notebook automatically reads any HDD 528MB or larger as using LBA Mode. If you are using a 528MB or larger HDD which was formatted on an older system which did not use LBA mode, this system will not "see" it correctly. In that case, you must re-format the HDD on this system.

# The CD-ROM Drive

The CD-ROM drive appears in your file management utility as another drive.

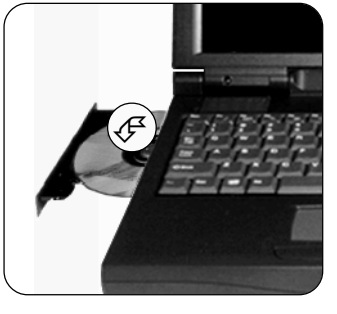
## Audio CD

If you want to use the CD-ROM to play an audio CD, make sure your operating system has the necessary drivers installed. *Chapter 6: Enhancements* has more information on the audio drivers which come with your system.

### Using a CD-ROM

Fig. 3 – 5

1. Insert the disk face down.
2. Push the tray in until it clicks in place.



*CD-ROM Drivers*

**Windows 95**

**Windows NT 4.0**

**Windows NT 3.51**

**OS/2 Warp**

These operating systems automatically detect and configure the CD-ROM drive. The start-up floppies which come with them should also be able to configure the CD-ROM.
If they can't, install a version of DOS and the CD-ROM driver as described below. Then follow the installation utilities for the operating system you plan to use. As the installation progresses, the operating system will replace, or modify our CD-ROM driver.

**Other Operating Systems**

These instructions assume you've already installed some version of DOS.

1. If you do not have a floppy disk with the CD-ROM driver on it, your only other source is the CD-ROM which accompanies ythe system. Using a CD-ROM drive on another computer, navigate to the d:\drivers\other directory and copy the cd-rom folder onto a 1.44MB floppy.
2. Insert the floppy containing CD-ROM driver into the notebook and open the *CD-ROM* driver directory on the floppy disk (drive A:), and type:

   **INSTALL.EXE**

## *CD-ROM Drivers (cont.)*

3. As each page appears, press **Y** or **Enter** to confirm the settings.

   If you don't want to install the driver in the default directory (C:\CDROM), when the "Specify the directory..." dialog box appears, use **Backspace** to delete the current name, then type in your preference. Remember to start the directory name with **C:**.

   When you get to the "Specify the parameter..." page, make sure the **( )/D [CDROM001]** switch has an asterisk (*****). Then press **Enter**.

4. When the installation is complete, remove the floppy disk and reboot your computer.

## *Inserting & Removing a CD-ROM*

To insert a CD-ROM, follow these steps:

1. With the notebook turned on, press the button on the front of the module to release the spring-loaded tray.
2. Gently pull the tray out to its fullest extension.
3. Insert your CD-ROM shiny-side down (like an audio CD).
4. Gently push the tray in until it clicks in place. The CD-ROM is ready to play.

To remove the CD-ROM, press the same button to release the tray.

If the notebook is turned off, you can open the tray by inserting a probe (e.g. a straightened paperclip) into the small hole next to the button.

## Multimedia Applications

### MPEG

If you want to use the CD-ROM to watch movies or other MPEG features, there are two options:

1. *Software* - There are various software products which make use of the raw power of your system's CPU to decode MPEG1 material.
2. *ZV-Port* - Both PC Card sockets support a ZV card. This card type works with the CD-ROM and video subsystems to produce better quality images. However, to use it, you must install these drivers:

    - The CD-ROM driver (covered in this chapter)
    - The audio and video drivers (covered in *Chapter 2: System*).
    - VPM driver - built into the video driver for Windows 3.1x Windows 95 and Windows NT 4.0*.
    - ZV Card driver (supplied by the ZV Card's manufacturer).

*As of this publication, this feature is pending, check with your system vendor for the latest informatiion.

### Audio CDs

Audio CDs are played using a CD-player application included in your operating system.

# THE FDD

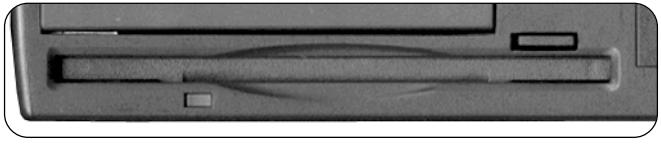
## INSERTING/REMOVING FLOPPY DISKS

Gently insert a 3.5-inch disk (with its label side up) into the Floppy drive until the disk is properly seated. Press the button on the right of the disk drive to eject the disk.

## FDD Care

Following are a few tips on the proper handling of floppies:

- Store disks away from magnetic fields and extreme temperatures. These conditions can damage your data. It's also a good idea to make backup copies of software and data.
- If a disk label is already on the disk, use a soft-tipped pen to write on the label. This prevents damage to the disk. Don't use a pencil - its carbon particles can rub off inside the drive.
- Do not remove any disk from the drive when the LCD is flashing (in-use).
- Do not try to clean, bend, or throw disks.
- Do not touch or scratch any exposed portion of the disk medium. Don't pull open the protective door either - this lets dust get inside.

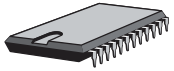


**FDD**
FIG. 3 – 6

***Warning***

***Do not remove a floppy disk while the drive is active. Doing so may damage the medium or cause a generaol protection fault, result in data loss and/or corruption.***

## NOTES:



# 4 Firmware



This chapter is about the notebook's built-in software:

- the *POST* (Power-On Self Test) and
- the *Setup* utility.

If your computer has never been set up, or you are making important changes to the system (i.e. power management features), then you should review this chapter first and note the original settings found in *Setup*. Even if you are a beginner, keep a record of the settings you find and any changes you make. This information could be useful if your system ever needs servicing.

There is one general rule: *Don't make any changes unless you are sure of what you are doing.* Many of the settings are required by the system, and changing them could cause it to become unstable or worse. If you have any doubts, consult your system dealer.

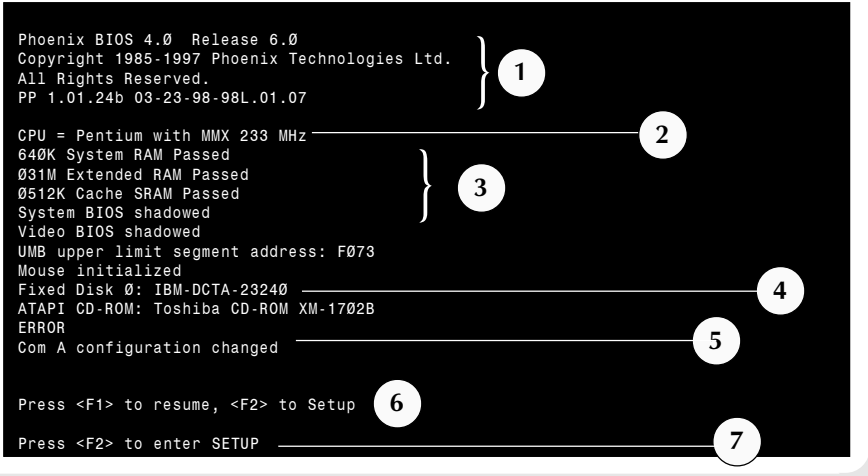
# THE POWER-ON SELF TEST (POST)

Each time you turn on the computer, several things happen:

- BIOS information flashes on the screen.
- the system takes a few seconds to conduct a *POST*, including a quick test of the on-board RAM.

As the POST proceeds, the computer will tell you if there is anything wrong. If there is a problem which prevents the system from booting, it will tell you to run *Setup*. If there are no problems, the system will present a summary, and announce that it is starting the operating system. Once that message appears, you can no longer get into *Setup*.

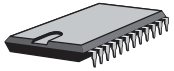





**STARTUP SCREEN: THE POST**

FIG. 4 – 1

1. BIOS information.
2. CPU type
3. memory status
4. HDD identification notice
5. error notice (example)
6. Enter *Setup* cue
   - appears if there is an error
7. Enter *Setup* cue
   - appears only during POST (#6 is *not* present)



## FAILING THE POST

Errors can be detected during the *POST*. There are two categories, "fatal" and "non-fatal".

**Fatal Errors** These stop the boot process and usually indicate there is something seriously wrong with your system. Take the computer to your dealer or authorized service center as soon as possible.

**Non-Fatal Errors** This kind of error still allows you to boot. You will get a message identifying the problem (make a note of this message!) followed by the cue:

```
Press <F1> to resume,  <F2> to enter Setup
```

Press **F1** to see if the boot process can continue. It may work, without the correct configuration.
Press **F2** to run the *Setup* program and try to correct the problem. If you still get an error message after you change the setting, or if the "cure" seems even worse, call for help.

# THE SETUP PROGRAM

The Phoenix *Setup* program tells the system how to configure itself and manage basic features and subsystems (e.g. display and power management).

## ENTERING SETUP

To enter *Setup*, turn on the computer and press **F2** during the *POST*. The prompt seen in Fig. 4 – 1 is usually present for a few seconds after you turn on the system. If you get a "Keyboard Error" (usually because you pressed **F2** too quickly) just press **F2** again.

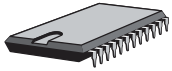
If the computer is already on, reboot using the **Ctrl** + **Alt** + **Delete** combination and then hold down **F2**. *Setup's* main menu will appear.

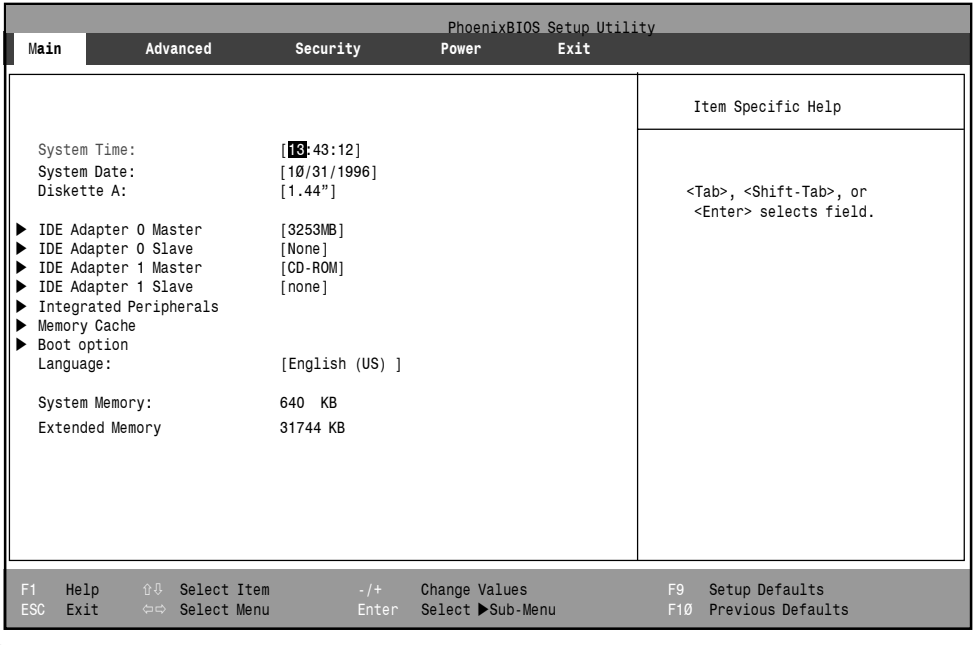
## SETUP SCREENS

The *Setup* interface looks like a "windows" screen:

Along the top of the screen is a menu bar with five (5) menu headings. When you select a heading, a new screen appears. Scroll through the features listed on each screen to make changes to *Setup*.

Instructions on how to navigate each screen are in the box along the bottom of the screen. If these tools are confusing, press **F1** to call up a *General Help* screen. Then use the arrow keys to scroll up or down this page.






**SETUP MAIN MENU**
FIG. 4 – 2

The *Setup* menus shown in this section are for reference only. Your computer's menus will indicate the configuration appropriate for your model and options.

The "Item Specific Help" on the right side of each screen explains the highlighted item and has useful messages about its options.

If you see an arrow ("▶") next to an item, press **Enter** to go to a sub-menu on that subject. The sub-menu screen which appears has a similar layout but the **Enter** key may execute a command.

## More on Setup

Following is additional advice on portions of the *Setup*, not covered in the Item Specific Help.

### Time and Date (Main Menu)

The hour setting uses the 24-hour system (i.e., ØØ = midnight; 13 = 1 pm). If you can change the date and time settings in your operating system, you will also change these settings. Some applications may also alter data files to reflect these changes.



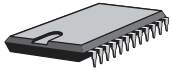
### Diskette A (Main Menu)

Operating systems which use 3-mode formatting (used mainly in Japan), instruct the BIOS to change Floppy modes as necessary.

## IDE Adapter 0 Master (Main Menu)

Pressing **Enter** opens the sub-menu to configure the main IDE HDD which fits into the notebook's HDD bay. Refer to *Chapter 3: Modules* for more on these modules.

The following fields for this sub-menu are the same for "Primary Master".



## TYPE

*(MAIN MENU >PRIMARY MASTER, PRIMARY SLAVE, SECONDARY MASTER & SECONDARY SLAVE)*

This setting has several options for choosing which method *Setup* will use to detect the hard disk:

| | |
|---|---|
| **Auto** | (*Default setting*) This is the easiest solution. It allows *Setup* to determine the hard disk's type and other information when you press **Enter**. It automatically loads the information into the *BIOS*. |
| **None or Rsrv** | No hard disk is installed. With this option, the system will require a floppy disk to supply the bootup information. |
| **1-14, 16-39** | This is a list of older drives. Scroll to the drive's number. Then carefully check the information for compatibility. *Most newer drives don't use these settings.* |
| **User** | This allows you to fill in the Cylinders, Heads and Sectors/Track fields. The size (MB) field is automatically calculated based on this information. The information for all these fields should be printed on the hard disk itself, or in its accompanying documentation. |
| **CD-ROM** | The system expects a CD-ROM or DVD CD-ROM |
| **ATAPI** | The system expects a removable disk drive (this feature is not available with this notebook computer model). |

### *Switching Hard Disks*

Every time you install a different hard disk in the notebook, it should be (re)configured, unless **Auto** is selected.

### *Auto Limitations*

The **Auto** feature may provide a different set of parameters for the same hard disk at different times. However, it should be reconfigured with the same parameters you got the first time. If you use a different set of parameters, it may be impossible for you to read any data on the hard disk.

**Make a record the original configuration parameters for your hard disk for future use.**

**Warning**

***If you enable LBA mode while setting the HDD parameters manually, be sure to enable it each time you use the same hard disk. If you don't you may encounter read/write errors.***



*When to Use LBA*

The "standard" or ATA mode of "seeing" HDDs is inadequate for drives larger than 528MB. LBA mode corrects this and allows for hard disks up to 128GB.

ATA and LBA modes overlap. So if LBA mode is not activated when an HDD is first formatted, sections may not be readable under the LBA system. (This does not matter with 528 MB or smaller HDDs).

If you're using a HDD not formatted using LBA mode, do not use the "Auto" setting.

## Multi-Sector Transfers

*(Main Menu >Hard Disk Ø & Hard Disk 1)*

This feature determines the number of sectors in each block that can be transferred together. The "Auto" Type setting selects the optimum number.

## LBA Mode Control

*(Main Menu >Hard Disk Ø & Hard Disk 1)*

If your hard disk is larger than 528MB (unformatted capacity), enable this feature. The "Auto" Type setting enables this setting if the disk is large enough.

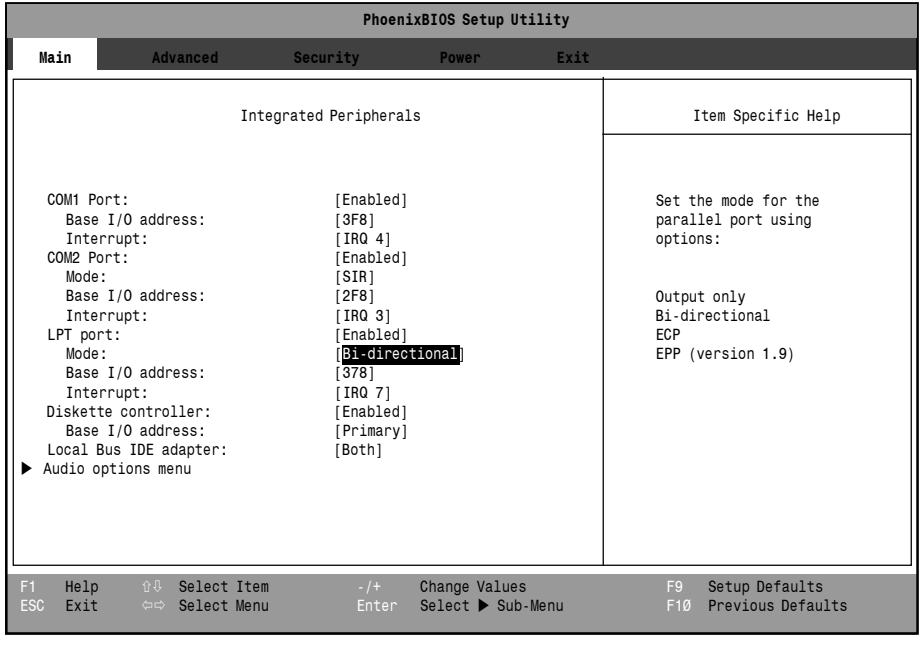
## IDE Adapter 1 Master *(Main Menu)*

Pressing **Enter** opens the sub-menu to configure the drive on the secondary bus. For this system, this setting should be "CD-ROM" Refer to *Chapter 3: Modules* for more on these modules.

The fields on this screen are the same as those for Primary Master.

## INTEGRATED PERIPHERALS (MAIN MENU)

Press **Enter** to open the sub-menu to configure port connections.




*SETUP* MAIN MENU, INTEGRATED PERIPHERALS SUB-MENU
FIG. 4 – 3

## COM1 Port

*(Main Menu >Integrated Peripherals)*

If you don't plan to use this port, you can set this line to "Disabled" to conserve power.

## COM2 Port

*(Main Menu >Integrated Peripherals)*

This assigns resources to the built in infrared port or (if attached) to the 2nd serial port on the optional port replicator.
If you don't plan to use this port, you can set this line to "Disabled" to conserve power.

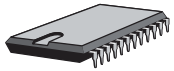
## Mode (IR)

*(Main Menu >Integrated Peripherals > Serial port B)*

Make sure the mode you choose is supported by the device with which you want to communicate. Fast IR, as the name implies, is the most powerful option followed by SIR and then ASK-IR.

### Serial Resources

If you are not planning to use these serial ports, you can disable them (by choosing "Disabled"). This way you can assign resources to another device, e.g. a PC Card device.



## Mode (LPT)

*(Main Menu > Integrated Peripherals > Parallel port)*

There are several modes available:

- Output only (Standard)
- Bi-directional
- EPP (version 1.9)
- ECP (Extended)

You should check your parallel device's documentation to see which one it can use.

If you don't plan to use this port, you can set it to "Disabled" to conserve power.

*Parallel Modes*

Most devices on the market use Standard mode.

# Advanced Menu

## Plug & Play O/S

(Advanced Menu)

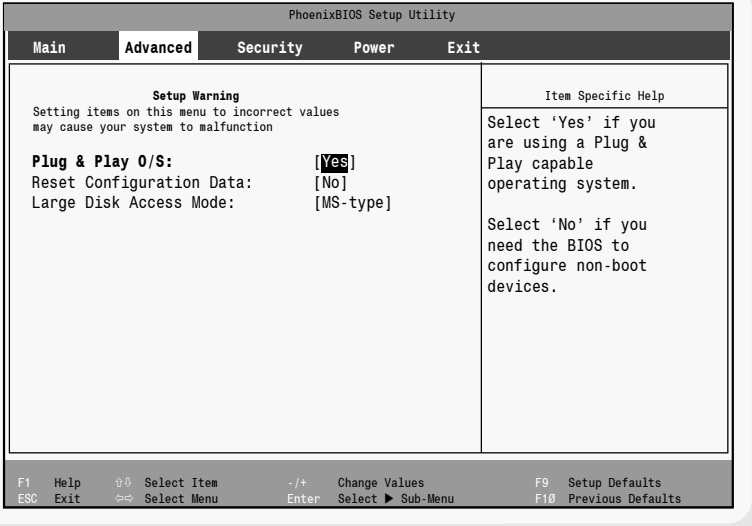
As this manual went to press, only *MS Windows 95* supported Plug & Play.

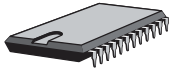
### Plug & Play OSs

Most operating systems do not support Plug & Play. This includes Microsoft's DOS, Windows 3.1x, Windows NT 4.0 and IBM's OS/2 Warp. However, future versions of these systems may include Plug & Play. So you should check your O/S documentation to be sure.

If the operating system doesn't support Plug & Play, this switch must be set to "No" or your audio system and other features may not work.

**Advanced Menu**
Fig. 4 – 4

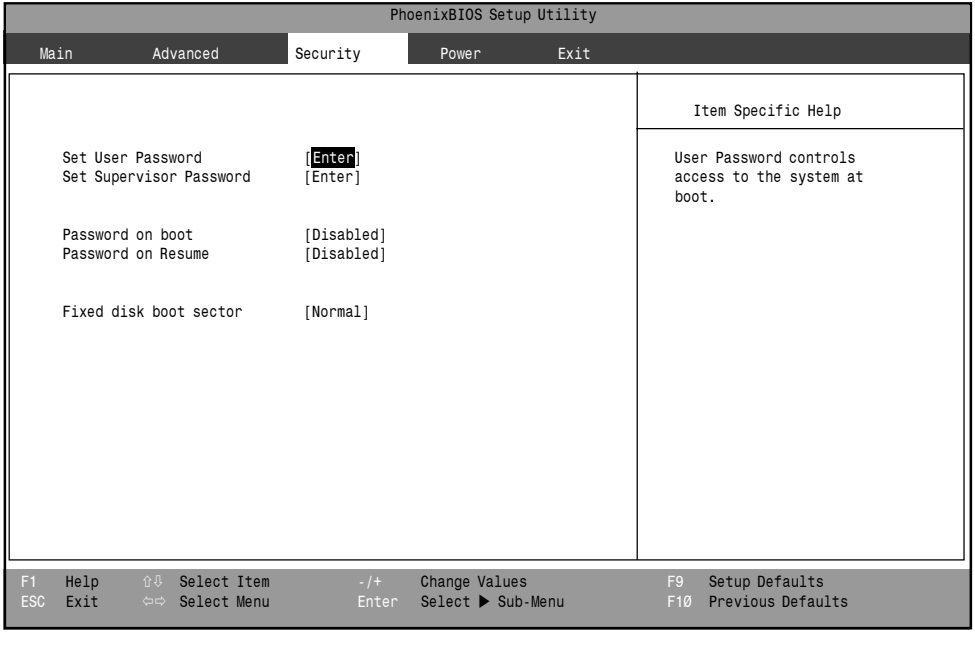




# SECURITY MENU

## SET USER PASSWORD & SET SUPERVISOR PASSWORD (SECURITY MENU)

These lines change to "Enabled" as their passwords are set. The Supervisor's password must be set before you can set the User's.




SECURITY MENU
FIG. 4 – 5

Passwords can be up to seven (7) characters and/or numbers (but not symbols). When creating a password it must be entered twice, the second time for confirmation.

If you forget or lose a password, consult your dealer or service center.

### *Set Supervisor Password (Security Menu)*

Supervisors have unrestricted access to the system and can assign a "User" password.

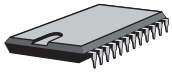
Only a Supervisor can change a "Supervisor" password. Opening the Supervisor Password field erases any older password. If you leave the field empty, both the Supervisor and User passwords are disabled and erased.

### *Set User Password (Security Menu)*

To use this feature, a Supervisor password must already be enabled. Changing the User password field or leaving it blank only affects this field.

Users are *cannot change*:

- specific disk & drive information
- peripheral & port configuration (except for audio)
- the "Advanced" menu
- Fixed disk boot sector (virus protection)
- The Supervisor password



Users can still change settings on all menus except "Security", where only the User password can be changed.

### *Password on Boot (Security Menu)*

When this is "Enabled", the system will ask for a password each time you turn on the system or reboot. Type either password and then press **Enter**.

The system allows three attempts. If the wrong password is entered again, the system locks and must be restarted.

### *Password on Resume (Security Menu)*

When this is "Enabled", the system will ask for a password each time you resume from *Save to Disk* or *Suspend* (to RAM). Type either password and then press **Enter**.

The system allows three attempts. If the wrong password is entered again, the system locks and must be restarted.

## FIXED DISK BOOT SECTOR (SECURITY MENU)

If this feature is active, you will get a warning message

```
Hard drive not installed
If operating system not found,
re-install hard drive.
Hit any key to exit.
```

whenever Boot Sector 0 is different from the one recorded. This includes re-partitioning or reformatting the hard disk. You must turn off the "Write Protect" feature to preform those functions or install a different hard disk.

If boot sector protection is not enabled, make sure that the new hard disk is not infected with viruses.

## POWER MENU

Before you adjust the settings in this menu, we suggest a review of the power management system in *Chapter 5: Power*.

**Note:** The **Fn+**  combination activates *Save to Disk* (if a file or partition has been prepared).
The **Fn+**  key combination activates *Suspend* (to RAM).

# 5 Power



This chapter is about the power system, both hardware and software:

**Hardware**

- AC adapter (*also see page* 1-7)
- battery pack (*also see page* 1-11)

**Software**

- *Setup* utility parameters (*also see page* 4-16)
- power & battery management controls (*also see pages* 1-12 *&* 1-14)

# THE INTERFACE

The status screen has three icon groups about the Power system,

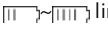
| Indicator | Meaning | Effect |
|---|---|---|
|  | Full Power | All subsystems are fully powered |
|  | Doze mode | The CPU doesn't initiate activity, all storage devices are in "idle" mode, all peripheral devices & ports are fully powered. |
|  | Sleep mode | The CPU clock is on "hold", all subsystems are in a reduced-power mode, and the LCD is OFF. |
|  | Suspend to RAM | The CPU and other chips are turned OFF, RAM is refreshed slowly, system fan is OFF, peripheral devices and ports are in power-saving mode. |
|  | Battery > 80% | Battery has more than 80%, considered "Full" |
|  | Battery < 80 to 20% | (Refer to page 5-7 |
|  | Battery < 20% | Low battery range for more on battery types) |
|  | Battery empty | |
|  lines blink | Charging | lines correspond to charge level, cycling lines indicate "dumb battery" charging |
|  frame blinks | system problem | consult your service representative |
|  all lines blink | battery problem | replace the battery. **Do Not Attempt Repair** |
|  | AC-in | System is receiving AC power. |

TABLE 5 – 1
STATUS SCREEN INDICATORS

and two hot-key controls:

 suspend/standby activates "Suspend" (to RAM).

| | | |
|---|---|---|
| | freeze | activates “Save to Disk” if the Save to Disk partition/file is available, otherwise activates “Suspend” (to RAM). |

# Power Hardware

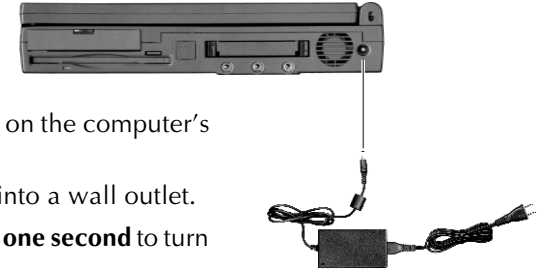
You can operate the notebook on either AC or battery power. The next two sections are about how to use these power sources and other AC/battery power related information.

## AC Power

The notebook comes with an AC power cord and a universal, auto-switching power adapter. You can use the adapter anywhere the voltage is steady, between 100 and 240 volts.

When the adapter is connected to a power source and then to the computer, the icon on the status screen appears to indicate the system is receiving AC power. To use the AC adapter:

1. Plug the power cord to the power adapter.
2. Plug the power adapter to the ⎓ (adapter port) on the computer’s right panel.
3. Plug the power cord into a wall outlet.
4. Press the ⏻ switch for **one second** to turn the system on.



Connecting AC Adapter
Fig. 5 – 1

***Warning***

***Only use an approved adapter. The wrong adapter could damage the computer.***

## Battery Power

The notebook comes with a rechargeable battery pack. You can get a replacement pack from your dealer.

## First-Time Use & Storage

If you don't use a battery pack for a long time (about three weeks), it should be discharged completely and then recharged. The battery pack that came with your new computer may have been in storage or shipment for some time. So, we **strongly recommend** that you follow these steps when you receive this computer or if you have not used the battery pack for a long time.

1. Install the battery pack in its compartment (if it's not already there).
2. Make sure that the AC power source is plugged in. Refer to the AC Power section for details. Turn on the system and press **F2** to enter *Setup*. (If you are not sure how to do this, refer to *Chapter 4: Firmware*.)
3. Open the Power menu and set **Power Savings** to "Disabled". This prevents automatic Suspend when the battery is low.
4. Exit using the "Save Value & Exit" option.
5. Make sure that your operating system does not activate Advanced Power Management (APM). If you are using *Windows 95*, reboot using "Command prompt only".
   **Note:** if your hard disk is not bootable, insert a bootable floppy disk in drive A: before rebooting.

6. After the system finishes booting, detach the AC power source. Discharge the battery completely by leaving the system on for about two (2) hours, until the system shuts itself down. Ignore any low power warnings.
7. Plug in the AC power source to recharge the battery. For a faster charge, leave the system off while charging. The icon flashes while the system is charging. When the battery is full, the icon is steady, with all bars present. To figure out how long it takes to recharge the battery, refer to *Appendix A: Specifications*.
8. Turn on the computer and press **F2** to enter *Setup*. Open the Power menu and reset your preference. Save the setting and reboot.

## Installing & Removing a Battery Pack

Before installing or removing a battery pack, avoid the chance of data-loss by saving your work first and then using one of these methods:

- Shut down the system.
- Use *Save to Disk* mode.
- Put the system in *Suspend (to RAM)* mode and make sure power is available from the AC adapter.

***Warning***

***Always save your work before changing the battery.***
***Do not attempt this function without entering Save to Disk or turning off the system. Otherwise you will loose all unsaved data.***

To install a battery pack:

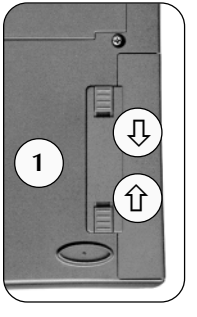
1. Turn the computer upside down and open the battery compartment by releasing the latch and sliding the cover to the right.
2. Remove the used battery (if present) by pulling on its tab.
3. Remove the battery from its packaging.
4. Slide the battery into the compartment. You should feel a slight “click” as the connectors in the notebook slide into the battery pack’s slots.
5. Replace the compartment cover and secure its latch.

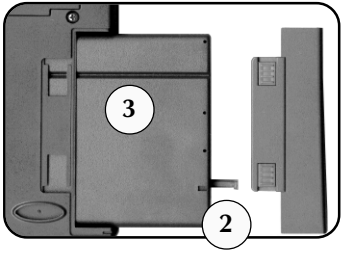


### Removing the Battery

Fig. 5 – 2

1. slide the power bay latches in
2. grasp the battery tab
3. pull the battery out



## Using & Charging the Battery Pack

When the system is using battery power only, the status screen indicates the battery's charge. If the icon has only 1 bar left (less than 20%), the battery is low. If this happens, *save your work immediately* and either plug in the AC adapter and/or replace the battery pack.

When the system receives AC power, both and a flashing icon appear to indicate AC-in and battery charging. When the battery is fully charged, the icon is steady. Refer to *Appendix A: Specifications* for a guide to battery life and figuring recharge times.

### "Smart" & "Dumb" Batteries

The status screen icons appear the same for both battery types. However the values for "dumb" batteries are much less accurate.

Though not shown, the system detects Low battery status (about 10%) for both.

### *Partial Charges*

If you don't have time to charge the battery fully, try to make sure the battery has enough power to complete the *Save to Disk* process (if you've configured your system to use it). You must charge the battery to at least the level.

### *Warning*

***If your system does not have a "smart battery" (i.e. a Sony LIP9020), Windows APM will register power levels as either 20% for Low or 80% for all other states.***

# Power Management

## Hardware (Battery Status & Warnings)

When the POST is finished, the status screen icon indicates the approximate battery charge. When the system detects a level of about 10% (sometime after the  icon appears) the system starts making a warning "beep". When this happens, *save your work immediately* and plug in the power adapter.

If you don't have access to an AC power source, shut down the system and replace the battery pack or recharge until the power level is at least 40% (  ).

**Note**: The battery charge level is visible after the system completes the POST. The battery recharges when the system is OFF.

### *Save to Disk Setup*

When the BIOS instructs the system to "Save to Disk", it makes use of a special **file** or **partition** on the HDD. This is created and managed by the *PHDisk* utility found on the same floppy as the CD-ROM driver. Another copy is on the *Software & Utilities* CD-ROM.

- *DOS, Windows 3.1x* and *Windows 95* can use both file and partition methods.
- *Windows NT* and *OS/2* only use the partition method.

The *Save to Disk* **partition** must be setup *before* you install the operating system.

Setup the *Save to Disk* **file** *after* you install the operating system.

**Space**

Both partition and file methods occupy the same amount of space on your HDD. A typical setup's space requirements might be:

| **memory type** | **size in KB (as seen by *PHDisk*)** | **size in MB** |
|---|---|---|
| system memory | 16,384.0KB | (16 MB) |
| video memory | 4096.0KB | (4 MB) |
| standard overhead | 0.3KB | |
| total | 20480.3KB | (approx 20MB) |
| **recommended space** | **21,504.0KB** | **21MB*** |

*The recommended space should always be about 1MB *more* than the total calculated.
1MB = 1024KB

**Check the specifications for your system before you run the PHDisk utility.**

## Save to Disk Setup (cont.)

**THE PARTITION METHOD**

The *Save to Disk* partition must be setup on an *unpartitioned, unformatted* hard disk. If your hard disk already has information you want to keep, make sure it is backed-up because this operation will reconfigure your HDD. If you are setting up a new (unformatted) hard disk, follow these steps:

1. Boot up the computer from a bootable disk.
2. Insert the *PhDisk Utility* floppy.
3. Run PHDISK.EXE
   - to find out how much space you need, type a:>**PHDISK** [**Enter**]
   - for a list of command switches, press **Enter** again.
   - to have PHDisk automatically create a partition to meet your *current* needs, type
     a:>**PHDISK_/CREATE_/ PARTITION** [**Enter**]
     or a:>**PHDISK_/C_/P** [**Enter**]
   - to make a partition the size you prefer,type
     a:>**PHDISK_/CREATE_**[***size***]**_/ PARTITION** [**Enter**]
     or a:>**PHDISK_/C_**[***size***]**_/P** [**Enter**]
     e.g. for a 19MB partition, type
     a:>**PHDISK_/C_19456_/P** [**Enter**]

***Note:*** *Since this method requires you to configure your HDD, you should make your* Save to Disk *par*

## Low Battery & Save

When the Low battery warning starts, you have about 10% of battery power left. Then, the computer goes into *Save to Disk* or *Suspend* mode (if you haven't given the system more power).

The *Battery Low* line in Power Savings (see Chapter *4: Firmware*) has two options:

| | |
|---|---|
| Save to Disk | – System status information is recorded to a special file or partition on the HDD and then the system turns OFF. **This requires the *PHDisk* utility** (see the sidebar). |
| Suspend | – Information is saved to the RAM and the system goes into low power mode. |

If either of these options starts, the battery is "fully" depleted, though it maintains a small, safety, reserve.

If the battery depletes its safety reserve, the system can't be turned on and anything not saved to disk is lost. In this case, replace or enhance the power supply.

***Warning***

***If you haven't set up the system for* Save to Disk*, or if the space reserved for the* Save to Disk partition *isn't large enough, the system will default to the* Save to Disk file *(if present and large enough) or to* Suspend *mode. If the system uses* Suspend *mode, your unsaved data will be lost when power is turned off.***

## FIRMWARE (SETUP CONTROLS)

*Setup*'s Item Specific Help (see *Chapter 4: Firmware*), describes the power management controls on the Power Savings page.

You can see the default time-out values as you try the different settings on the "Power Savings" line.

## SAVE TO DISK

Pressing **Fn** +  or a system time-out activates this.

When *Save to Disk* is enabled, the computer makes a starting beep to let you know when current work is being stored into the specially-reserved hard disk area (partition or file). When it's finished, the system shuts down.

To resume work, you must restart the computer.

**Ring in Note:** If you want a ring-in from a fax-modem to wake the system, do not use this setting.

### *Save to Disk Setup (cont.)*

*tition large enough to accommodate the largest amount of memory you* ***expect*** *to have.*

4. When the utility has finished creating the partition, run your operating system's partition utility (e.g. *MS-DOS*'s *fdisk*). It will tell you that it has found a "non-DOS" or "unknown" partition. Do not do anything to this partition, just partition and setup the rest of the hard disk with your operating system. Be careful not to format the "non-DOS" or "unknown" partition.

**Other Controls – Reformatting**

If your Save to Disk partition becomes corrupted or develops too many "bad sectors", you should reformat the partition by typing,

a:>**PHDISK_/REFORMAT_/PARTITION** [**ENTER**]

*or* a:>**PHDISK_/R_/P** [**ENTER**]

**Other Controls – Deleting**

If you want to remove the partition, type

a:>**PHDISK_/DELETE_/PARTITION** [**ENTER**]

*or* d:>**drivers\PHDISK_/D_/P** [**ENTER**]

This deletes the contents of the partition. To make the partition DOS-usable, next use DOS's FORMAT utility.

**Other Controls – Resizing**

To resize the partition (i.e. make it larger), run the same commands you used when you first set up the partition.

## *Save to Disk Setup (cont.)*

a:>**PHDISK_/CREATE_[size]_/ PARTITION** [**ENTER**]

*or* a:>**PHDISK_/C_[size]_/P** [**ENTER**]

If you don't want to change the size of the partition, but still want to have a larger *Save to Disk* area, create a *Save to Disk* **file**. Then delete the partition as described above. This will prevent the system from getting confused and make sure the information is now written in the file.

**THE FILE METHOD**

This is a more flexible means of preparing your hard disk for the *Save to Disk* power saving system. However, it is not compatible with all operating systems.

To setup this file you should

1. Make sure your hard disk is defragmented (there are numerous utilities available for this).
2. Re-boot the computer in the DOS mode.
3. Insert the *PhDisk Utility* floppy.
4. Run PHDISK.EXE
   - to find out how much space you need, type, a:>**PHDISK** [**Enter**]
   - for a list of command switches, press **Enter** again.
   - to have PHDisk automatically create a file to meet your *current* needs, type a::>**PHDISK_/CREATE_/FILE** [**Enter**] *or* a:>**PHDISK_/C_/F** [**Enter**]

## *SUSPEND*

Activated by pressing **Fn** + or a system time-out.

In this mode, the computer is powered down, but still maintains power to the DRAM to preserve the system state information stored there.

Pressing any key reactivates the computer. However, each time this happens, you risk depleting the battery beyond its safety reserve and losing any data not saved to a disk.

**Security Note:** Passwords are not needed to resume from *Suspend*. If you want password protection, use the *Save to Disk* alternative.

**Ring in Note:** The system will wake if a ring-in is detected from a fax-modem or an activated serial (or other COM) port.

***Warning***

***Do not remove or change the PC Cards while the system is in* Suspend *Mode. The slots are turned off and any change in the system configuration may cause problems when the computer comes back on.***

## SOFTWARE (UTILITIES)

Your system is designed to work with three power management utilities: APM, and two optional utilities form Phoenix.

### APM

Developed by Microsoft and Intel this utility is embedded in the *Windows 3.1x, Windows 95* and IBM's *OS/2 Warp* operating systems. However, neither *APM* nor SystemSoft's *Power Profiler* utilize the full range of options available in Phoenix's *Setup*-based power management system. Use the battery icon on the (*Windows*')control panel to access *APM* (in *Windows 95*) or *PowerProfiler* (in *Windows NT 4.0*). For best results, use "Advanced" settings.

For more information about *APM*, refer to your operating system documentation.

**Note:** If you are using a "dumb" battery, neither utility offers accurate information about the charge levels.

### *Save to Disk Setup (cont.)*

- to make a file the size you prefer, type
  a:>**PHDISK /CREATE** [***size***] **/FILE** [**Enter**]
  *or* a:>**PHDISK /C** [***size***] **/F** [**Enter**]

e.g. for a 19MB file, type
a:>**PHDISK /C 19456 /F** [**Enter**]

4. When the utility announces that it has finished creating the file, it will want to restart to inform the CMOS of the change to the system configuration.

### *Installing SystemSoft PowerProfiler*

To install *PowerProfiler* for *Windows NT 4.0*:

1. Insert the *Software & Utilities* CD-ROM.
2. From the **Start** menu, select **Run....** Then **Browse...** Navigate to:
   **D:\drivers\nt40\powerprofile\SETUP**.
3. Click **Next** to proceed.
4. Click **Next** to accept the default installation directory. Or click **Browse...** to select an alternative directory.
5. After the files finish installing, select **Yes** to read the README file. Or select **No** to proceed.
6. Click on **Finish** to restart.

# 6 Extras



This chapter is about add-ons and extra features available with your system:

**Hardware**
- memory (also refer to page A-3)

**Software**
- improved TouchPad drivers (also see page 2-5 & 2-6)
- FIR driver for IrDA
- PC Card

If you plan on increasing your system memory, be sure to read the "Memory" section before you make any purchases.

If you use the TouchPad frequently, the enhanced driver allows you to make it even more user friendly. However, it doesn't have any effect if you're using an external pointing device.

# OTHER EXTRAS

The Software & Utilities CD-ROM which comes with the system has a number of features for other operating systems which are not covered in this manual. If you have need of them, make sure to review any accompanying "README" files.

| | |
|---|---|
| Windows 3.1x | • PC Card driver<br>• Audio driver<br>• Video driver (including VPM for multimedia)<br>• CD-ROM driver (duplicated on Floppy) |
| Windows NT 3.5x | • PC Card driver<br>• Audio driver<br>• TouchPad driver by Logitech |
| OS/2 Warp 3.0 | • Audio driver<br>• Video driver |
| OS/2 Warp 4.0 | • Audio driver |

If you need aditional utilities or drivers, consult your system dealer and/or ask your operating system vendor about availability.

# MEMORY

You can upgrade your notebook's memory to as much as 128MB. This involves opening the memory compartment and installing one or two DIMMs.

You can install these modules in either one socket or both sockets (in any order and any size combination).

Socket requirements:

up to 128MB maximum using one or both sockets
Socket 1 & Socket 2 requirements:

- 8MB, 16MB, 32MB or 64MB modules
- 144-pin SO-DIMMs
- 3.3-volt
- TSOP package
- SDRAM DIMMs
  – rated at 10ns or faster

*Make sure you put the correct type in each socket.*

***Warning***

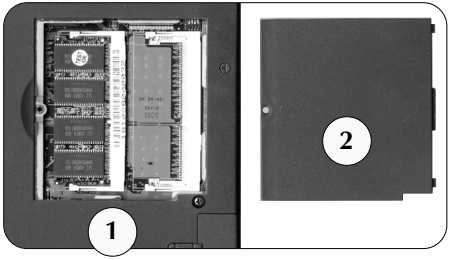
***Check with your dealer to make sure installing RAM yourself doesn't violate your warranty.***

***Warning***

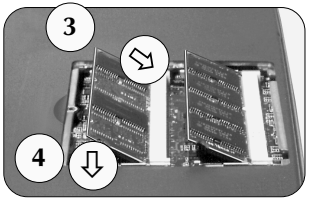
***Make sure each module meets all of the criteria for the socket it will be used in.***

***Warning***

***Do not touch the module's edge connectors. Even the cleanest hands can leave oils which may attract corrosive particles.***

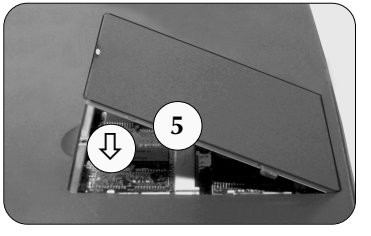



INSERTING THE DIMM
FIG. 6 – 1




6

Follow the instructions on the opposite side-panel. Modules can be inserted in any order.




## *Installing DIMMs*

If you install additional memory by yourself,

1. Make sure the system is turned off, you are wearing an antistatic wrist strap (available from most computer supply dealers) and you are in a dust/smoke-free environment.
2. Place the computer on a clean, dry, level surface.
3. Using a small Philips-head screwdriver, remove the anchor screw (1) from the memory bay cover and set the cover aside (2).
4. Insert a DIMM in either slot at about a 20° angle (3). Grooves on the sides of the module allow you to insert it only one way. Make sure it is seated as far into the slot as it will go.
5. Gently push down on the module (4) until its lock-catches snap into place. **DO NOT FORCE IT**. The module should fit in without much pressure. If there is a lot of resistance, check to make sure the DIMM is properly seated.
6. Install the second module in the same way.
7. Replace the memory bay cover (5).
8. After changing the RAM configuration, run *Setup* so the new total can be registered in the CMOS (refer to *Chapter 4: Firmware*).

# TouchPad

If you want to take full advantage of the TouchPad's capabilities, you need to install the specialized drivers which come with your system. These are on the *Software Utilities* CD-ROM which came with your system.

## Gestures

The software has a default set of TouchPad "gestures":

| Logitech Gesture | Standard Gesture | Description/Equivalence |
|---|---|---|
| **Slide** | **Slide** | Move the cursor across the pad |
| **Tap 2nd Finger** (while holding 1st finger down) | **Tap 1 Finger** | Single click the left mouse button |
| **Tap 2 Fingers once at the same time or Double Tap 2nd Finger** (while holding 1st finger down) | **Double-Tap 1 Finger** | Double-click the left mouse button |
| **Drag 2 Fingers** (slide both fingers at the same time) | **Tap & Drag** (tap once, then tap & hold your finger to the pad as you move it) | Click & drag with the left mouse button |
| **Tap 3 Fingers** (tap once with 3 fingers) **or Tap 2nd & 3rd Fingers** (while holding 1st finger down) | | Single click the right mouse button |
| **Drag 3 Fingers** (slide 3 fingers at the same time) **or Tap 3 & Drag 1** (tap 3 fingers then drag with one) | | Click & drag with the right mouse button |

Table 6 – 1
**Default TouchPad Gestures**
The *MouseWare* driver supports both Logitech and Standard gestures.

## *TouchPad Driver Installation*

***MouseWare* Driver for *Windows 95 & NT 4.0***

1. Insert the *Software Utilities CD-ROM.*
2. Use the **Add/Remove Programs** utility in the **Control Panel**.
3. Click on **Install** then **Next >**.
   Click on **Browse...** and navigate to:
   D:\drivers\win95\touchpad\setup.exe*
   or D:\drivers\NT40\touchpad\setup.exe*
   Click **Open**, then **Finish** to start the installation.
   * This assumes your CD-ROM is drive "D:".
4. Choose the "Express" installation. The program will use "C:\MOUSE" as its directory. If you prefer a different location, run the "Custom" Installation. When it's finished installing, allow the system to reboot.
5. When the system restarts, the Device Setup Wizard will guide you through some customized settings.
   For normal operations, click on the Mouse button in the Control Panel if you want to change the default settings.

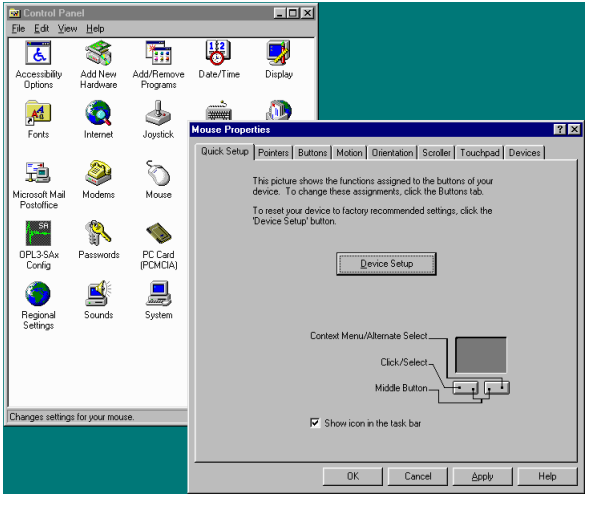
## Customizing Gestures

### Windows 95 & Windows NT 4.0

To customize TouchPad gestures in *Window 95*, use the *Buttons* tab in *Mouse Properties* of *Control Panel:*

1. From the **Start** menu, select **Settings** > **Control Panel**.
2. Double-click on the *Mouse* icon.

When the Mouse Properties page appears, use the on-line help to get information about each feature. To configure other common features, click on other tabs.




**Mouse Properties**
Fig. 6 – 2

# FIR FOR THE IRDA

The Software & Utilities CD-ROM also includes a FIR driver for the IrDA port. This driver only works with Windows 95, so its included in that operating system's driver folder.

Before installing it, please be sure to read the RELNOTES.DOC file included in the FIR folder. This file has important instructions about the installation procedure and system settings. You can open the file with the *Wordpad* utility included with Windows 95.

# CardWizard

The *CardWizard* utility is required for *Windows 3.1x* but is only supplemental for *Windows 95* and *Windows NT 4.0* (though highly recommended for the later).

## CardWizard & Operating Systems

*CardWizard* can give you information about the status of the cards and sockets, troubleshoot card configuration problems, and resolve resource conflicts.

In *Windows 3.1x*, start *CardWizard* by clicking on its icon in the "CardWorks" folder of the Program Manager.

In *Windows 95* and *Windows NT 4.0*, start *CardWizard* from the taskbar (**Start > Programs > CardWizard**).

For more information on *CardWizard* features, you can click on *CardWizard*'s **Help** icon or go to the "Help" menu if you have already activated *CardWizard*.

### *Installing CardWizard*

**WINDOWS 95**

The *CardWizard* utility replaces *Windows 95*'s PC Card utility with enhanced support. However, you should install this *after* you have activated the PC Card utility in *Windows 95*. To install,

1. Open **Control Panel** > **Add/Remove Programs** and choose **Install...**
2. Insert the *Software & Utilities* CD-ROM and click **Next**.
3. Browse to DRIVERS\WIN95\PC_CARD\SETUP.EXE, click on the **Finish** button.
4. Follow the program's dialog boxes. The utility will create a "CARDWORK" directory for itself on your C: drive unless you choose otherwise.
5. Choose "Typical" to enable the slots for all types of cards (this will use more system resources).
   Choose "Custom Installation" if you know that you won't need some features.
6. Allow the modifications to the various files.
7. When complete, reboot the system.

**Note**: If you allow SRAM/ATA drive support, it will add removable drive resources before your CD-ROM. This will affect programs which depend on CD-ROM based files. If you don't want to use SRAM/ATA cards, use the "Custom Installation".

## *Installing CardWizard (cont.)*

and de-select that option during installation**.** Near the end of the installation, the utility asks if you want to view the "readme" file. We suggest you take a moment to scan it. The latest information about ATA PC Card configuration is included.

**WINDOWS NT 4.0**

The *CardWizard* utility is the same as that for the *Windows 95*. You should install it *after* you have activated the PC Card utility in *Windows NT*. To install,

1. Open **Control Panel** > **Add/Remove Programs** and choose **Install...**
2. Insert the *Software & Utilities* CD-ROM and click **Next**.
3. Browse to DRIVERS\NT40\PC_CARD\SETUP.EXE, click on the **Finish** button. (You can also use the WIN95 directory.)
4. Follow the program's dialog boxes. The utility creates a set of sub-directories for itself in the Program Files directory on your C: drive unless you choose otherwise.
5. When the installation is complete, allow the system to reboot to complete the setup.

## *CardWizard & Windows NT 4.0*

On its own, *Windows NT 4.0* won't allow "hot" insertion or removal of PC Cards. *CardWizard* overcomes this deficiency. However, before removing a card, you should click on **Stop** in the *CardWizard* control panel. This makes sure no applications are using the card, which might cause a problem if the card is removed. For more details, refer to *CardWizard*'s *Help* menu.

## *Using Card Wizard*

*Card Wizard* can detect a card's installation and "correct" the system resources allocation. Press the **Wizard** button for more information. When you first install an unrecognized card, you'll hear a warning beep. Run CardWizard and allow it to configure the system resources. The next time you install that card, *CardWizard* will recognize it and adjust the system automatically.

## Power Management

CardWizard for *Windows 3.1x* includes a utility to allow it to work with power management systems. To use it, copy the CS_APM.EXE file from the Drivers/Utilities CD-ROM to the CardWizard directory on your HDD. Then using an editor program, modify the CONFIG.SYS file:

install= [drive]:\[path]\cs_apm.exe

e.g. Install=c:\cardwiz\cs_apm.exe

## Using Removable Storage Cards

If you are using removable storage cards (i.e., ATA Hard Disk/ATA Flash Disk cards and SRAM cards), be sure to read the "readme" files which come with CardWizard.

## CardWizard Utilities

CardWizard's directory in *Windows 3.1x* or *Windows 95* includes utilities to format removable storage cards. You can launch them by clicking their icons in the File Manager.

### *Installing CardWizard (cont.)*

**Note**: Card Wizard can detect a card's installation and "correct" the system resources allocation. Press the **Wizard** button for more information. When you first install an unrecognized card, you'll hear a warning beep. Run CardWizard and allow it to configure the system resources. The next time you install that card, CardWizard will recognize it.

### *Formatting in Windows NT 4.0*

Windows NT 4.0 has the necessary formatting utilities built in.

## *ATAINIT.EXE*

This is a disk partitioning utility that must be used to prepare any ATA card supported by ATADRV. When a new ATA card is inserted into a PC Card socket, it is not recognized since there is no common method to find out its physical parameters (number of sectors, cylinders, etc.). ATAINIT interrogates the card to find the physical parameters to use, then prepares it for use. ATAINIT will only work with devices managed by ATADRV. To use it,

1. Insert an ATA card into either PC Card socket.
2. Switch to the CARDWIZ directory (or the directory where you installed the *CardWizard* software).
3. Type **atainit** (drive letter): and press **Enter**.
   (e.g. **atainit e:** [**Enter**])

   Follow the prompts on the screen as the utility partitions the PC Card.

   **Note:** Before you substitute the drive letter, check the system booting message to see which logical drive names are reserved for ATA cards.

## *MCFORMAT.EXE*

This utility partitions and formats flash memory cards (both MS-Flash and FTL). However, if you plan to use the card on another system, make sure it supports the format you use. If it doesn't, you will not be able to access the card. To use it,

1. Insert a flash memory card into either PC Card socket.

2. Switch to the CARDWIZ directory (or the directory where you installed the *CardWizard* software).
3. Type **mcformat** and press **Enter**. (i.e. **mcformat** [**Enter**])
   Follow the prompts on the screen as the utility partitions the PC Card.

## Supported PC Cards & ZV Socket

CardWizard enables your system to work with all "legacy" cards. It also extends ZV card support to *Windows 3.1x* and *Windows 95*. We recommend you read the **readme** file on the *CardWizard* disk to find out if any special conditions apply to a card you are considering buying. If you are interested in a card model and have compatibility questions, call the card manufacturer to check on its compatibility with SystemSoft's *CardWorks* and *CardWizard utilities*.

**Note**: As this manual goes to press, ZV Card support is only available for *Windows 95*, *3.1x* and *NT 4.0* users.

# PORT REPLICATOR

The Port Replicator is designed to enable easy, and more permanent peripheral connections with your notebook computer.

These connections, except where noted, exactly replace similar connections on your notebook computer:

 USB Port (2 ports)

 Serial Port (COM1)

 TV-out Port (S-type).

 VGA Port.

 Parallel Port

 PS/2 Port for a compatible pointing device.

 PS/2 Port for a PS/2 compatible keyboard.

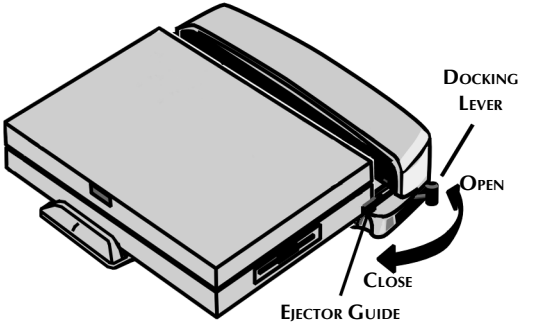
 Power Socket: Depending on your notebook model, this serves as a pass-through connector to the notebook's own DC-in port. If your computer doesn't support this feature, its function is null - you must use the notebook's DC-in port.

## Docking Procedures

**Make sure the system is OFF before connecting or disconnecting the Port Replicator.**

1. Connect your peripherals to the Port Replicator. The connections are marked with icons to help identify their functions.
2. Make sure the **Docking Lever** is all the way back in its *open* position.

   Make sure the **expansion door** on the rear of the notebook is *open*.
3. Position the notebook between the **slide connection** and **ejector guides**.
4. Pull the **docking lever** forward to securely fasten the Port Replicator.
5. Turn on the computer.




Port Replicator Docking
Fig. 6 – 3

## Undocking Procedure

1. Shut down your system or put it into Suspend mode.
2. Push the **docking lever** all the way back to the open position and lift the notebook straight up, off of the Port Replicator.
3. Restart the notebook computer.

## TROUBLESHOOTING

**The monitor screen is blank or the video display dimensions are wrong.**

**solution:**
- Make sure the monitor is turned ON and the notebook's video settings are set to recognize the attached monitor.
- Connect the monitor directly to the notebook's VGA port to make sure it's working. If it still doesn't work, there may be a problem with the monitor. If it does work when connected directly, contact your service provider.

**Other peripheral devices attached to the Port Replicator are not functioning.**

**solution:**
- Make sure the cable connections between the Port Replicator and the device(s) in question are undamaged and secured.
- Make sure the peripherals work when connected directly to the notebook computer.
- Confirm the *Setup* settings for the ports.
- Shut down the entire system. Disconnect all peripherals from the notebook. Disconnect all devices from their power supplies. Reestablish all connections. Turn on any peripheral with its own power supply. Lastly, turn on the computer.

## REGULATORY INFORMATION

This device complies with Part 15 of the FCC Rules where operation is subject to the following conditions: (1) This device may not cause harmful interference; (2) this device must accept any interference received, including interference that may cause undesired operation.

## NOTES:

# A Specifications

The information listed in this section is for reference only. It is subject to change at the manufacturer's discretion and without notice.

Unless otherwise indicated, none of the components and/or subsystems can be modified or upgraded.

***Warning***

***The CPU is not user-upgradable. Do not try to upgrade the CPU yourself as doing so will violate the warranty. Upgrading requires additional system adjustments. Any upgrade procedure must be performed by authorized service personnel only.***

# CPU & Chipset

## CPU

**PPGA form:**

Intel® Pentium™ series

| | |
|---|---|
| P55CLM | (2.5V) 133~166MHz |
| P55C | (2.8V) 200~233MHz |
| "Tillamook" | (1.8V) 166~266MHz |

Other

| | |
|---|---|
| AMD® K6™ | (2.2V) 233MHz |

## Chipset

| | |
|---|---|
| Core Logic: | Intel® 430TX |
| BIOS | Phoenix (256KB Flash ROM, BIOS+VGA BIOS) supports MMX, PnP 1.0a, APM 1.2, ACPI, PCI 2.1, LBA mode |

*More on CPUs*

**Voltage, Speed & Power Savings**

Generally, higher voltage or faster CPUs use more power and run "hotter".
So of these options, a 166MHz "Tillamook" Pentium™ running at 1.8V is the most energy efficient, though among the slowest. However, actual power consumption also depends on the amount of "work" the CPU must perform.

**Packaging**

The "PPGA" format features a removable CPU. The accompanying chipset is hard-wired onto the mainboard.

**MMX™**

As of press-time, all CPU options include MMX™ technology.

# MEMORY

**L1 cache** (in CPU):

| | |
|---|---|
| Intel® Pentium™ | 16KB code + 16KB data |
| AMD® K6™ | 32KB code + 32KB data |

**L2 cache**:

PPGA configuration: 256KB or 512KB Pipeline Burst SRAM

**RAM** *: up to 128MB maximum using one or both sockets

Socket 1 & Socket 2 requirements:

- 8MB, 16MB, 32MB or 64MB modules
- 144-pin SO-DIMMs
- 3.3-volt
- TSOP package
- SDRAM DIMMs
  – rated at 10ns or faster

* User upgradable.

A

# Specifications

## VIDEO

| | |
|---|---|
| **VGA Controller** | S3 M5 (3D with ZV support) /proprietary driver |
| **Display Memory** | 2MB, upgradable to 4MB, 3.3V SGRAM |
| **LCD options** | TFT: 12.1″or 13.3″<br>DSTN: 12.1″ or 13.0″ |
| **Ports** | CRT: 15pin VGA<br>TV-out (NTSC/PAL adapter connector required) |

## AUDIO

| | |
|---|---|
| **Controller** | Yamaha YMF715e (proprietary driver) 16-bit FM, Wavetable supports PnP 1.0a, dual DMA with FIFO for full-duplex |
| **Compatability** | Sound Blaster Pro 3.01, MS Windows Sound System™, zoom-video |
| **Built-in** | 2 speakers, mic, 0.8watt max. output |
| **Ports** | Line-in, Mic-in, phone/speakers-out |

### *More on Video Standards*

Depending on the OS, the *S3 M5 Controller* supports these resolutions (in pixels).

| | | |
|---|---|---|
| •NTSC | 640 x 400 | NTSC TV |
| •VGA | 640 x 480 | all LCDs and monitors |
| •SVGA | 800 x 600 | LCDs, monitors & PAL TVs |
| •XGA | 1024 x 768 | LCDs & monitors |
| •SXGA | 1280 x 1024 | monitors |

| Colors/Resolution | VGA* | SVGA | XGA | SXGA |
|---|---|---|---|---|
| *Single capability per display* | | | | |
| 256† | ✓ | ✓ | ✓ | ✓ |
| 16 bit (HiColor) | ✓ | ✓ | ✓ | ❖ |
| 24 bit (TruColor) | ✓ | ✓ | ❖ | |
| *Dual Control (same image) capabilities per display* | | | | |
| 256† | ✓ | ✓ | ✓ | ❖ |
| 16 bit (HiColor) | ✓ | ✓ | ❖ | |
| 24 bit (TruColor) | ✓ | ❖ | | |
| *Dual Control (different images) capabilities per display* | | | | |
| 256† | ✓ | ✓ | ❖ | |
| 16 bit (HiColor) | ❖ | ❖ | | |
| 24 bit (TruColor) | | | | |

* including NTSC

† Maximum colors available for Dual Control in *Windows NT 4.0* (as of this publucation).

✓ resolutions available with 2MB of video RAM.

❖ resolutions available with 4MB of video RAM.

A

# DRIVES

| | |
|---|---|
| **HDD Bay** | • 2.5", 12.7mm removable 1.35GB or larger<br>PCI local bus IDE Interface |
| **FDD Drive** | • 3.5" 1.44MB FDD (3-mode option) |
| **CD-ROM** | • 24x or faster (3000KBs) CD-ROM, ATAPI, CD, CD-ROM, MPEG1 and CD-I ready<br>• switchable with DVD |

# I/O

| | |
|---|---|
| **USB** | 1channel on board<br>(+1 channel extended through port replicator)<br>max output /channel = 500mA<br>complies with PC98 spec. rev.1 sec.7.2 |
| **Parallel/Printer** | 25-pin, bi-directional SPP, EPP v1.7/1.9, ECP v1.7 |
| **Serial 1** | 9-pin, RS232C, NS16C550A compatible |
| **Serial 2** | IrDA v1.1 FIR, ASK |
| **TV-out** | mini-din |
| **PS/2** | mouse or keyboard |
| **PC Card** | 2x Type II or 1x Type III PC Card (with ZV support) |
| **Expansion** | proprietary port replicator (80 pin) |

# Specifications

## *Power* (minimum Requirements)

**Power input**
19VDC, 55W

**AC Adapter output**
19VDC, 2.8A

**AC Adapter input**
100~240VAC, full range, autosensing

**Battery (form)**
36 (Ni-MH) or 202 (Li-Ion)
"smart" or "dumb"

**Battery Charging***

| | |
|---|---|
| Fast (system off) | 2000mA ± 200mA/hr |
| Slow (system on) | 800mA ± 50mA/hr |
| "Trickle" | <100mA/hr |

* See the sidebar for an explanation of limitations.

**Estimated Battery Life†**

| | |
|---|---|
| "max. battery life": | 3h 30m (NiMH) |
| | 4h 10m (Li-Ion) |
| "disabled": | 2h 28m (NiMH) |
| | 2h 43m (Li-Ion) |

† These numbers are *very* rough guides for two Setup default configurations.
See the sidebar for an explanation of limitations.

### *Recharge timing*

To calculate how long it will take your battery to recharge, first check its capacity (e.g. 4000mA) then divide by the appropriate speed.
For example, a 4000mA Ni-MH* battery should take about 2 hours to fully recharge with the system off, and 5 hours with the system running. However, your time may be faster since under most conditions your battery is rarely completely empty (there's usually a small "reserve" charge left).
*NiMH batteries charge at a constant rate. Li-ion batteries' charge rate slows for about the last 25%.

### *More on Charging*

Your system doesn't require a proprietary battery, so to accomodate the widest range of batteries on the market, and still be safe, we've taken a lot of factors into consideration:

**Type**

Different batteries accept charge at different rates. If the system charges faster than the battery can accept, it may damage the battery.

**Environment**

Removeable batteries' contacts can be contaminated (oils, smoke, etc.), inhibiting current flow.

**Temperature**

This is the most important safety consideration. If the temperature gets too high, the system automatically slows the recharging process to reduce heat generation. Too much heat, and your battery could explode!

**Condition**

This is a huge catch-all, which includes the amount of charge already present and how worn your battery is. If the system senses the battery is almost full, it slows the charging so it doesn't overload the battery.

*More on Battery Life*

We can't be more specific because performance varies depending on many factors, including battery condition, capacity, environmental conditions, system usage habits, software requirements, and (not least), system configuration.
Our extremely artificial examples are based on the following configuration:

| | |
|---|---|
| Battery: | NiMH (SMP-36S) 3600mA<br>Li-Ion (SMP-202P) 4200mA |
| CPU: | Tillamook 200MHz (1.8V) |
| RAM: | 32MB RAM |
| Video: | 4MB Video SGRAM, 12.1 TFT LCD |
| Ports: | All enabled, No USB devices attached |

Software test package: ZD BatteryMark 2.0

ambient temperature: 25°C (77°F)

Your system's performance and configuration will be different, so it's possible for you to get much better results.

# Other Features

| | |
|---|---|
| TouchPad | built-in PS/2 pointing device by Synaptics Inc. (with proprietary supplemental drivers) |
| Kensington Lock | standard security interface |

# Environment

| | |
|---|---|
| **Operating Temperature** | 0°C to 35°C (32°F to 95°F) |
| **Storage Temperature** | -10°C to 65°C (14°F to 149°F) |
| **Operating Humidity** | 20% to 80% non-condensing |
| **Storage Humidity** | 10% to 90% non-condensing |

# Dimensions

| | | |
|---|---|---|
| **Hight** | 45mm | (1.77″) |
| **Width** | 310mm | (12.20″) |
| **Depth** | 240mm | (9.45″) |
| **Weight** | 3.3 KG | (7.27lbs) |

with Li-Ion battery, FDD, HDD & CD-ROM

## ACCESSORIES/OPTIONS†

- ‡ 12.1/13.0″ DSTN SVGA or XGA LCD module or
  12.1/13.3″ TFT SVGA or XGA LCD module
- ‡ 56Kbps v.34 Fax Modem module
- ‡ 24x CD-ROM or DVD
- ‡ 3.5″, 1.44MB FDD or LS-120 drive

Drivers for hardware, system software, bundled applications
User's manual
Expansion DRAM module(s): 8MB, 16MB, 32MB or 64MB
TV terminal cable
AC adapter with power cord
Port replicator
Battery pack: 36 (Ni-MH) / 202 (Li-Ion)
Car adapter (19VDC, 2.4A output)
Carrying Bag

† Options may not be immediately available and/or may be standard accesories depending on your package.
‡ Optional Factory Installed Modules