

Notebook Computer



User's Manual

Important

No matter what your level of experience with computers, please make sure you read the safety instructions. This information can help protect you and your computer from possible harm.

FCC Information to User

Federal Communications Commission Statement

This Equipment has been tested and found to comply with the limits for a class B digital device, pursuant to Part 15 of the Federal Communications Commission (FCC) rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Warning: The use of a shielded-type power cord is required in order to meet FCC emission limits and to prevent interference to the nearby radio and television reception. It is essential that only the supplied power cord be used. Use only shielded cables to connect I/O devices to this equipment. You are cautioned that changes or modifications not expressly approved by the party responsible for compliance could void your authority to operate the equipment.

You may find helpful the following booklet, prepared by the Federal Communications Commission: Interference Handbook. The booklet is available from the U.S. Government Printing Office, Washington, DC 20402.

Warning: The user must not modify or change this computer without approval. Modification could void authority to this equipment.

Cautions for Notebook Computer with Lithium-Ion Battery

Danger of explosion while battery is under incorrectly replaced. Replace only with the same or equivalent type recommended by the manufacturer. Dispose of used batteries according to the manufacturer's instructions.

Part 68 Certification for Notebook Computer with Built-in Modem

FB M30

This equipment complies with **Part 68 of the FCC Rules**. On the backside is a label that contains, among other information, the FCC registration number and the **ringer equivalence number (REN)** for this equipment. You must, upon request, provide this information to your local telephone company. The information associated with the services the equipment is to be connected is REN: **0.1B**.

The REN is useful to determine the quantity of devices that you may connect to your telephone line and still have those entire devices ring when your number is called. In most, but not all areas, the sum of the REN's of all devices connected to one line should not exceed five (5.0). To be certain of the number of devices that you may connect to your line, you may want to contact your local telephone company to determine the maximum REN for your calling area.

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

Should this equipment cause harm to the telephone network, the telephone company may discontinue your service temporarily. If possible they will notify you in advanced notice isn't practical, you will be notified as soon as possible. You will be informed of your right to file a complaint with the FCC. The telephone company may make changes in its facilities, equipment, operations or procedures that could affect the proper functioning of your equipment. If they do, you will be notified in advance to give you an opportunity to maintain uninterrupted telephone service.

For information on obtains service or repairs. The telephone company may ask that you disconnected this equipment from the network until the problem has been corrected or until you are sure that the equipment is not malfunctioning.



Warning

- The CPU should only be replaced by a qualified service technician. It is recommended that Do Not remove the CPU yourself. You could damage the CPU.

Safety Instructions

1. Please read these safety instructions carefully.
2. Please keep this User's Manual for later reference.
3. Please disconnect this equipment from AC outlet before cleaning. Don't use liquid or sprayed detergent for cleaning. Use moisture sheet or cloth for cleaning.
4. For pluggable equipment, the socket-outlet shall be installed near the equipment and shall be easily accessible.
5. Please keep this equipment from humidity.
6. Lay this equipment on a reliable surface when install. A drop or fall could cause injury.
7. The openings on the enclosure are for air convection hence protects the equipment from overheating. DO NOT COVER THE OPENINGS.
8. Make sure the voltage of the power source when connect the equipment to the power outlet.
9. Place the power cord such a way that people cannot step on it. Do not place anything over the power cord.
10. All cautions and warnings on the equipment should be noted.
11. If the equipment is not use for long time, disconnect the equipment from mains to avoid being damaged by transient over voltage.
12. Never pour any liquid into opening; this could cause fire or electrical shock.
13. Never open the equipment. For safety reason, the equipment should only be opened by qualify service personnel.
14. If one of the following situations arises, get the equipment checked by a service personnel:
 - A: The power cord or plug is damaged.
 - B: Liquid has penetrated into the equipment.
 - C: The equipment has been exposed to moisture
 - D: The equipment has not work well or you cannot get it work according to user's manual.
 - E: The equipment has dropped and damaged.
 - F: If the equipment has obvious sign of breakage
15. DO NOT LEAVE THIS EQUIPMENT IN AN ENVIRONMENT UNCONDITIONED; STORAGE TEMPERATURE ABOVE 60°C (140 °F), IT MAY DAMAGE THE EQUIPMENT

Wichtige Sicherheitshinweise

1. Bitte lesen Sie diese Hinweis sorgfaeltig durch.
2. Heben Sie diese Anleitung fuer den spaeteren Gebrauch auf.
3. Vor dem Reinigen ist das Geraet vom Stromnetz trennen. Verwenden Sie keine Fluessig-order Aerosolreiniger. Am besten eignet ein angefeuchtetes Tuch zur Reinigung.
4. Die Netzanschlubsteckdose soll nahe dem Geraet angebraucht sind leicht zugaenglich sein.
5. Das Geraet ist vor Feuchtigkeit zu schuetzen.
6. Bei der Aufstellung des Geraetes ist auf sicheren Stand zu achten. Ein Kippen oder Fallen koennte Beschaedigungen hervorrufen.
7. Die Belueftungsoeffnungen dienen der Luftzirkulation, die das Geraet vor Ueberhitzung schuetzt. Sorgen Sie dafuer, dass diese Oeffnungen nicht abgedeckt werden.
8. Beachten Sie beim Anschluss an das Stromnetz die Anschlusswerte.
9. Verlegen Sie die Netzanschlussleitung so, dass niemand darueber fallen kann. Es sollte auch nichts auf der leitung abgestellt werden.
10. Alle Hinweise und Warnungen, die sich am Geraet befinden, sind zu beachten.
11. Wird das Geraet ueber einen laengeren Zeitraum nicht benutzt, sollten Sie es vom Stromnetz trennen. Somit wird im Falle einer. Ueberspannung eine Beschaedigung vermieden.
12. Durch die Lueftungsoeffnungen duerfen niemals Gegenstaende oder. Fluessigkeiten in das Geraet gelangen. Dies koennte einen Brand bzw. Elektrischen Schlag ausloesen.
13. Oeffnen Sie niemals das Geraet. Das Geraet darf aus Gruenden der elektrischen Sicherheit nur von autorisiertem Servicepersonal geoeffnet werden.
14. Wenn folgende Situationen auftreten ist das Geraet vom. Stromnetz zu trennen und von einer qualifizierten Servicestelle zur Ueberpruefung:
 - A: Netzkabel oder Netzstecker sind beschaedigt.
 - B: Fluessigkeit ist in das Geraet eingedrungen.
 - C: Das geraet war Feuchtigkeit ausgesetzt.
 - D: Wenn das Geraet nicht der Bedienungsanleitung entsprechend funktioniert oder Sie mit Hilfe dieser Anleitung keine Verbesserung erzielen.
 - E: Das Geraet ist gefallen.oder das Gehaeuse ist beschaedigt.
 - F: Wenn das Geraet deutliche Anzeichen eines Defektes aufweist.

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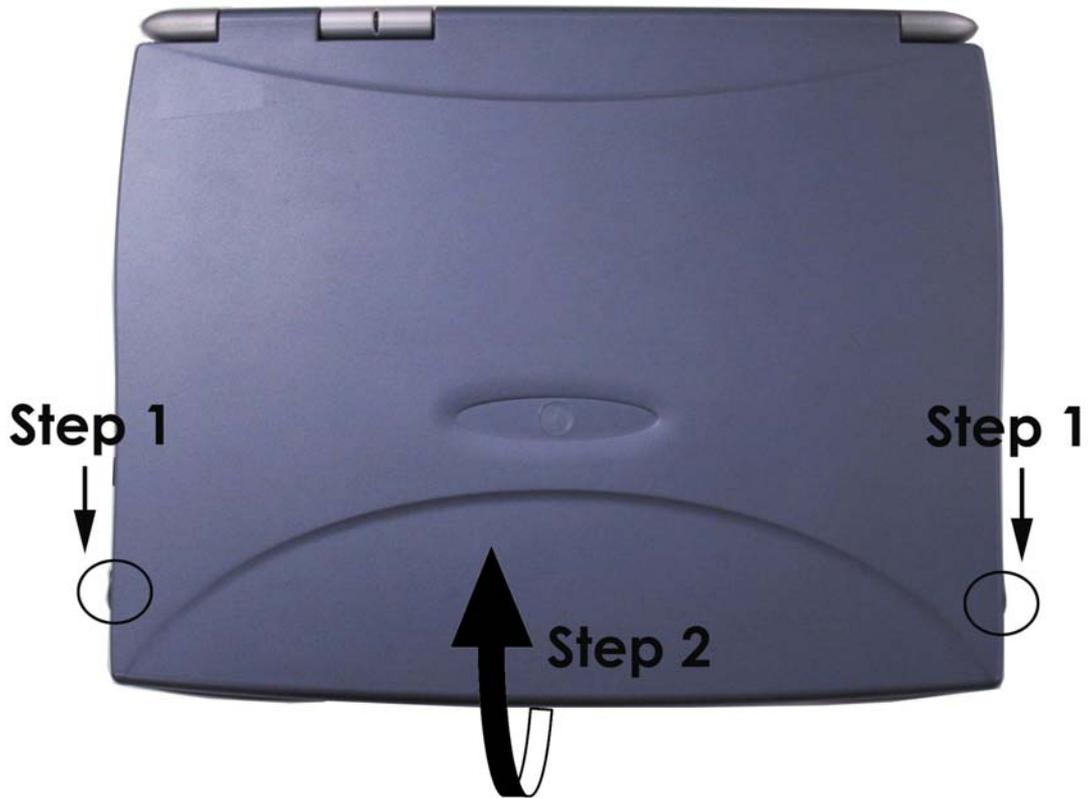
Chapter 1 - Welcome



Opening the Display Panel
Identifying External Components
Front Right View
Front Left View
Rear View
Bottom View

Opening the Display Panel

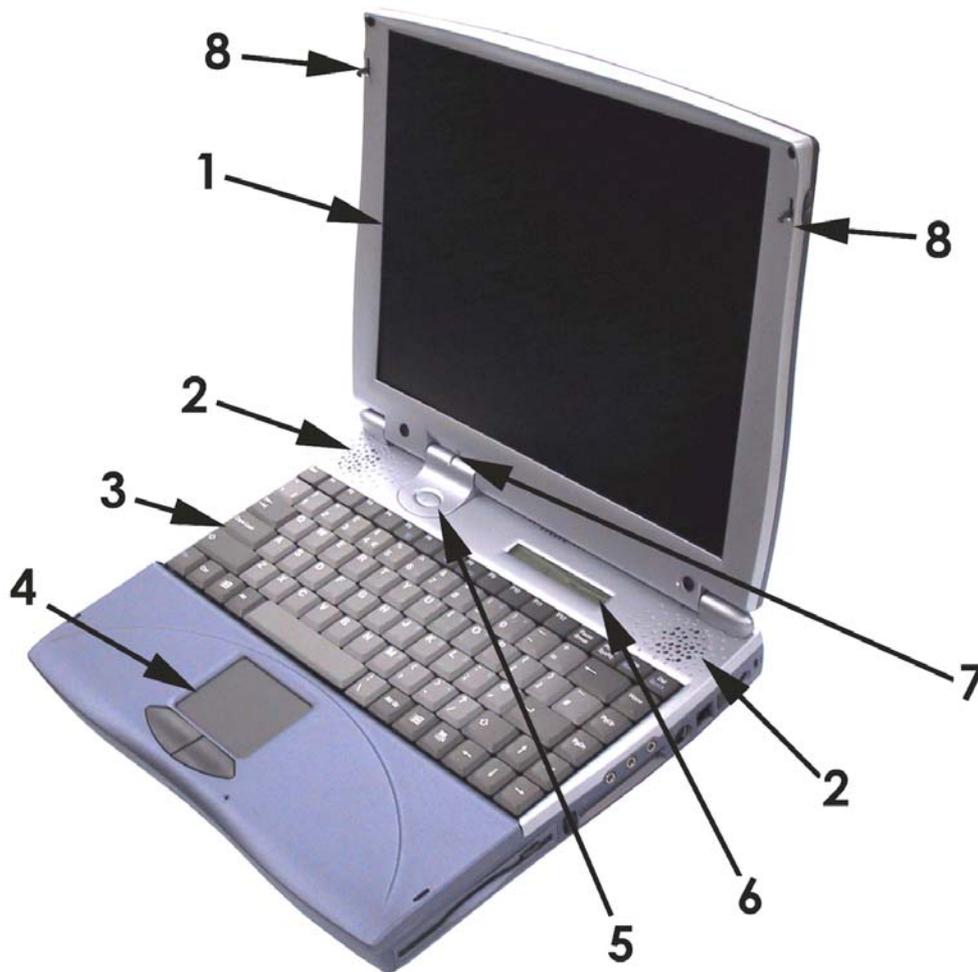
Please refer to the picture below; you can find display release latches located on the left and right panel side to secure the display. To open the display panel, please push latches outward as step 1. Gently tilt the display panel forward or backward to the best viewing angle as step 2.



Identifying External Components

Please refer to the picture below to identify all external components and accessories on the Notebook computer.

Front Right View



Front Right View of the Notebook

- 1. LCD—13.3" XGA TFT LCD Screen**
The Notebook Computer use a 13.3" XGA TFT LCD panels supports resolution up to 1024 x 768.
- 2. Built-in Stereo Speakers**
- 3. Keyboard**
The low-profile keyboard emulates all the functions of a full-size keyboard including an embedded keypad and a full array of special function keys. The keyboard provide Windows™ function keys to help ease navigation in the Microsoft operating system.
- 4. Touchpad**

The pressure sensitive Touchpad provides all the functions of a two-button mouse and can be used simultaneous with an external PS/2 mouse.

5. Power Button

The power button allows powering ON and OFF the Notebook Computer. Please refer "Power Button" of Chapter 2 for more detail description.

6. LCM

7. Battery Charge Status LED

You can identify battery charge status by this LED. If battery pack is being charged, the LED will light and turn off if battery charged completely.

8. Display Panel Latch

These latches are used to secure the display panel. When the Notebook Computer not in use, please keep the display panel closed, these latches will lock the display panel to prevent dust accumulation.

Left View



Front Left View of the Notebook

1. Kingston Lock port

The kingston lock port allows to use the Kingston Security Lock to lock your Notebook to a desk or other fixed object to prevent the Notebook Computer to be removed.

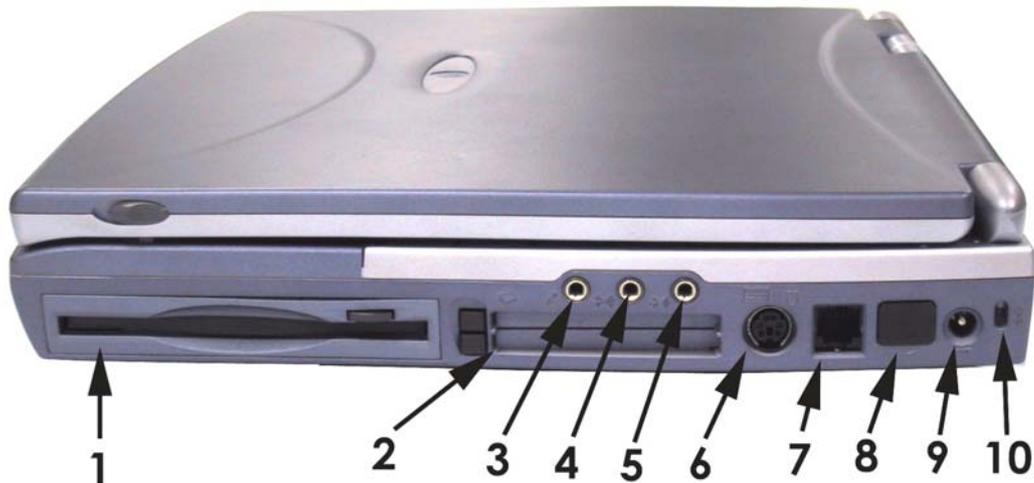
2. CD-ROM/DVD ROM Module

The Notebook Computer supports 5.25-inch IDE CD-ROM/DVD-ROM drive.

3. Removable Battery Module

The Notebook comes equipped with a factory-installed battery pack module.

Right View



Front Left View of the Notebook

- 1. Built-in FDD Module**
The Notebook comes with a standard floppy module.
- 2. PCMCIA Slots**
The PCMCIA sockets accepts to connect two PCMCIA Type II cards or one Type III PC card. The Notebook Computer supports 32bit.
- 3. Audio Mic-In Jack**
This Mic-in jack is used to connect an external microphone.
- 4. Audio Line in Jack**
- 5. Audio Line Out Jack**
This stereo jack is used to connecting external stereo speakers or earphone.
- 6. External PS/2 keyboard/mouse Port**
This port is for connecting an external PS/2 devices such as a PS/2 mouse or a PS/2 keyboard to the Notebook.
- 7. Built-In RJ-11 Fax/Modem Jack.**
The built-in internal Fax/Modem supports 56K V.90 transfers.
- 8. Fast Infrared Communication Module (FIR)**
The FIR Module allows wireless communication between the Notebook and another IrDA compliant computer or device.

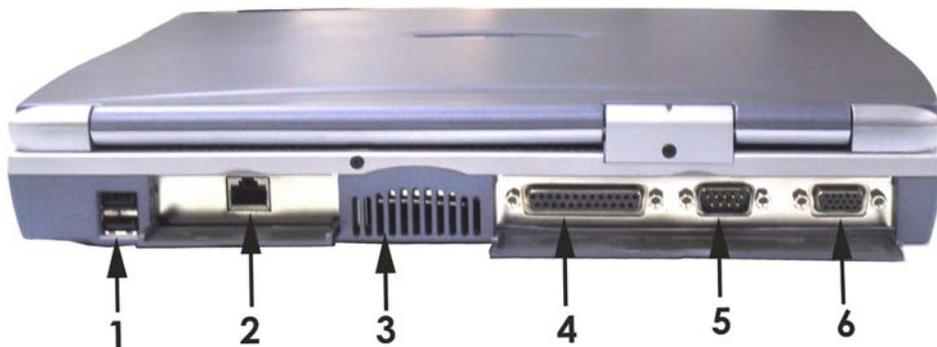
9. DC-In Jack

The DC power input jack allows to connect the power adapter to convert AV power to DC power to supplied power to the Notebook Computer and also charge the battery.

10. Kingston Lock port

The kingston lock port allows to use the Kingston Security Lock to lock your Notebook to a desk or other fixed object to prevent the Notebook Computer to be removed.

Rear View



Rear View of Notebook

1. USB Ports

These Universal Serial Bus ports was designed in full compliance with the Universal Serial Bus specification 1.0.

2. Built-In RJ-45 Ethernet Jack

The internal Ethernet supports 10Base-T or 100Base-TX standard networks.

3. Air Vent

This area will bring the heat out for heat exchange, please do not block the air vent.

4. Parallel (LPT1) Port

This 25-pin parallel port supports parallel devices such as a printer.

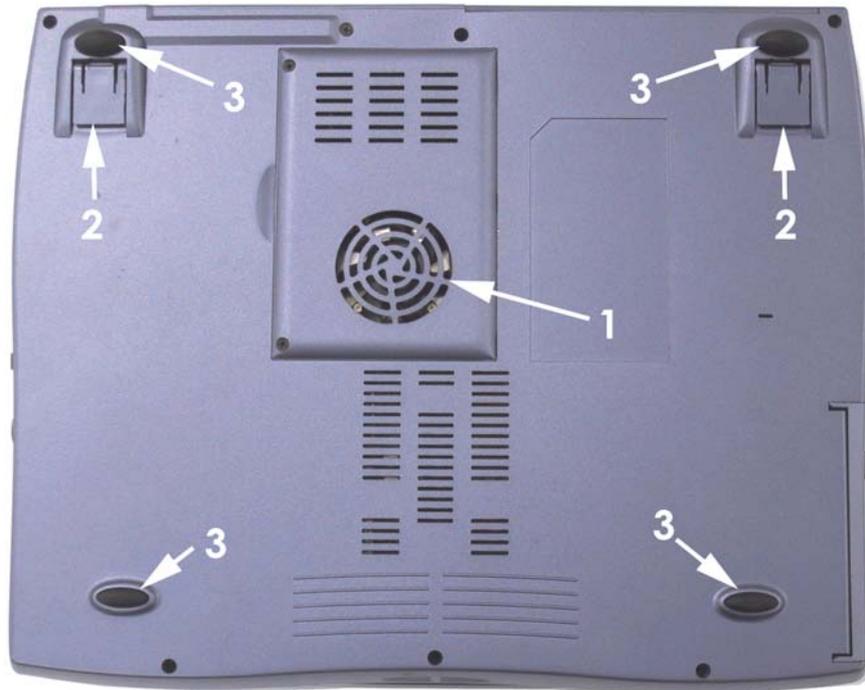
5. Serial (COM1) Port

This 9-pin serial port supports RS-232 devices such as external mouse, fax/modems.

6. CRT Port

This 15-pin CRT port supports standard VGA-compatible devices such as an external CRT monitor or projector.

Bottom View



Bottom View of Notebook

- 1. Cooling Fan**
- 2. Notebook Stand**
- 3. Rubber Stands**

The Notebook stands are to lift up the notebook. Ventilation must go through the bottom of notebook.

Chapter 2 – Getting Started



Installing /Removing Battery Pack
The Power System
Using the Power Adapter
Using and Charging the Battery
Checking Battery Capacity
Powering ON your Computer
The Power-On Self Test
Power Management
LED Indicators

Installing/Removing the Battery Pack

The Notebook Computer will come with its battery pack. Please refer the following procedures to install or remove the battery pack.

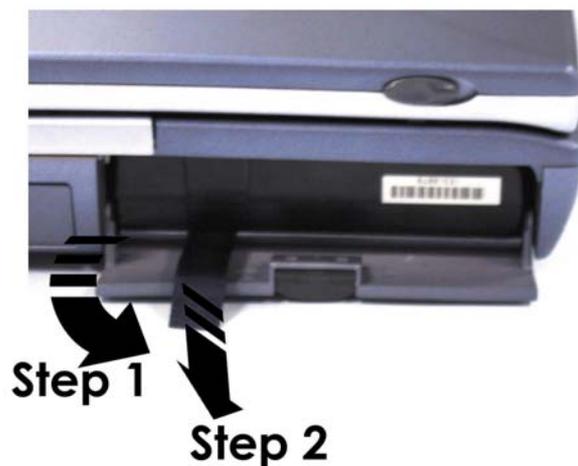
Install the battery pack

1. Press the latch and open the battery cover.
2. Slide the battery pack into the Notebook.
3. Press the latch and close the battery cover.



Remove the battery pack

1. Open the battery cover as step 1.
2. Hold on the ribbon of battery and pull the battery pack out as step 2 to remove the battery pack.



Warning: Please **Do Not** remove the battery pack while the Notebook Computer is being use without AC adapter.

The Power System

AC Power System

The Notebook PC power is comprised of two parts, the power adapter and the battery power system. The power adapter converts AC power from a wall outlet to the DC power required by the Notebook PC. The battery pack consists of a set of Lithium-Ion (Li-Ion) battery cells housed together. Only one battery pack can be inserted into the Notebook PC. The AC Adapter's primary function is to provide power to the Notebook that also charges the battery pack. When the power adapter is connected to the Notebook PC, it provides power to the Notebook PC and charges the internal battery at the same time as long as it is plugged into an electrical outlet.



Caution

To protect your Notebook PC from damage, use only the power adaptor that came with this Notebook Computer because each power adapter has its own power output rating.

Battery Power System

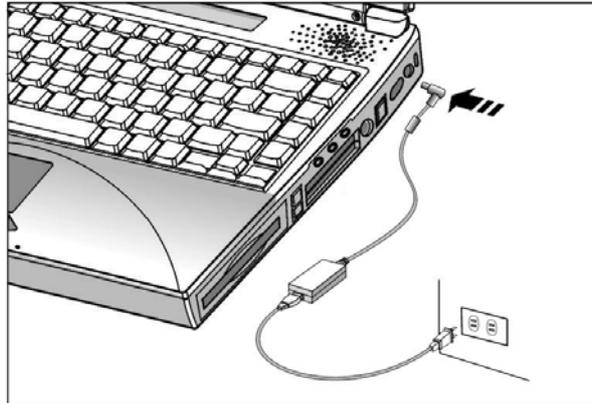
The Notebook PC is designed to work with a removable battery pack located inside the battery pack compartment. A fully charged pack will provide several hours of battery life, which can be further extended by using power management features through the BIOS/ACPI setup. The battery system implements the Smart Battery standard under the Windows environment, which allows the battery to accurately report the amount of charge percentage left in the battery. Additional battery packs are optional battery power for the first time, check the battery icon in the Windows task bar to make sure that the battery is fully charged. Charging the battery takes a few hours when the Notebook PC is powered OFF.

Lithium-Ion (Li-Ion) Battery Advantages Over Traditional Nickel Metal Hydride (NiMH)

- No memory effect – means you can connect the power adapter anytime you like for maximum convenience. You don't have to wait until the battery is completely used up.
- No overheating – means safer and cooler usage and charging. This is better for your battery and your Notebook PC, so don't get burned with cheaper battery packs.
- Higher capacity v. s weight – means longer usage per charge. You no longer have to carry a dozen heavy battery packs to get through the day because Li-Ion battery packs are lighter and more efficient than NiMH battery packs.
- Longer life – means fewer battery purchases. This cuts down your battery cost.

Using the Power Adapter

The Notebook Computer comes with a universal AC-DC adapter, you can plug the power adapter into any AC outlet between 100 and 240 volts (50~60Hz) and it will automatically adjust without setting switches or using power converters. You can use it in just about any part of the world.



The AC Adapter

The most obvious way to conserve battery power is to avoid using the battery when there is an available AC power source. The AC Adapter is lightweight and compact, so it is very convenient to bring while traveling. By using the AC Adapter as much as possible, you can ensure that you will have a charged battery whenever you really need it.



Warning

Use only the power adapter that comes with your Notebook Computer. **Do Not** use the adapter with any other electrical equipment. Always plug the connector the AC outlet first to check whether the green LED light, that means the AC power is within accepted range, then connect the DC power to the DC-in jack of the Notebook Computer.

Using and charging the battery

Use the factory-supplied AC adapter only to charge your battery. When the Notebook Computer is connected to the AC adapter, the Notebook will recharge the battery. When AC adapter connected, the Notebook Computer will use power from AC adaptor and the battery pack begins to charge no matter notebook is being use or not. You do not have to worry about battery power as long as the Ac adapter is in use. And you do not have to worry about overcharging ether since a thermo sensor is built in the battery pack to prevent it.

To fully charge the battery as soon as possible, you are recommended to turn off the Notebook Computer while charging. The Li-Ion battery pack has no memory effect, but the discharging and recharging cycle is limited. After this time, the efficiency of battery may begin to decrease and you should consider purchasing a replacement from your dealer. Fully draining and charging the battery will last battery longer.

When Battery was charging, the charge LED (orange LED) will start blinking. When battery was fully charged, the orange LED will light and stop blinking.

Checking Battery Power

1. To check the remaining battery power, move your cursor over the power icon. The power icon is a “battery” when not using AC power and a “plug” when using AC power. Double click on the icon for more information and settings.



2. You can check the remaining battery power battery easily by checking battery pack. The standard battery pack came with its checking point, just press the “**CHECK**” point and you’ll see the remaining battery power immediately. Before you remove the battery from Notebook Computer, please make sure the Notebook shutdown already or plug in the AC adapter.



3. You can also check the remaining battery power by LCM, please refer “LCM Indicators” for detail description.



- A new battery should be fully charged before using.
- Always plug in the AC adapter no matter the Notebook is in use or not to keep your battery power full.
- The battery stops charging if the temperature is too high or the battery voltage is too high.
- Standby does not last long when the battery power is depleted
- Never attempt to remove the battery pack while the power is ON, or if the system has not yet entered into the power saving mode as this may result in the data loss.

Powering ON your Computer

Press the power switch to turn on and turn off the Notebook Computer. If the operating

system locks up and cannot shutdown, press and hold the power switch for 4~5 seconds to force the computer to turn off. If you need to run the BIOS setup to set or modify the configuration, press [Del] upon boot up to enter the BIOS setup. Use [up] and [down] key to make your selection and press [Page Up] and [Page Down] to execute.



Warning

Please **Do Not** turn off or reset your Notebook Computer while the hard drive or floppy is in use, doing this may loss or destruction your data. Always wait for 5 seconds after turning OFF your Notebook before turning it back ON.

The Power-On Self Test

When you power on your Notebook Computer, it will run through a software-controlled diagnostic tests called Power-On Self Test. The Power-On Self Test includes a record of Notebook Computer's hardware configuration. It's used to make a hardware check of the system.

Power Management

This section contains information on the power management features of the Notebook. Your Notebook computer has a number of automatic power conservation features you can use to minimize the computer's power consumption. You can control many of these features through the power menu in the Setup program. Refer to Chapter 5 for a detailed description of the BIOS Setup program.

The Notebook computer is made up of electronic components and all of them consume electricity to operate. Yet, some components consume much more power than others. The power management features are designed to conserve as much electricity as possible by putting these components into a low power consumption mode as often as possible. The power consumption status of the computer varies according to the events detected by the system. Power events include:

- Keystrokes
- HDD activity
- Mouse movement
- Printing
- Serial port access
- Display activity
- IRQ events

With the exception of display activity, all of these events are treated as *primary activity*. When primary activity events are detected, the system automatically transits to full power mode. Display activity can also be configured as a primary activity.

APM and ACPI

Advanced Power Management (APM) developed by Intel and Microsoft for the main system power functions. Advanced Configuration and Power Management (ACPI) on the hand was developed by Intel, Microsoft, and Toshiba especially for Windows 98 to control power management and Plug and Play features on system devices designed on the Wired for Management (WfM) 2.0 baseline. ACPI is the new standard in power management for Notebook PCs because of its benefits over APM. If installing Windows 98 using BIOS dated 12/1/1999 or later, ACPI is automatically installed. Older Notebook PCs requires updated BIOS (dated 12/1/1999 or later) along with a reinstall of Windows 98 to utilized ACPI features.

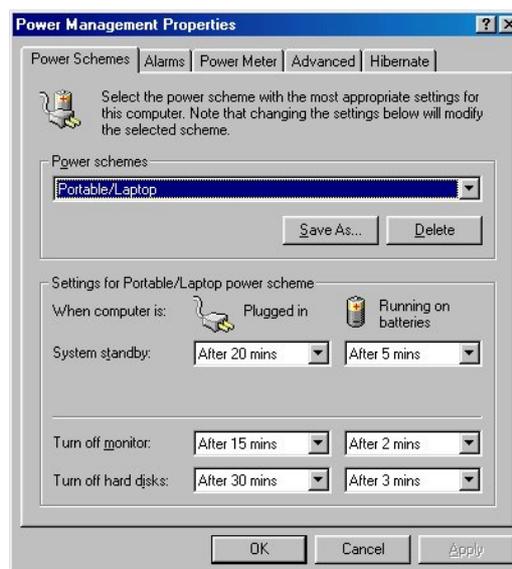
Standby and Hibernate

In Suspend-to-RAM (STR) and Suspend-to-Disk (STD), the CPU clock is stopped and most of the Notebook Computer's devices are put in their lowest active state. The suspend mode is the lowest power state of the Notebook Computer. The Notebook enters Suspend when the system remains idle for a specified amount of time. To resume system operation, press any key or touch pad. The power LED blinks when the Notebook is in Standby (STR) mode. There are no indications when the Notebook is in hibernation (STD) mode.

Power Management Properties

While operating the Notebook on battery power, it is important to develop good power saving habits to maximize battery life. Although the Notebook provides automatic power saving features that can be enabled, you can still improve on them by keeping power conservation in mind.

Actually, nowadays' operating system take over the control of power management function. For example, Microsoft Windows 98/ME/2000 take good care of system's power. In Windows 98, there was an item called "Power Management properties" under control panel. This was the heart of system's power management unit. The following figure will give you more detail's information.



Using power management, you can reduce the power consumption of any number of your computer devices or of your entire system. You can do this by choosing a power scheme, which is a collection of settings that manages the power usage by your computer.

You can also adjust the individual settings in a power scheme. For example, depending on your hardware, you can:

System Standby

When system is idle for a period of time, Windows will enter standby mode according to the Power Management properties setting. In our system, standby mode was equal to Suspend mode. In this mode, your LCD panel & hard disks turn off, and your computer uses less power. When you want to use the computer again, it comes out of standby quickly, and your computer is restored exactly as you left. Standby is particularly useful for conserving battery power. In followings figure, the system standby setting was after 5 minutes for running on battery and after 20 minutes for plugged in Ac adaptor. It means when you

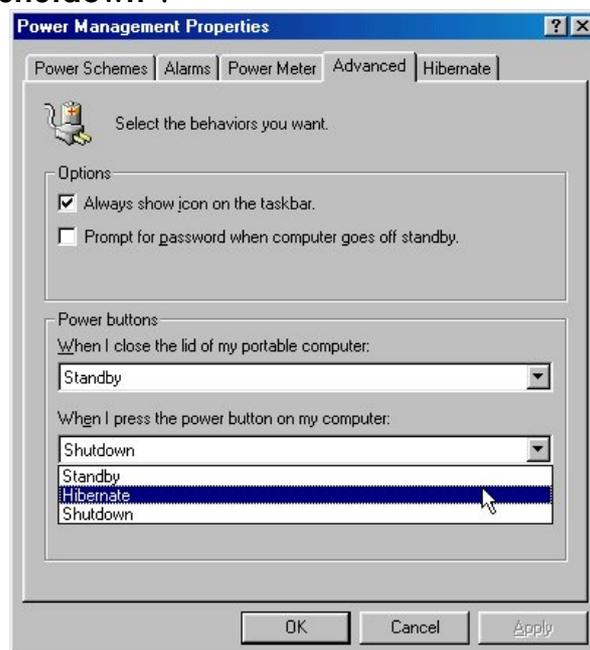
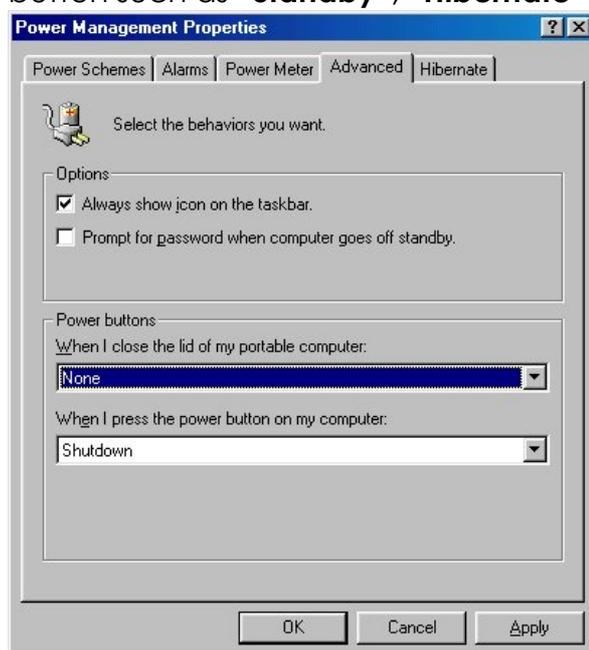
didn't press any key or didn't move your Touch Pad/mouse within 5 minutes, system will enter standby mode when running on battery.

Turn off monitor & Hard disks

When system is idle for a period of time, Windows will turn off LCD panel & turn off hard disks according to your settings.

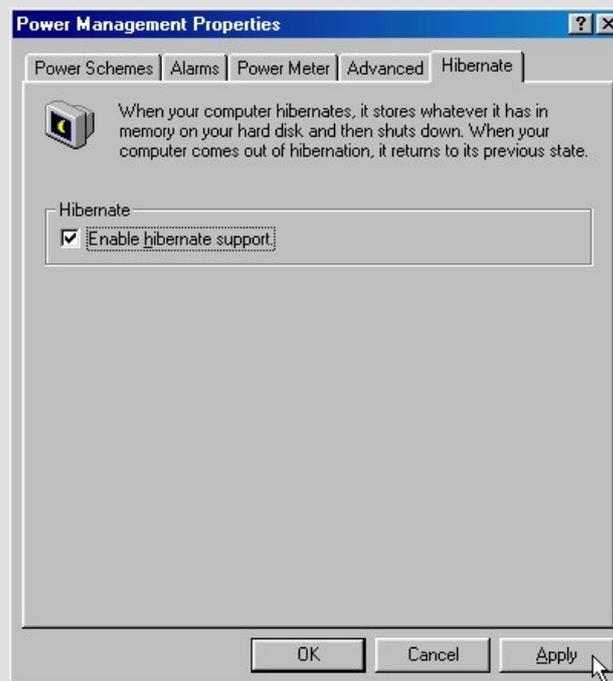
Power Button

The power button could be defined to have power saving function under Windows environment. See the window below to reference. In the power management properties, click "**Advanced**"; you can see the "**power buttons**" item. The default settings for power button should be "**Shutdown**". You can click to select power saving function for power button such as "**Standby**", "**Hibernate**" or "**Shutdown**".



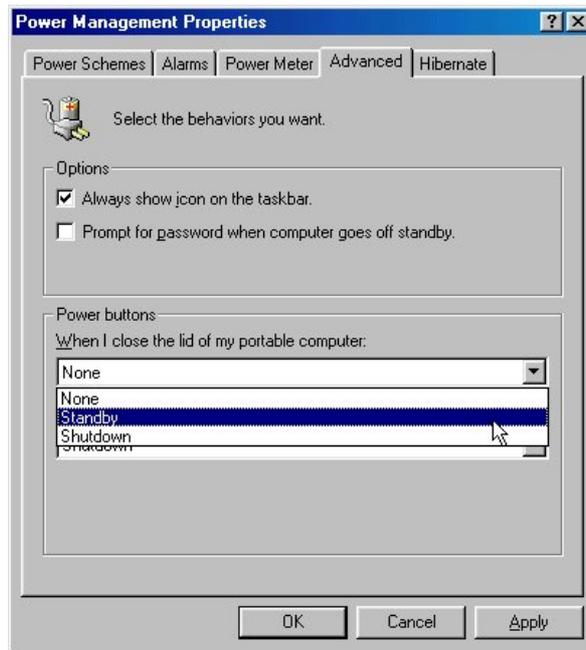


1. If you want to use hibernate function, don't forget to create save-to-disk partition/file for Windows 98 SE. For Windows ME/2000, you don't necessary to create the save-to-disk partition/file.
2. In order to use the hibernate function, you have to click the "**Hibernate**" item then click "**Enable hibernate support**" to enable hibernate function.



Lid Switch

Our system provides **Lid Switch** that could also save power & protect your panel. When you close the cover, the **Lid Switch** enable power saving function as your settings for lid switch. Please see the window below, the default settings is "None". You can define the power saving function by yourself such as "**Standby**", "**Shutdown**", or "**Hibernate**". When you close LCD panel, lid switch will be enabled then take action as your definition.



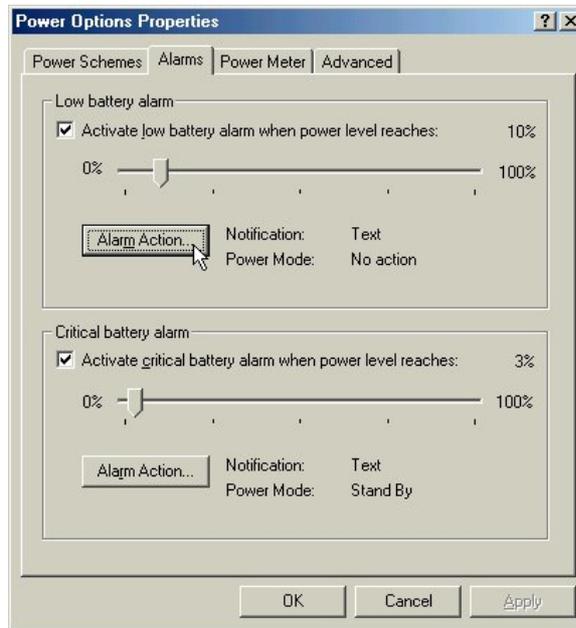
Alarms

The “Battery Warning” beeps are automatically enabled in Windows 98/ME and continually sounds when down to 10%(configurable in Windows 98/ME) power. The processor is also throttled down to decrease power use.

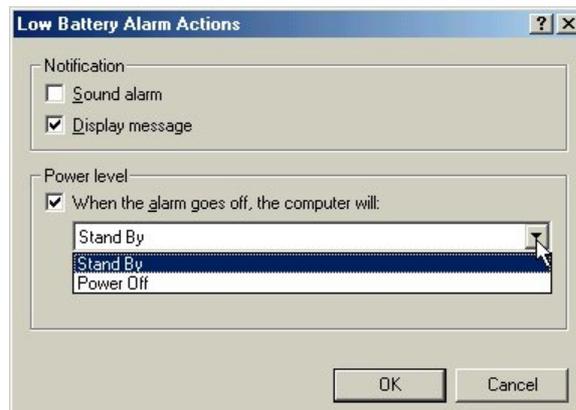
“Low Battery” condition (3% or less) forces the Notebook Computer to enter suspend mode, regardless of power management settings but the threshold is configurable in Windows 98/ME.

NOTE: Battery warning and Battery Low conditions immediately stops upon application of the power adapter. . If you ignore the low battery warning, eventually the Notebook Computer enters suspend mode (either Save-to-Disk or Save-to-RAM depending on power saving setup).

- Do not allow the battery power less than 10%. If the battery power less 10%, Windows will have a low battery alarm. If the battery power less than 3%, system will have a critical battery alarm. Please plug-in the AC adaptor and charge battery as soon as possible. If it's not available to plug-in Ac adaptor, please shutdown your system to prevent data lost. If you run out of battery power and do not set any alarm action or charge battery immediately, system will shutdown automatically, you may loss your current data.
- You can see the settings of “**Low battery alarm**” and “**Critical battery alarm**” below. You can define the percentage of them to make alarm activate. If you do not want the alarm disturb you, you can click “**Activate low/critical battery alarm when power level reaches**” item to disable the alarm. You can see the power options properties settings in the power management settings of control panel.



- If you want system take action after low/critical battery alarm activate, please click the “Alarm Action” item, you can see the window below. You can click the “Sound alarm” item, system will play sound warning when low/critical battery alarm activate. You can also change your settings for the “Power level” item. You can make system go into standby or power off system when the alarm goes off.



- If you run out of battery power, sometimes you will experience the difficulty to fully charge the battery, or you will find the battery's LED indicate abnormal. This problems can be easily solved: first you should fully discharge the Battery by (1) Removing the HDD from the Notebook and turning-on the Notebook to discharge the battery, or (2) Discharging the Notebook under DOS Mode, till the Battery power completely runs out, then recharge the Battery.
- If the battery removed from battery bay during charging, please hold on more than 1 minute then plug-in battery into battery bay and continue the battery charge procedure. Otherwise, maybe it will cause some mistakes and system will stop charging battery.

LCM Indicators

The LCM indicators will provide information of current operation status on the Notebook. Upon activating a certain function, a symbol or icon will appear in the LCM until you deactivate that feature. The symbol will remain in the LCM when the feature is engaged.



A description for each icon of LCM is listed below.

AC Status		The icon lights to indicate that AC Adapter is attached; the Notebook Computer is turned ON and using power from AC adapter. If turn off the Notebook Computer or remove AC adapter, the icon will disappear.
Battery Status		The icon indicate the battery power. If the battery is being charged, the battery gauge will increase from left to right, if you are using battery, the battery gauge will decrease from right to left. <u>(The battery gauge will only appear in ACPI mode)</u> The icon will disappear if turn off Computer or remove battery pack.
Power Saving Status		The icon indicates the power saving status. If system in the Standby mode, the icon will become  .
PCMCIA		If insert PCMCIA card to the PCMCIA slot, the icon will light separately for slot A and slot B. The icon will disappear after PCMCIA card removed.
Floppy Activity		The icon blink to indicate that floppy is activated; system is accessing floppy diskette.
CDROM Activity		The icon blink to indicate that CD/DVDROM is activated; system is accessing CD/DVD Disc.
HDD Activity		The icon blink to indicate that hard drive is activated; system is accessing hard drive.
Scroll Lock		Upon pressing the [Scroll Lock] key, the icon light to indicate that the scroll lock is engaged.
Caps Lock		Upon pressing the [Caps Lock] key, the icon light to indicate that the caps lock feature is engaged.
Num Lock		Upon pressing the [Num Lock] key, the icon light to indicate that the embedded keypad's numeric feature is activated.

Chapter 3 - Installing Device Drivers



Driver Install
Hard Disk Preparation Utility
Windows 98 Installation
Windows ME Installation
Windows NT Installation
Windows 2000 Installation

This chapter covers the installation of device drivers for Windows 98/ME/NT/Windows 2000. This chapter will help you to install and configure device Drivers.

Driver Install

This Notebook Computer comes with a Driver CD that provides software drivers and utilities for all popular operating system to enable hardware features and extend functionality. The Driver CD contains driver for Microsoft Windows 98/98SE/ME/2000/NT/Linux and DOS driver for CD-ROM/DVD-ROM.

Windows 98 Installation

VGA Driver Installation

1. Insert Driver CD, click "**Windows 98**", then click "**VGA**" to install VGA Driver.
2. After the installation is completed, click the "**Finish**" to restart Windows.

Audio Driver Installation

1. Insert Driver CD into CD/DVD ROM drive, click "**Windows 98**" then click "**Audio**" to install Audio Driver.
2. Select your own language then click "**OK**" to install Applications and Device Driver.
3. Follow the on-screen installation procedure. Audio Applications and Device Driver will be installed automatically after restart Windows.

Fax/Modem Installation

1. Insert Driver CD into CD/DVDROM device, click "**Windows 98**" then click "**Fax/Modem**" to install modem driver.

PCI Ethernet Installation

1. Click "**Start**" → "**Settings**" → "**Control Panel**" → "**System**" → "**Device Manager**". Double click "**PCI Ethernet Controller**".
2. Click "**Driver**" → "**Update Driver**". Locate to the path of Driver CD such as "**D:\Lan\1-19**". Follow the on-screen instruction to complete the driver installation of PCI Ethernet Controller.

Touch Pad Driver Installation

1. Insert the Driver CD into CD/DVD ROM drive, click "**Windows 98**" then click "**TouchPad**" to install touch pad driver.

USB FDD Driver Installation

1. Insert the Driver CD into CD/DVD ROM drive, click "**Windows 98**" then click "**USB FDD**" to install USB floppy driver.

Windows ME Installation

VGA Driver Installation

1. Insert Driver CD; click "**Windows ME**". Click "**VGA**" to install VGA Driver.
2. After the installation is completed, click the "**Finish**" to restart Windows.

Audio Driver Installation

1. Insert Driver CD into CD/DVD ROM drive, click "**Windows ME**" then click "**Audio**" to install Audio Driver.
2. Select your own language then click "**OK**" to install Applications and Device Driver.

Fax/Modem Driver Installation

1. Insert Driver CD into the CD/DVDROM drive, click "**Windows ME**" then click "**Fax/Modem**".

PCI Ethernet Driver Installation

1. Click "**Start**" → "**Settings**" → "**Control Panel**" → "**System**" → "**Device manager**" → double click "**PCI Ethernet Controller**". Click "**Driver**" → "**Update Driver**".
2. Click "**Specify the location of the driver**", locates to the path of your CD/DVDROM device, such as "**D:\Lan\1-19**". Follow the on-screen instructions to finish the installation. Then click "**Finish**" to complete driver installation of Ethernet Controller.

Touch Pad Driver Installation

1. Insert the Driver CD into CD/DVD ROM drive, click "**Windows ME**" then click "**TouchPad**" to install touch pad driver.

Windows NT Installation

VGA Installation

1. **Microsoft NT Service Pack 4 or above have to be installed before install VGA driver for NT.**
2. Insert Driver CD into CD/DVDROM drive, click **“Start”** → **“Settings”** → **“Control Panel”** → **“Display”** → **“Settings”** → **“Display Type”** → **“Change”** → **“Have Disk”** → **“Select from list”** → **“Have Disk”**.
3. Locate to the path of Driver CD as **“D:\vga\2_0c\winnt40”**. Follow the installation procedure and complete the driver install.

PCI Ethernet Driver Installation

1. Click **“Start”** → **“Settings”** → **“Control Panel”** → **“Network”** → select **“Wired to Network”** → **“Next”** → **“Select from list”** → **“Have Disk”**.
2. Locate to the path of Driver CD as **“D:\lan\1-19”**. Follow the installation procedure and complete the driver install. Then setup your network settings after install Ethernet driver.

Audio Driver Installation

1. Click **“Start”** → **“Setting”** → **“Control Panel”** → double-click **“Multimedia”** icon.
2. Select **“Devices”** page, and click **“Add”** button.
3. Select **“Unlisted or Updated Driver”** item of **“List of Drivers”** and click **“OK”**.
4. Click **“Have Disk”** and locate to the path of Driver CD such as **“D:\Audio\2-50j\nt40\drv\”**.
5. Select **“C-Media PCI Device”** item and press **“OK”** button.
6. Restart the system when being asked.

Audio Application Installation (Windows NT)

1. Explore the Driver CD, select **“Audio”** → **“2-50j”** → **“nt40”** → **“app”**, double click **“Setup”** icon to install.
2. Select your own language.
3. Click **“OK”** to start the installation procedure, and follow the on-screen instructions to finish the installation. Then click **“Finish”** to complete setup procedure.

Fax/Modem Driver Installation

1. Insert the Driver CD into CD/DVD ROM drive, click **“Windows NT”** then click **“Fax/Modem”** to install modem driver.

Touch Pad Driver Installation

1. Insert the Driver CD into CD/DVD ROM drive, click **“Windows NT”** then click **“TouchPad”** to install touch pad driver.
2. The setup program will ask you whether you want to create emergency repair disk. If you want to create this disk, press **“Yes”**. If you don't want, just click **“No”** to continue driver installation. Follow the on-screen installation instruction.
3. The setup program will ask you to locate the location of data file, please click **“OK”**,

then locate to the file which setup program request. Please see pictures below to reference.

4. Click "**Finish**" to restart your computer.

Windows 2000 Installation

VGA Installation

1. Insert Driver CD into CD/DVD ROM drive; click "**Windows 2000**" then click "**VGA**" to install VGA Driver.

Audio Driver Installation

1. Insert Driver CD into CD/DVD ROM drive; click "**Windows 2000**" then click "**Audio**" to install Audio Driver.
2. After install Audio driver, you'll need to restart Windows, after restart, please choice your regional language to install Audio application.

Fax/Modem Driver Installation

1. Click "**Start**" → "**Settings**" → "**Control Panel**" → "**System**" → "**Hardware**" → "**Device manager**" → double click "**PCI Simple Communications Controller**". Click "**Driver**" and then click "**Update Driver**".
2. Click "**Specify a location**", locates to the path of your CD/DVDROM device, such as "**E:\modem\766-10\Win2k**". Follow the on-screen instructions to finish the installation. Then click "**Finish**" to complete driver installation of PCI Simple Communication Controller.

Touch Pad Driver Installation

1. Insert the Driver CD into CD/DVD ROM drive, click "**Windows 2000**" then click "**TouchPad**" to install touch pad driver.

PCI Ethernet Driver Installation

1. Click "**Start**" → "**Settings**" → "**Control Panel**" → "**System**", "**Hardware**" → "**Device manager**" → double click "**Ethernet Controller**". Click "**Driver**" → "**Update Driver**".
2. Click "**Specify a location**", locates to the path of your CD/DVDROM device, such as "**D:\Lan\1-19**". Follow the on-screen instructions to finish the installation. Then click "**Finish**" to complete driver installation of Ethernet Controller.

Chapter 4 – Using the Notebook Computer



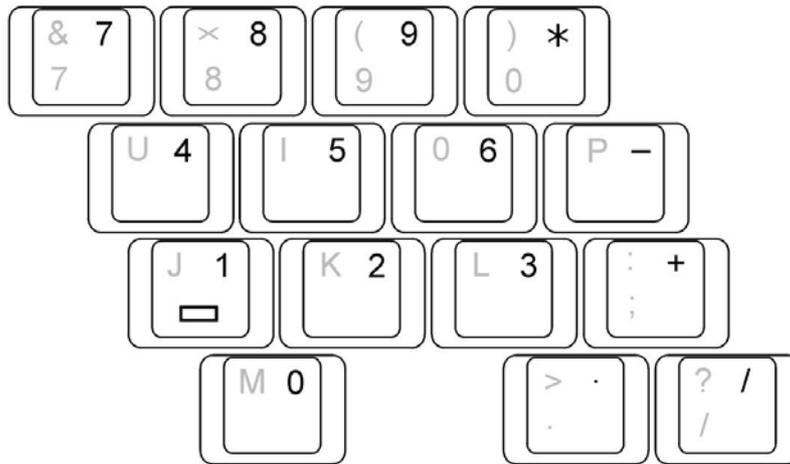
Keyboard
Pointing Device
Mouse/Keyboard Connection
External Display Connection
External Audio Connection
PC Card (PCMCIA)
Universal Serial Bus
Modem and Network Connection
Wireless Communication
System Memory Expansion
USB Floppy

Keyboard

The keyboard has an embedded numeric keypad on it. It is Windows compatible and designed with inverted-T arrow keys for easy control of cursor movements.

You can also connect the system to a standard 101/102-key keyboard via the external keyboard jack on the real panel.

Embedded Numeric Keypad



The embedded numeric keypad consists of 15 keys located central to the right side of the keyboard. It serves as a numeric keypad, cursor and screen-control, and as part of the normal keyboard.

The Num Lock  key is used to invoke the numeric keypad, the set of alphanumeric keys marked with blue numbers or characters on their front face. By default, the Num Lock  indicator is off when you power on your system. To turn on the Num Lock  indicator and activate the embedded numeric keypad, press Fn  and Num Lock  keys.

If no external keyboard is attached, the function of this embedded numeric keypad will follow the status of the Num Lock key:

Num Lock OFF: The embedded numeric keypad acts as a normal keyboard and the Num Lock LED is turned off.

Num Lock ON: The embedded numeric keypad acts as a numeric keypad and the Num Lock LED is turned on.

When an external keyboard is attached to the system, the status of the Num Lock keys of the internal and external keyboard will track each other. That is, when the Num Lock of the internal keyboard is ON, the Num Lock of the external keyboard will also be on and vice versa. The function of the embedded numeric keypad and the external numeric keypad will still follow the status of the Num Lock key:

Num Lock OFF:

1. The embedded numeric keypad acts as a normal keyboard and the Num Lock LED is turned off.
2. The external numeric keypad acts as a cursor pad and the Num Lock LED of the external keyboard is turned off.

Num Lock ON:

1. The embedded numeric keypad acts as a numeric keypad and the Num Lock LED is turned ON.
2. The external numeric keypad acts as a numeric keypad and the Num Lock LED of the external keyboard is turned ON.

Microsoft Windows Keys

The keyboard has two Windows specific keys that allow you to perform special functions under Windows.



Windows logo key: Start button. Combinations with this key perform special functions. The following are a few examples:

Windows logo key + Tab: Activates next Taskbar button

Windows logo key + E: Explore my computer

Windows logo key + F: Find Document

Windows logo key + M: Minimize all

Windows logo key + R: Displays Run dialog box



Application key: Display the application context menu (same as a right-click)

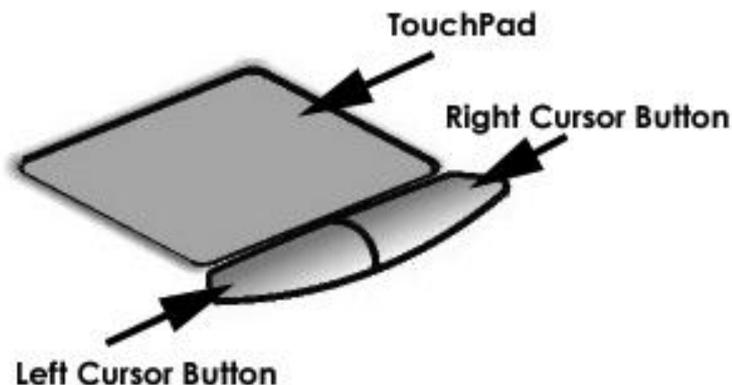
Hot Keys

The Notebook Computer provides several Hot Keys:

		Disable/Enable system sound generation
		Increase Volume
		Decrease Volume
		Increase LCD brightness
		Decrease LCD brightness

Pointing Device

The Notebook Computer's integrated touchpad pointing device is fully compatible with all two/three-button and scrolling knob PS/2 mice. The touchpad is pressure sensitive and contains no moving parts; therefore, mechanical failures can be avoided. A device driver is still required for working with some application software. See Chapter 3 – Installing Device Drivers.



Using the Touchpad

Light pressure with the tip of your finger is all that is required to operate the touchpad. Because the touchpad is electrostatic sensitive, objects cannot be used in place of your fingers. The touchpad's primary function is to move the cursor around or select items displayed on the screen with the use of your fingertip. The following illustrations demonstrate proper use of the touchpad.

Moving the cursor – Place your finger in the center of the touchpad and do the

following to move the cursor:

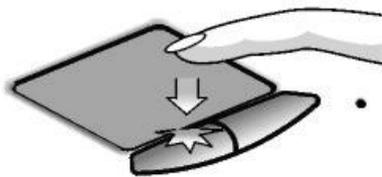
Up – Slide your finger forward

Left – Slide your finger to the left

Down – Slide your finger backward

Right – Slide your finger to the right

Clicking/Tapping – With the cursor over an item, press the left button or use your fingertip to touch the touchpad lightly, keeping your finger on the touchpad until the item is selected. The selected item will change color. The following 2 examples produce the same results.

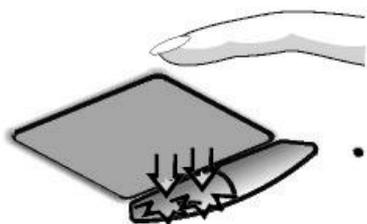


Clicking
(Press the left cursor button and release)

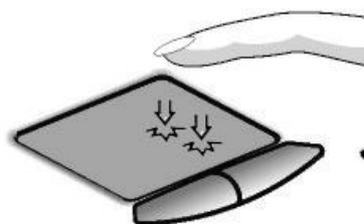


Tapping
(Lightly but rapidly strike the touchpad)

Double-clicking/Double-tapping – This is a common skill for launching a program directly from the corresponding icon you select. Move the cursor over the icon you wish to execute, press the left button or tap the pad twice in rapid succession, and the system launches the corresponding program. If the interval between the clicks or taps is too long, the operation will not be executed. You can set the double-click speed using the Windows Control Panel “Mouse.” The following 2 examples produce the same results.

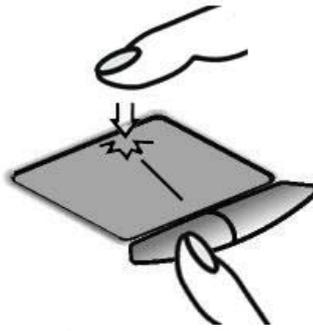


Double-Clicking
(Press the left button twice and release)



Double-Tapping
(Lightly but rapidly strike the touchpad twice)

Dragging – Dragging means to pick up an item and place it anywhere on the screen you wish. You can move the cursor over the item you select, and while keeping the left button depressed, moving the cursor to the desired location, then release the button. Or, you can simply double-tap on the item and hold while dragging the item with your fingertip. The following 2 examples produce the same results.



Dragging-Clicking
(Hold left button and slide finger on touchpad)



Dragging-Tapping
(Lightly strike the touchpad twice and then slide)

Caring for the Touchpad

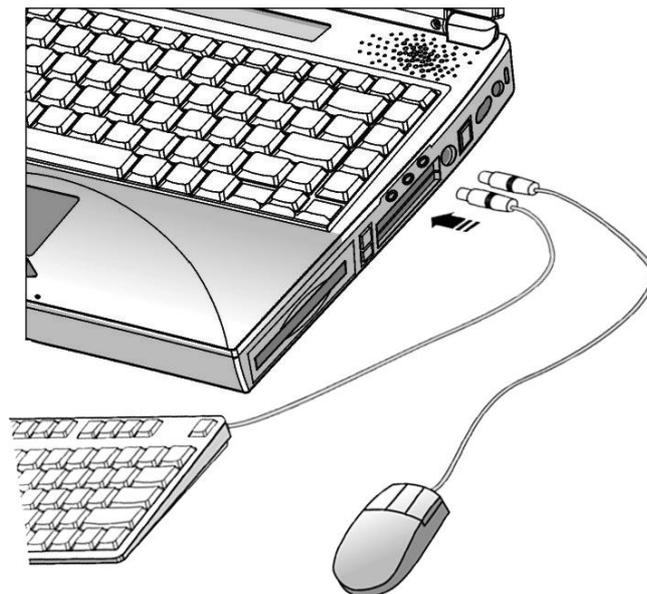
The touchpad is pressure sensitive. If not properly cared for, it can be easily damaged. Take note of the following precautions.

- Make sure the touchpad does not come into contact with dirt, liquids or grease.
- Do not touch the touchpad if your fingers are dirty or wet.
- Do not rest heavy objects on the touchpad or the touchpad buttons.
- Do not scratch the touchpad with your fingernails or any hard objects.

NOTE: The touchpad responds to movement not to force. There is no need to tap the surface too hard. Tapping too hard does not increase the responsiveness of the touchpad. The touchpad responds best to light pressure.

Mouse or Keyboard Connection

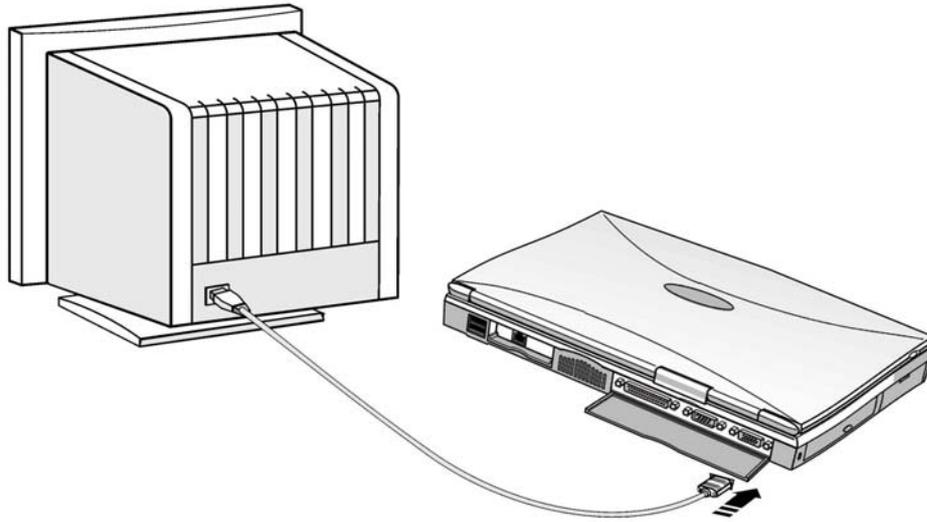
To allow easier cursor navigation or data entry, you may connect a USB mouse or keyboard to the USB ports on the rear of the Notebook PC. Both ports follow standard USB specifications and can accept a wide range of USB devices. There is only one correct orientation with the USB symbol facing upwards. See the following illustration.



Tip: You can use a USB keyboard with a hub to allow easy connection of a mouse or other device to the keyboard. This allows you to use only a single connection to the Notebook PC.

External Display Connections

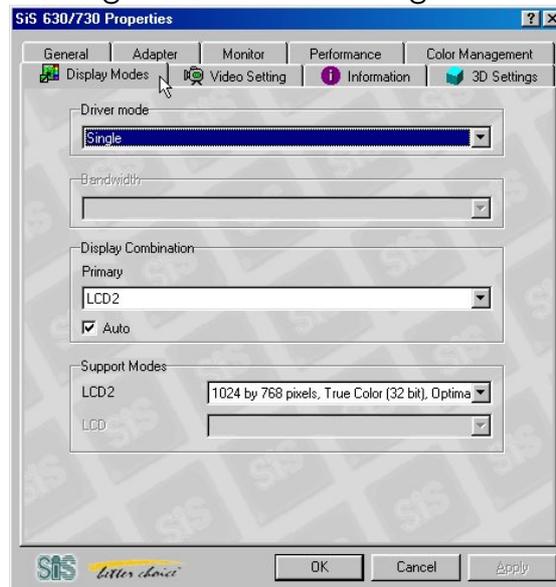
Connecting an external CRT monitor or Projector is just like on a standard desktop PC. Just plug-in the VGA cable and ready to use.



After connecting the external CRT/Projector cable to the CRT port, you'll need to adjust the display settings to display. There are three kinds of display modes for selection.



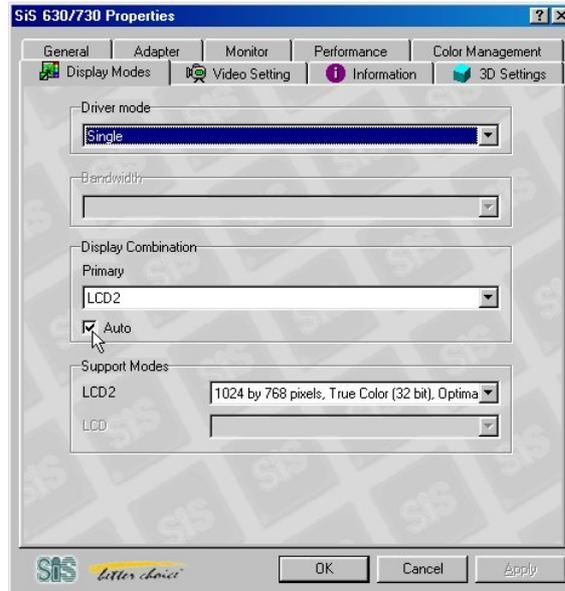
Please click **"Start"** → **"Settings"** → **"Control Panel"** and double click the **Display** icon for display adjustment. Please click **"Settings"** → **"Advanced"** → **"Display modes"**, you'll see the **"SiS 630/730 Properties"** settings screen as following.



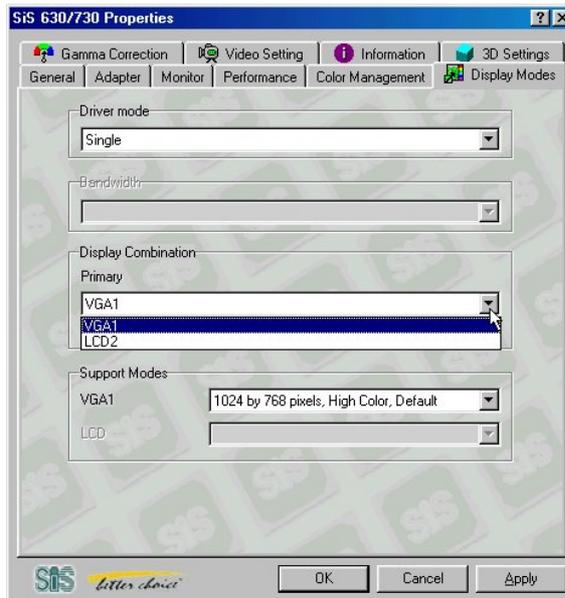
Single mode

Single mode allow to display for only LCD2 or VGA1, LCD2 means the LCD panel, VGA1 means external monitor/projector. To switch display device, please follow the instruction below:

1. Click the "Auto" icon to disable auto detect mode.



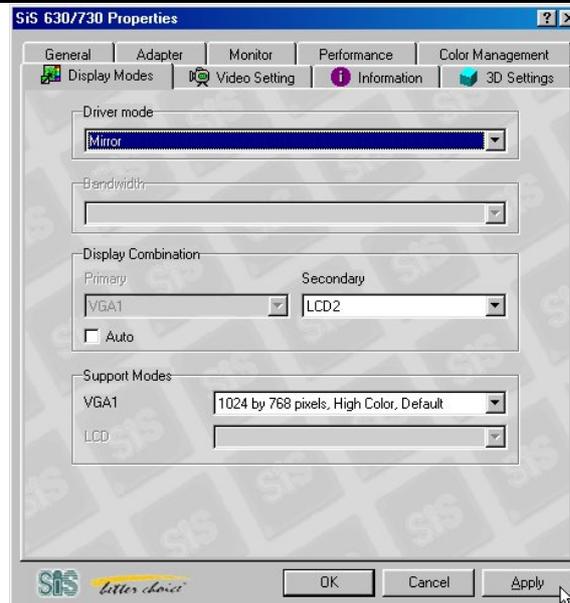
2. Click the scroll arrow to select LCD2 or VGA1. Then click “Apply” to adjust display device.



Mirror mode

The mirror mode allows display for LCD and external monitor/projector simultaneous. That means you'll see your screen on both LCD and external monitor/projector.

1. Select Driver mode as "Mirror", then you can adjust Display Combination. You'll see the VGA1 and LCD2 for "Primary" and "Secondary". **The difference between primary and secondary is the display device of "Video" (MPEG/VCD/DVD movies.). That means video will only display on "Primary" display device.**

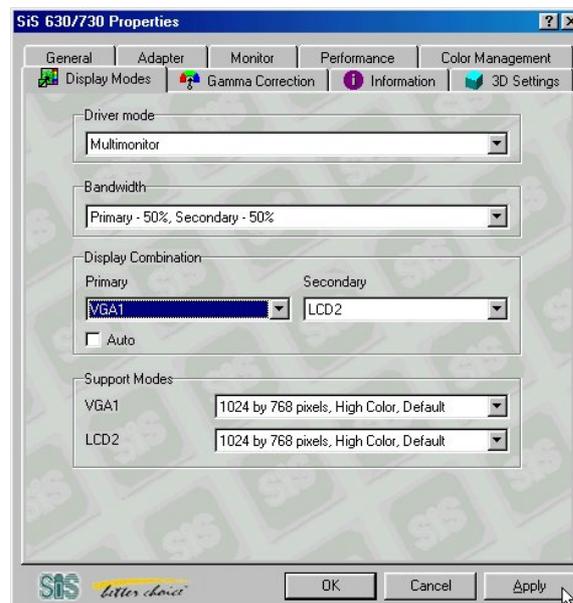


2. Adjust the display combination then click "Apply" to finish display mode adjustment.

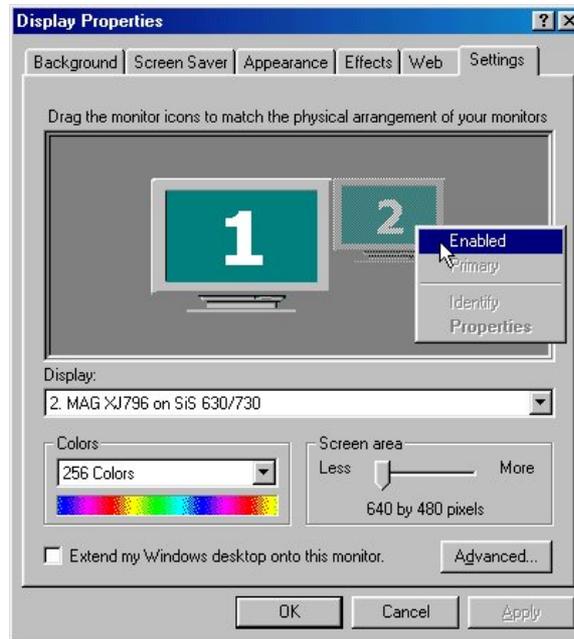
Multimonitor

The Multimonitor mode allows extend Windows desktop to the external monitor/projector.

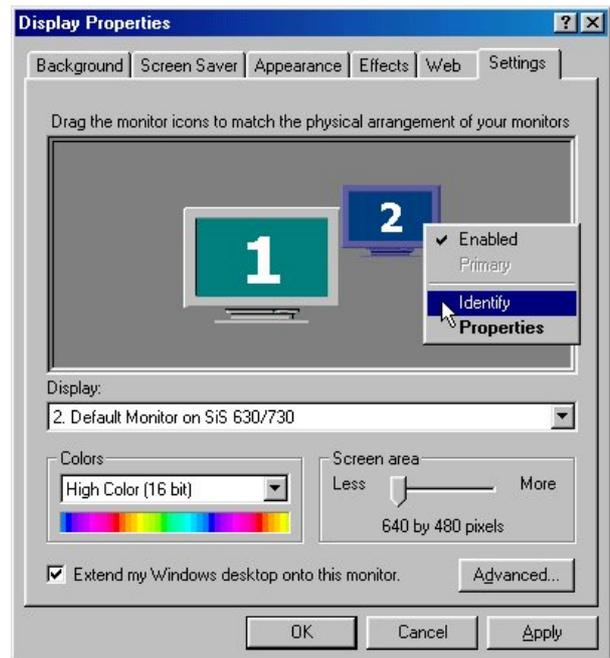
1. Select Driver mode as "Multimonitor" and adjust "Display Combination". Assign your VGA1/LCD2 for "Primary" or "Secondary". The original Windows desktop will display on the "Primary" display device and the extension Windows desktop will display on the "Secondary" display device.



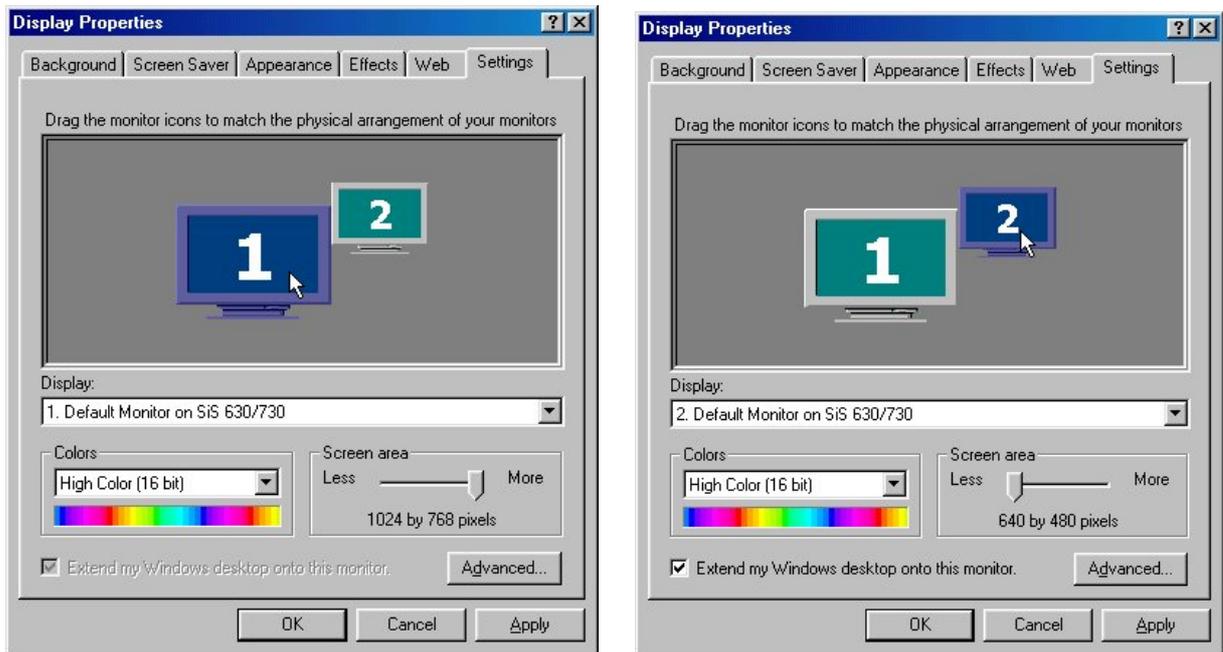
- Click "Apply" to finish Multimonitor adjustment. System will request to restart.
- After Windows restart, you'll see the screen in the display properties. To enable the extension Windows, please click the right cursor button on the monitor#2 and click "Enable". You can also click the left cursor button on monitor#2 and click "Yes" to enable monitor#2.



- If you'd like to disable monitor#2 (extension monitor), please click the "Extend my Windows desktop onto this monitor" icon then click "Apply" to disable monitor#2. The monitor#2 will be turned off.
- If you'd like to identify the monitor number for LCD and external monitor/projector, just move the cursor to monitor#1 or monitor#2 and press the right cursor button. Click "**Identify**", the number 1 or number 2 will display on the LCD or monitor/projector.



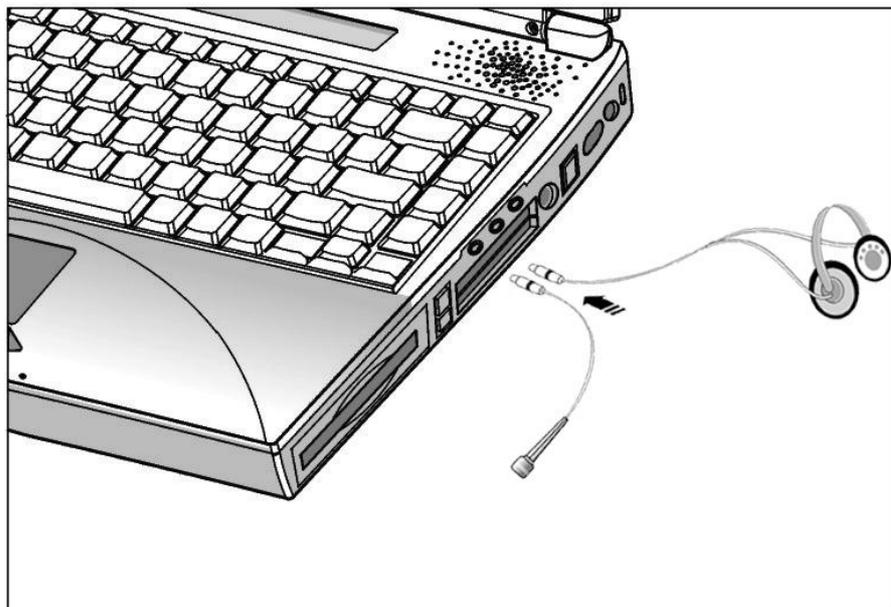
6. If multimonitor function enabled, you can adjust the Colors/Screen area separately. If click monitor#1 or monitor#2, the icon for monitor#1 and monitor#2 will become blue color and you can adjust the Colors/Screen area.



- The Multimonitor mode supports Only for Windows 98/98SE/ME and Do Not supports Windows NT/2000.

External Audio Connections

The Notebook PC provides easy access for connecting a stereo headphone, mono microphone, and a stereo audio source just like on some personal tape recorders.



PC Cards (PCMCIA)

The Notebook PC has two PC Card (or sometimes referred to as PCMCIA) sockets located behind a hinged cover to allow expansion just like desktop computer expansion slots. This allows you to customize your Notebook PC to meet a wide range of application needs. The sockets can interface two Type II or one type III PC card. PC cards are about the size of a few stacked credit cards and have a 68-pin connector at one end. The PC Card standard accommodates a number of function, communication, and data storage expansion options. PC cards come in memory/flash cards, fax/modems, network adapters, SCSI adapters and even wireless modem or LAN cards. The Notebook PC supports PCMCIA 2.1, 32bit CardBus standard.

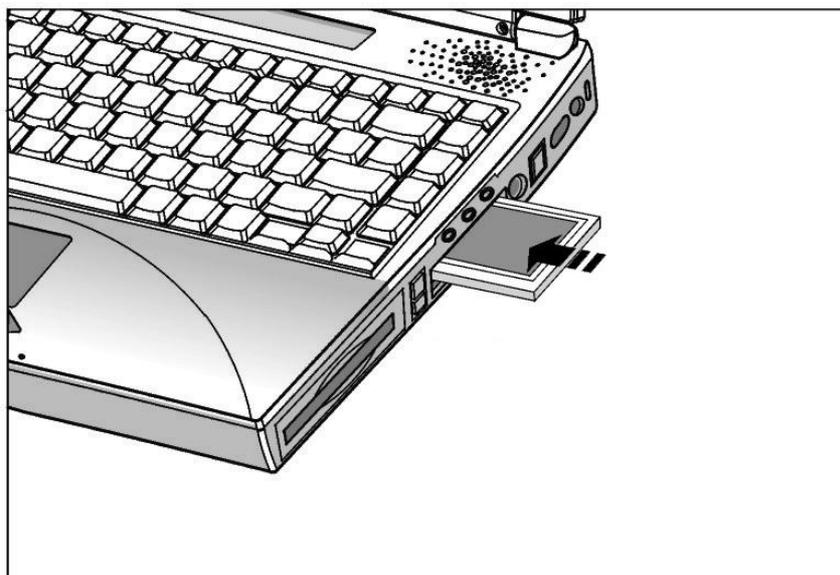
32-bit CardBus

CardBus support allows PC Cards and their hosts to use 32-bit bus mastering and operate at speeds of up to 33MHz, transferring data in burst modes comparable with PCI's 132MB/sec. By comparison, the standard 16-bit PC Card bus can handle only 20MB/sec. Since the Notebook PC is equipped with CardBus broader and faster data pathway, it can handle bandwidth-hungry operations. The CardBus peripherals support plug and play.

The CardBus socket is backward compatible with 16-bit PC Cards serving at 5 volts operation while CardBus operates at 3.3 volts to reduce power consumption.

Inserting a PC Card (PCMCIA)

1. Insert the PC card with the connector side first.
2. Carefully connect any cables or adapters needed by the PC card. Usually connectors can only be inserted in one orientation. Look for a sticker, icon, or marking on one side of the connector representing the topside.



Removing a PC Card (PCMCIA)

When PC cards are inserted and running, they draw power from the Notebook PC even when they are not in use. You must stop the PC card service to turn the PC card OFF. **Stopping the PC card service is necessary before removing a PC card.**

1. Double-click the PC card icon on the taskbar.

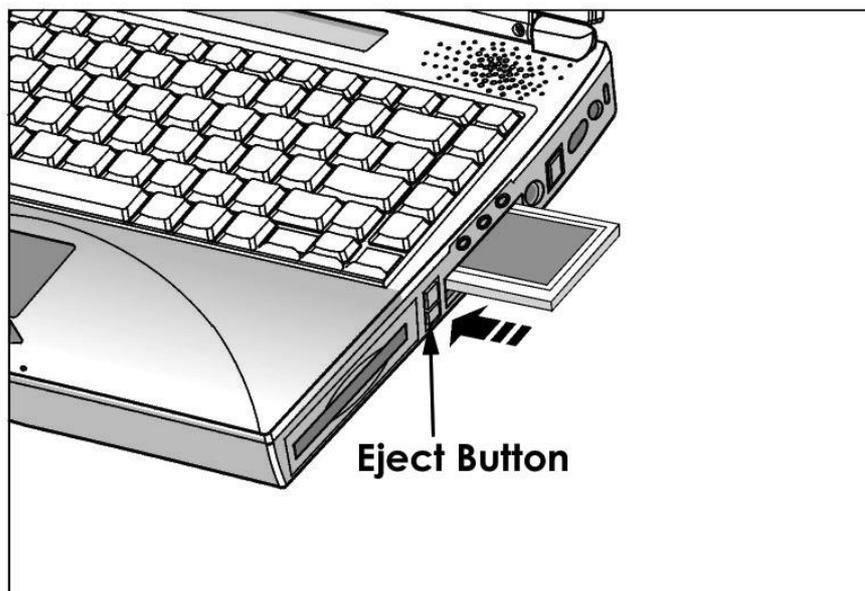


2. Click Stop before removing your PCMCIA card



To remove the PC card, first remove all cables or adapters attached to the PC card, then.

1. Presses in the toggle eject button and release. The recessed spring loaded toggle button will extend when pushed in and release.
2. Press the extended button again to eject the PC Card. Carefully pull the ejected PC card out of the socket.



Universal Serial Bus

Universal Serial Bus (USB) is a peripheral bus standard developed by the PC and telecommunication industry leaders that will bring plug and play of computer peripherals outside the system, eliminating the need to install internal expansion cards and drivers.

The Notebook PC is equipped with two USB ports. This allows computer peripherals to be automatically configured as soon as they are physically attached, without the need to reboot or run setup. USB also allows up to 127 devices to run simultaneously on a single computer, with peripherals such as monitors and keyboards acting as additional plug-in sites or hubs.

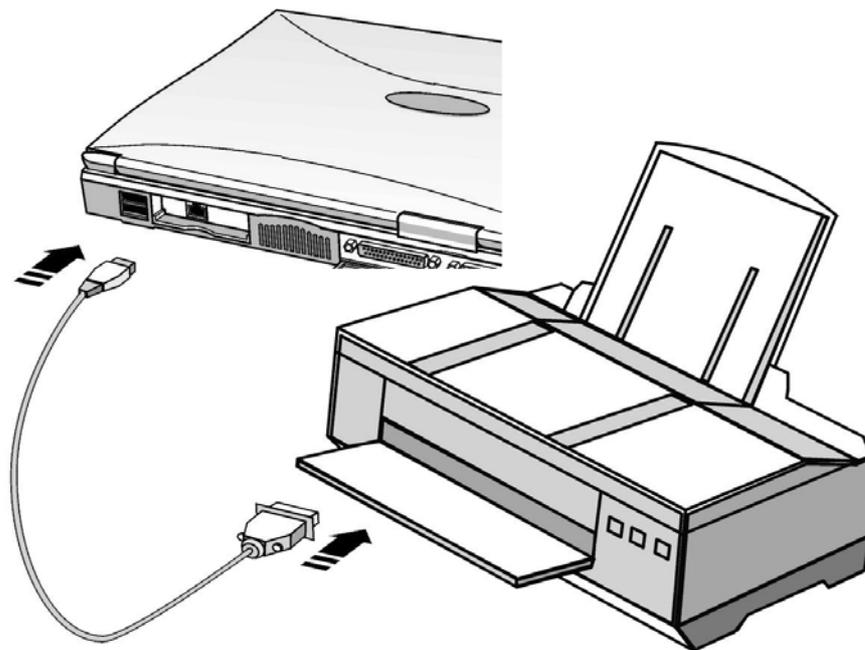
The built-in USB host controller initiates data transfer at a full-speed of up to 12Mbps for devices such as external hard disk drives, CD/DVD-ROM drives, tape drives, digital cameras. Low speed transfers of up to 1.5Mbps are used for keyboards and mice. The USB controller automatically manages the logical connection of devices and speeds.

Driver Support

The Windows 98/2000/ME operating systems comes already equipped with a standard driver that allows your Notebook PC to recognize USB peripherals. However, new peripherals usually require additional USB drivers. Read your peripheral documentation or contact an authorized dealer if you have any problems using USB peripherals.

USB to Printer Cable

A USB to printer cable is provided. Connect the printer cable to the provided USB and then plug the USB connector to either of the two USB ports. Again, if you need more ports, you should buy the USB Hub or USB port replicator. With USB, you can connect more than one standard black/white or color injects or laser printer to the Notebook Computer.



Modem and Network Connections

The built-in modem and network model comes with both an RJ-11 and an RJ-45 port. RJ-11 telephone cables have two or four wires and are used to connect telephones to telephone outlets found in the walls of residential homes and some commercial buildings (some commercial buildings may have telephone wiring designed for dedicated phone systems that may not be compatible). RJ-45 network cables are found connecting network computers to network hubs or switches usually found in business environments.

NOTE: The built-in modem and network cannot be installed later as an upgrade. Modem and/or network can be installed as a PC card (PCMCIA).

WARNING: Only use analog telephone outlets. The built-in modem does not support the voltage used in digital phone systems. Do not connect the RJ-11 to digital phone systems found in many commercial buildings or else damage will occur.

This is an example of the Notebook Computer connected to a Network Hub or Switching Hub for use with the built-in Ethernet controller and a telephone jack for use with the built-in modem.

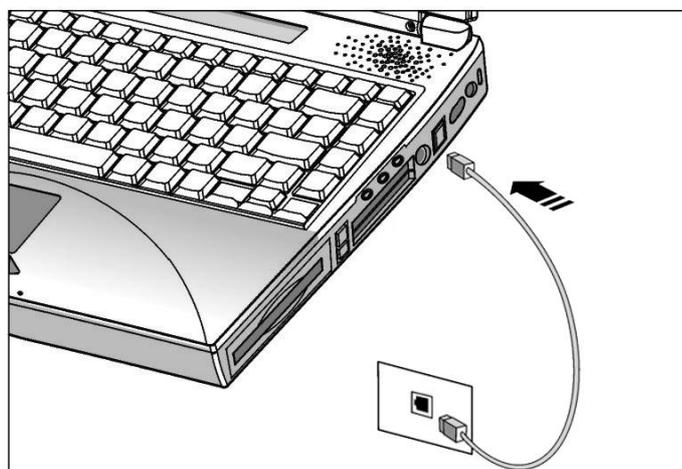
CAUTION: Only use telephone cable rated 26AWG or higher for electrical safety concerns.

Modem Connection

The telephone wire used to connect the Notebook Computer's internal modem should have either two or four wires (only two wires (telephone line #1) is used by the modem) and should have an RJ-11 connector on both ends. Connect one end to the modem port and the other end to an analog telephone wall socket (the ones found in residential buildings). Note: When you are connected to an online service, do not place the Notebook Computer in standby (or Hibernation mode) or else you will disconnect the connection.

Modem Protocols

The Notebook Computer with internal modem complies with JATE (Japan), FCC (US, Canada, Korea, Taiwan, and others), and CTR21 (see Appendix for supported countries) for almost worldwide protocol support.

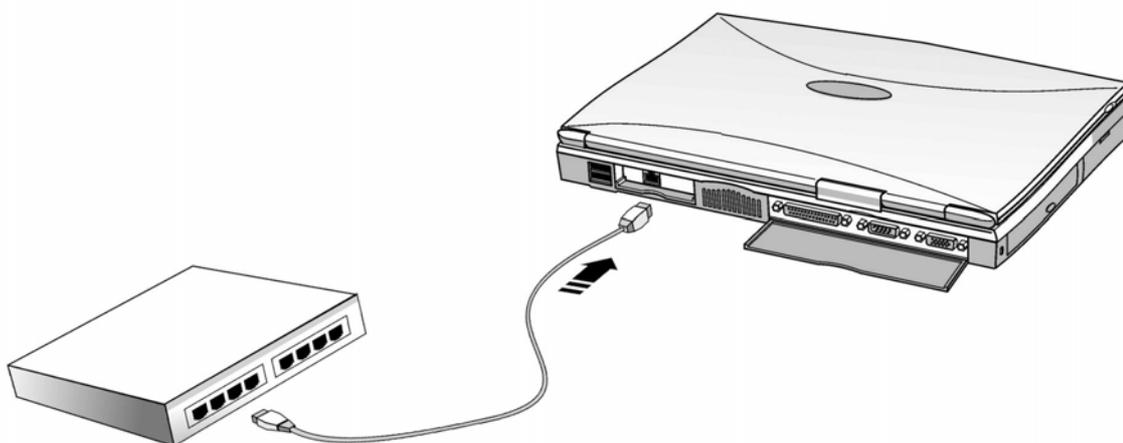


Network Connection

Connect a network cable, with RJ-45 connectors on each end, to the network port on the Notebook Computer and the other end to a hub or switch. For 100BASE-TX speeds, your network cable must be category 5 (not category 3) with twisted-pair wiring. If you plan on running the interface at 100Mbps, it must be connected to a 100BASE-TX hub (not a 100BASE-T4 hub). For 10Base-T, use category 3, 4, or 5 twisted-pairing wiring. Duplex transfers (up to 200Mbps) are supported on this Notebook Computer but requires connection to a switch with "duplex" enabled. The software default is to use the fastest setting so no user-intervention is required.

Twisted-Pair Cable

The cable used to connect the Ethernet card to a host (generally a Hub) is called a straight-through Twisted Pair Ethernet (TPE). The end connectors are called RJ-45 connectors, which are not compatible with the standard RJ-11 telephone connectors. If connecting two computers together without a hub in between, a crossover twisted-pair is required.



Wireless Communication

The Notebook PC is equipped with a conveniently located Infrared (IR) Communication Port. The IR port comes with IrDA (Infrared Data Association) Serial Infrared Data Link Version 1.1 compliance, which allows you to perform point-to-point wireless communications. You can use SIR/FIR-specified application to transmit or receive data files with other systems equipped with an infrared port. You must set these modes in the BIOS before you start to install the IR driver and file-transferring applications. FIR (Fast Infrared) supports up to 4Mbps and SIR (Serial Infrared) supports up to 115.2Kbps.

Guidelines for using IR communication

Follow the guidelines listed below when using the Infrared (IR) Communication:

- Make sure the IR Mode in the BIOS Setup is properly set to the mode you would like to use.
- The angle between two Infrared communication ports should not exceed $\pm 15^\circ$.
- The distance between the Notebook PCs IR and target device IR should not exceed 40 inches (1m).
- Do not move either the Notebook PC or the other device during transmission of data.
- An error may occur if IR transmission is conducted with high levels of noise or vibration.

- Avoid direct sunlight, flashing incandescent light, florescent light, and other infrared devices such as remote controls close to the infrared port.

Enabling Infrared

Infrared communication must be enabled in MS Windows. Right click on the infrared icon on the Windows taskbar and select "Enable infrared communication".

When infrared communication is enabled, moving the cursor over the icon will give its status.



CAUTION: Disable the infrared communication when you are not using the IR for long periods because the IR consumes a great deal of Windows resources, which will decrease the Notebook PC's performance.

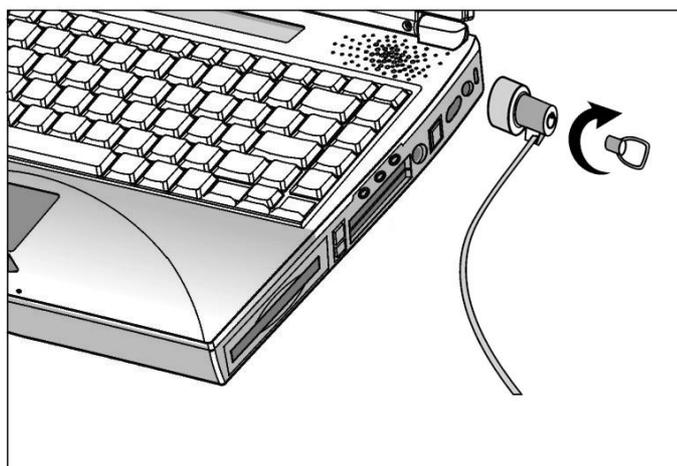
System Memory Expansion

Under some circumstances, you may find additional memory is required. This is particularly true as applications become more complex. Expanding system memory is one method of increasing system performance by decreasing hard disk access. Two standard 144-pin SO-DIMM (Small Outline Dual Inline Memory Module) sockets are available for system memory expansion using common 3.3V 100MHz SDRAM SO-DIMM modules. Currently, SO-DIMM memory sizes are available in 16MB, 32MB, 64MB or 128MB for each module. The maximum memory size you can expand the Notebook PC to is 256MB using two 128MB SO-DIMMs. The BIOS automatically detects the amount of memory in the system and configure CMOS accordingly during the POST (Power-On-Self-Test) process. There is no hardware or software (including BIOS) setup required after the memory is installed. Only purchase expansion modules from your authorized retailer to ensure compatibility and reliability. The memory module has to be installed by a certified technician.

CAUTION: This Notebook PC does not support EDO DRAM.

Securing Your Notebook PC

For system and hard disk drive security, see BIOS setup "Security". A third party lock such as the ones by Kensington can be used to secure your Notebook PC physically to an unmovable object. The cable wraps around an object and the "T" shaped end inserts into the Kensington lock port as shown in this illustration and a key or combination dial is used to secure the lock in place.



Chapter 5 - The BIOS Setup Program



How Data Is Configured

AMIBIOS Setup Menu

Standard Setup

Advanced Setup

Power Management Setup

PCI/PnP Setup

Peripheral Setup

Auto-Detect Hard Disks

Change User Password

Change Supervisor Password

Auto Configuration with Optimal Settings

Auto Configuration with Fail Safe Settings

Save Settings and Exit

Exit without Saving

How Data Is Configured

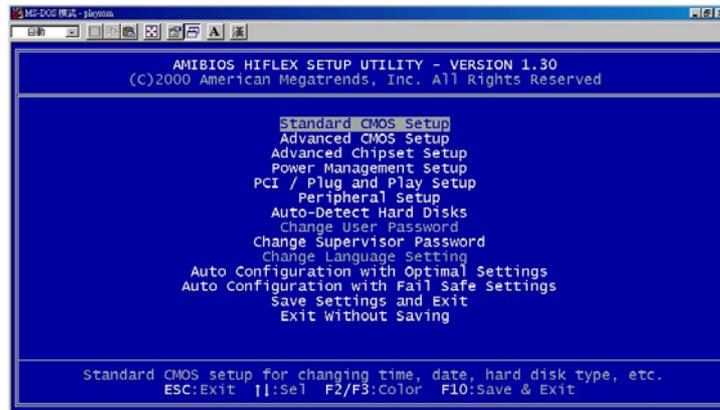
AMIBIOS provides a Setup utility in ROM that is accessed by pressing at the appropriate time during system boot. Setup configures data in CMOS RAM.

Types of AMIBIOS Setup

Types of Setup	Description
Standard Setup	Sets time, date, hard disk type, types of floppy drives, monitor type, and if keyboard is installed.
Advanced Setup	Sets Typematic Rate and Delay, Above 1 MB Memory Test, Memory Test Tick Sound, Hit Message Display, System Boot Up Sequence, and many others.
Chipset Setup	Sets chipset-specific options and features.
Power Management Setup	Controls power conservation options.
PCI/PnP Setup	Sets options related to the PCI bus and Plug and Play options.
Peripheral Setup	Controls I/O Controller-related options.
Hardware monitor	View Hardware health information of system.
Auto-detect Hard disks	Force BIOS to detect Connected Hard disks automatically.
Change User Password	To change user's password, but available when supervisor password has been set only.
Change Supervisor Password	To change supervisor password.
Auto-configuration with Optimal settings	To load default CMOS setting with optimal values.
Auto-configuration with fail safe settings	To load default CMOS setting with fail safe values.
Save settings and Exit	To save the changed BIOS setting value into CMOS, then exit BIOS setup utility.
Exit without saving	To exit BIOS setup utility without saving the changes.

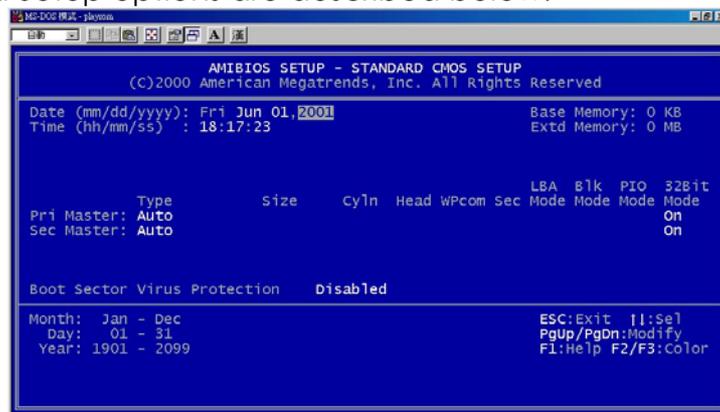
AMIBIOS Setup Menu

The AMIBIOS Setup main menu appears as follows. Each menu item is described in this chapter.



Standard Setup

Select the AMIBIOS Setup options by choosing Standard Setup from the AMIBIOS Setup main menu. Standard Setup options are described below.



Primary Master

Basically the Primary Master device would be the hard drive that installed in the system, if select "Auto-Detect Hard Disks", the detail information for this device will show up, we recommend set this value as "Auto" in case of hard drive changed.

Secondary Master

The Secondary Master device would be the CDROM/DVDROM drive. The optimal setting value should be "Auto".

Boot Sector Virus Protection

This will enable the virus protection function, which prevents virus attack the Boot sector on FDD and HDD.

Advanced Setup

Select the AMIBIOS Setup options by choosing Advanced CMOS Setup from the AMIBIOS Setup main menu. Advanced CMOS Setup options are described below.



View DMI event log

This option will launch DMI Event Log viewer for user to view the error message, which has been store in event log area.

Clear all DMI event logs

Set this option as 'Yes' to clear the data in DMI event log area.

Event logging

Set this option to 'Enable' to start the function of event log.

Mark DMI events as read

Set this option to mark the event log information as read.

Quick Boot

Set this option to *Enabled* to instruct AMIBIOS to boot quickly when the computer is powered on. This option replaces the old **Above 1 MB Memory Test** Advanced Setup option. The settings are:

Setting	Description
<i>Disabled</i>	AMIBIOS test all system memory. AMIBIOS waits up to 40 seconds for a READY signal from the IDE hard disk drive. AMIBIOS waits for .5 seconds after sending a RESET signal to the IDE drive to allow the IDE drive time to get ready again. AMIBIOS checks for a key press and runs AMIBIOS Setup if the key has been pressed.

Setting	Description
<i>Enabled</i>	<p>AMIBIOS does not test system memory above 1 MB.</p> <p>AMIBIOS does not wait up to 40 seconds for a READY signal from the IDE hard disk drive. If a READY signal is not received immediately from the IDE drive, AMIBIOS does not configure that drive. AMIBIOS does not wait for .5 seconds after sending a RESET signal to the IDE drive to allow the IDE drive time to get ready again.</p> <p>You cannot run AMIBIOS Setup at system boot, because there is no delay for the <i>Hit to run Setup</i> message.</p>

1st Boot Device

This option sets the type of device for the first boot drives that the AMIBIOS attempts to boot from after AMIBIOS POST completes. The Optimal default settings are *CDROM*.

2nd Boot Device

This option sets the type of device for the second boot drives that the AMIBIOS attempts to boot from after AMIBIOS POST completes. The Optimal and default settings are *USB Floppy*.

3rd Boot Device

This option sets the type of device for the third boot drives that the AMIBIOS attempts to boot from after AMIBIOS POST completes. The Optimal default settings are *IDE-0*.

Try Other Boot Devices

Set this option to *Yes* to instruct AMIBIOS to attempt to boot from any other drive in the system if it cannot find a boot drive among the drives specified in the **1st Boot Device, 2nd Boot Device, 3rd Boot Device**.

The settings are *Yes* or *No*. The Optimal and default settings are *Yes*.

Initial Display Mode

This option specifies the initial display mode when the system boots. The settings are:

Setting	Description
<i>BIOS</i>	The messages that AMIBIOS displays before booting the system will appear on the system monitor.
<i>Silent</i>	The messages that AMIBIOS displays will not appear on the system monitor.

Display Mode At Add-On ROM Init

This option specifies the system display mode that is set at the time that AMIBIOS POST initializes an optional option ROM. The settings are:

Setting	Description
<i>Force BIOS</i>	The display mode currently being used by AMIBIOS is used.
<i>Keep Current</i>	The current display mode is used.

S.M.A.R.T. For Hard Disks

Set this option to *Enabled* to permit AMIBIOS to use the SMART (System Management and Reporting Technologies) protocol for reporting server system information over a network. The settings are *Enabled* or *Disabled*. The Optimal default settings are *disabled*.

Boot Up Num Lock

Set this option to *off* to turn the Num Lock key off when the computer is booted so you can use the arrow keys on both the numeric keypad and the keyboard. The settings are *on* or *off*. The default settings are *off*.

PS/2 Mouse Support

Set this option to *Enabled* to enable AMIBIOS support for a PS/2-type mouse. Pins 2-3 of the PS/2 Mouse Selector jumper on the motherboard must be shorted together to enable PS/2 mouse support. The settings are *Enabled* or *Disabled*. The Optimal default settings are *enabled*.

Primary Display

This option configures the type of monitor attached to the computer. The settings are *Mono*, *CGA40x25*, *CGA80x25*, *VGA/EGA*, or *Absent*. The Optimal default settings are *VGA/EGA*.

Password Check

This option enables password checking every time the system boots or when you run AMIBIOS Setup. If *Always* is chosen, a user password prompt appears every time the computer is turned on. If *Setup* is chosen, the password prompt appears if AMIBIOS is executed. See the Advanced Setup chapter for instructions on changing a password. The Optimal defaults are *Setup*.

Boot To OS/2

Set this option to *yes* if running OS/2 operating system and using more than 64 MB of system memory on the motherboard. The settings are *Yes* or *No*. The Optimal default settings are *No*.

L1 Cache

This option sets the type of caching algorithm used by the L1 internal cache memory. The settings are *Write Back*, *Write Thru*, or *Disabled*. The Optimal default settings are *WriteBack*.

L2 Cache

This option sets the type of caching algorithm used by the L2 secondary (external) cache memory. The settings are *WriteBack*, *WriteThru*, or *Disabled*. The Optimal default setting is *Enable*.

System BIOS Cacheable

When set to *Enabled*, the contents of the F0000h system memory segment can be read from or written to cache memory. The contents of this memory segment are always copied from the BIOS ROM to system RAM for faster execution. The settings are *Enabled* or *Disabled*. The Optimal default setting is *Enabled*.

Power Management Setup

The AMIBIOS Setup options described in this section are selected by choosing Power Management Setup from the AMIBIOS Setup main menu.



ACPI Aware O/S

Set this option to *Yes* if the operating system you are running under complies with the Intel ACPI (Advanced Configuration and Power Interface) specification. The settings are *Yes* or *No*. The Optimal default settings are *Yes*.

Power Management

Set this option to *Enabled* to enable the chipset power management and APM (Advanced Power Management) features. The settings are *Enabled* or *Disabled*. The Optimal default settings are *Enable*.

Suspend Time out

This option specifies the length of a period of system inactivity while in Standby state. When this length of time expires, the computer enters Suspend power state. . The settings are

Disabled, 1 / 2 / 4 / 8 / 10 / 20 / 30 / 40 / 50 / 60 mins. The Optimal default settings are Disabled.

RTC Alarm Date

Set this option for the date that you want to resume the system. This option is available only when 'Resume On RTC Alarm' enabled.

RTC Alarm Hour

Set this option for the hour that you want to resume the system. This option is available only when 'Resume On RTC Alarm' enabled.

RTC Alarm Minute

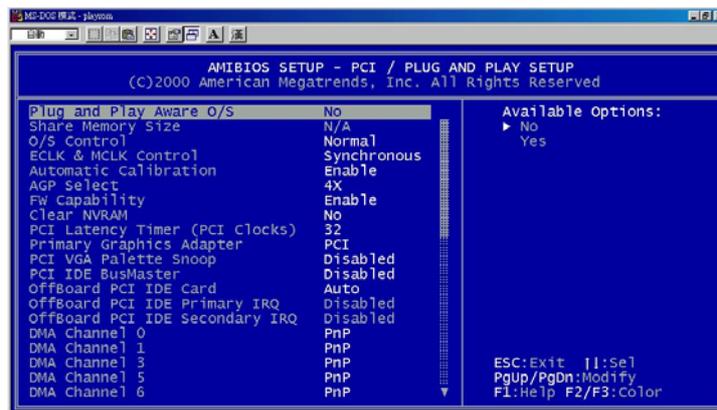
Set this option for minute that you want to resume the system. This option is available only when 'Resume On RTC Alarm' enabled.

RTC Alarm Second

Set this option for second that you want to resume the system. This option is available only when 'Resume On RTC Alarm' enabled.

PCI/PnP Setup

Choose PCI/Plug and Play Setup from the AMIBIOS Setup screen to display the PCI and Plug and Play Setup options, described below.



Plug and Play Aware O/S

Set this option to Yes to inform AMIBIOS that the operating system can handle plug and Play (PnP) devices. The settings are No or Yes. The Optimal and Fail-Safe default settings are No.

Clear NVRAM

To confirm that you want to clear the NVRAM data.

PCI Latency Timer (PCI Clocks)

This option specifies the latency timings (in PCI clocks) for PCI devices installed in the PCI expansion slots. The settings are 32, 64, 96, 128, 160, 192, 224, or 248. The Optimal default settings are 32.

Primary Graphics Adapter

Set this option to choose the first priority of VGA devices between 'AGP' and 'PCI' slot.

PCI VGA Palette Snoop

When this option is set to *Enabled*, multiple VGA devices operating on different buses can handle data from the CPU on each set of palette registers on every video device. Bit 5 of the command register in the PCI device configuration space is the VGA Palette Snoop bit (0 is disabled). For example: if there are two VGA devices in the computer (one PCI and one ISA) and the VGA Palette Snoop Bit is:

VGA Palette Snoop Bit	Action
<i>Disabled</i>	Data read and written by the CPU is only directed to the PCI VGA device's palette registers.
<i>Enabled</i>	Data read and written by the CPU is directed to the both the PCI VGA device's palette registers and the ISA VGA device palette registers, permitting the palette registers of both devices to be identical.

This option must be set to *Enabled* if any ISA adapter card installed in the system requires VGA palette snooping. The Optimal and Fail-Safe default settings are *Disabled*.

Offboard PCI IDE Card

This option specifies if an offboard PCI IDE controller adapter card is used in the computer. You must also specify the PCI expansion slot on the motherboard where the offboard PCI IDE controller card is installed. If an offboard PCI IDE controller is used, the motherboard onboard IDE controller is automatically disabled. The settings are *Auto*, *Slot1*, *Slot2*, *Slot3*, *Slot4*, *Slot5*, or *Slot6*. If *Auto* is selected, AMIBIOS automatically determines the correct setting. The Optimal and Fail-Safe default settings is *Auto*. This option forces IRQ 14 and 15 to a PCI slot on the PCI local bus. This is necessary to support non-compliant PCI IDE adapter cards.

Offboard PCI IDE Primary IRQ

This option only appears if **the Offboard PCI IDE Card** option is not set to *Auto*. This option specifies the PCI interrupt used by the primary IDE channel on the offboard PCI IDE controller. The settings are *Disabled*, *Hardwired*, *INTA*, *INTB*, *INTC*, or *INTD*. The Optimal and Fail-Safe default settings are *Disabled*.

Offboard PCI IDE Secondary IRQ

This option only appears if the **Offboard PCI IDE Card** option is not set to *Auto*. This option specifies the PCI interrupt used by the secondary IDE channel on the offboard PCI IDE controller. The settings are *Disabled*, *Hardwired*, *INTA*, *INTB*, *INTC*, or *INTD*. The Optimal and Fail-Safe settings are *Disabled*.

These options specify the bus that the specified IRQ line is used on. These options allow you to reserve IRQs for legacy ISA adapter cards. These options determine if AMIBIOS should remove an IRQ from the pool of available IRQs passed to devices that are configurable by the system BIOS. The available IRQ pool is determined by reading the ESCD NVRAM. If more IRQs must be removed from the pool, the end user can use these options to reserve the IRQ by assigning an *ISA/EISA* setting to it. Onboard I/O is configured by AMIBIOS. All IRQs used by onboard I/O are configured, as *PCI/PnP*. **IRQ12** only appears if the **Mouse Support** option in Advanced Setup is set to *Disabled*. IRQ14 and 15 will not be available if the onboard PCI IDE is enabled. If all IRQs are set to *ISA/EISA* and IRQ14 and 15 are allocated to the onboard PCI IDE, IRQ9 will still be available for PCI and PnP devices, because at least one IRQ must be available for PCI and PnP devices. The settings are *ISA/EISA* or *PCI/PnP*. The Optimal and Fail-Safe default settings are *PCI/PnP*.

Reserved Memory Size

This option specifies the size of the memory area reserved for legacy ISA adapter cards. The settings are *Disabled*, *16K*, *32K*, or *64K*. The Optimal and Fail-Safe default settings are *Disabled*.

Reserved Memory Address

This option specifies the beginning address (in hex) of the reserved memory area. The specified ROM memory area is reserved for use by legacy ISA adapter cards.

This option does not appear if the

Reserved Memory Size option is set to *Disabled*.

The settings are *C0000*, *C4000*, *C8000*, *CC000*, *D0000*, *D4000*, *D8000*, or *DC000*. The Optimal and Fail-Safe default settings are *N/A*.

Peripheral Setup

Peripheral Setup options are displayed by choosing Peripheral Setup from the AMIBIOS Setup main menu. All Peripheral Setup options are described here.



Onboard FDC

Set this option to *Enabled* to enable the floppy drive controller on the motherboard. The settings are *Auto* (AMIBIOS automatically determines if the floppy controller should be enabled), *Enabled*, or *Disabled*. The Optimal and Fail-Safe default settings are *Enabled*.

COM1 Port

This option specifies the base I/O port address of serial port 1. The settings are *Auto* (AMIBIOS automatically determines the correct base I/O port address), *Disabled*, *3F8h*, *2F8h*, *2E8h*, or *3E8h*. The Optimal default settings are *3F8*.

COM2 Port

This option specifies the base I/O port address of serial port 2. The settings are *Auto* (AMIBIOS automatically determines the correct base I/O port address), *Disabled*, *3F8h*, *2F8h*, *2E8h*, or *3E8h*. The Optimal default settings are *2F8*.

COM2 Mode

The settings are *IrDA SIR-A*, *IrDA SIR-B*, *ASK IR*, *Consumer*, or *Normal*. The Optimal default settings are *IrDA 4PPM*.

Onboard Parallel Port ADDR

This option specifies the base I/O port address of the parallel port on the motherboard. The settings are *Disabled*, *378h*, *278h*, or *3BCh*. The Optimal default setting is *378h*.

Onboard Parallel Port

This option specifies the parallel port mode. The Optimal default setting is *Normal*.

The settings are:

Setting	Description
<i>Normal</i>	The normal parallel port mode is used.
<i>EPP</i>	The parallel port can be used with devices that adhere to the Enhanced Parallel Port (EPP) specification. EPP uses the existing parallel port signals to provide asymmetric bidirectional data transfer driven by the host device.
<i>ECP</i>	The parallel port can be used with devices that adhere to the Extended Capabilities Port (ECP) specification. ECP uses the DMA protocol to achieve data transfer rates up to 2.5 Megabits per second. ECP provides symmetric bidirectional communication.

EPP Version

This option specifies the Enhanced Parallel Port specification version number that is used in the system. The settings are *1.7* or *1.9*.

Parallel Port IRQ

This option specifies the IRQ used by the parallel port. The settings are *Auto*, *(IRQ) 5*, or *(IRQ) 7*. The Optimal default setting is 7.

Parallel Port DMA

This option is only available if the setting for the **Parallel Port Mode** option is *ECP*. This option sets the DMA channel used by the parallel port. The Optimal default setting is 1.

Auto-Detect Hard Disks

Select *Auto Detect IDE* to let AMIBIOS automatically configure the drive. A screen with a list of drive parameters appears. Click on OK to configure the drive.



Type	How to Configure
SCSI	Select <i>Type</i> . Select <i>Not Installed</i> to display the drive parameter screen. The SCSI drivers provided by the SCSI manufacturer should allow you to configure the SCSI drive.
IDE	Select <i>Type</i> . Select <i>Auto</i> to let AMIBIOS determine the parameters. Click on OK when AMIBIOS displays the drive parameters. Select <i>LBA Mode</i> . Select <i>On</i> if the drive has a capacity greater than 540 MB. Select <i>Block Mode</i> . Select <i>On</i> to allow block mode data transfers. Select <i>32-Bit Mode</i> . Select <i>On</i> to allow 32-bit data transfers. Select the <i>PIO Mode</i> . It is best to select <i>Auto</i> to allow AMIBIOS to determine the PIO mode. If you select a PIO mode that is not supported by the IDE drive, the drive will not work properly. If you are absolutely certain that you know the drive PIO mode, select PIO mode 0 - 4, as appropriate.
CD-ROM	Select <i>Type</i> . Select <i>CDROM</i> . Click on OK when AMIBIOS displays the drive parameters.
Standard MFM	Select <i>Type</i> . You must know the drive parameters. Select the drive type that exactly matches your drive parameters.
Non-Standard MFM	Select <i>Type</i> . If the drive parameters do not match the drive parameters listed for drive types 1 - 46, select <i>User</i> and enter the correct hard disk drive parameters.

Change User Password

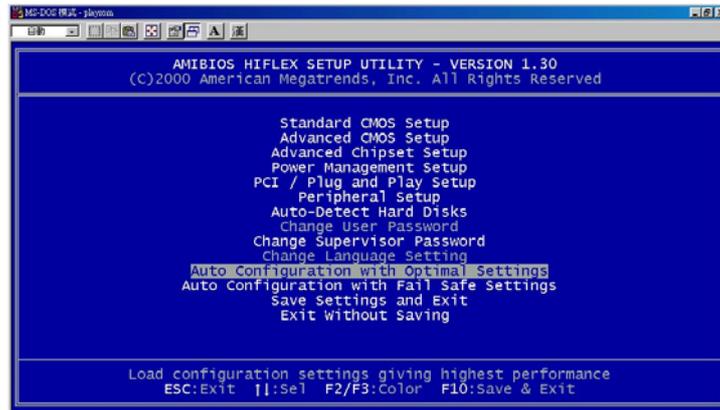
Set this option to change user password. This option is available only when supervisor password has been set. Type the password and re-enter the password again for confirmation.

Change Supervisor Password

Set this option to change supervisor password. This option will also enable user password function if it has been set. Type the password and re-enter the password again for confirmation.



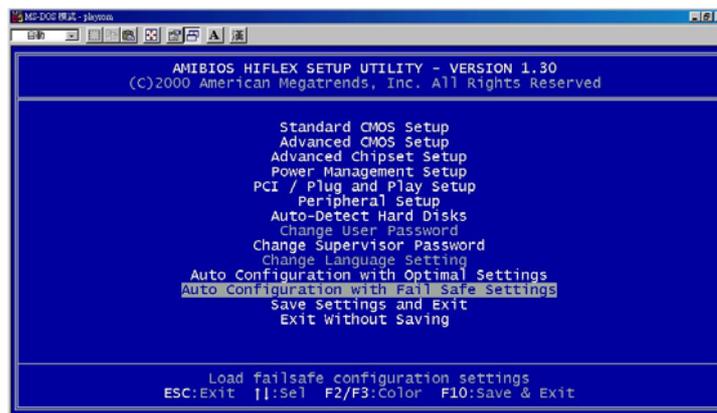
Auto Configuration with Optimal Settings



Optimal Defaults

The Optimal default system configuration parameter settings provide optimum performance settings for all devices and system features.

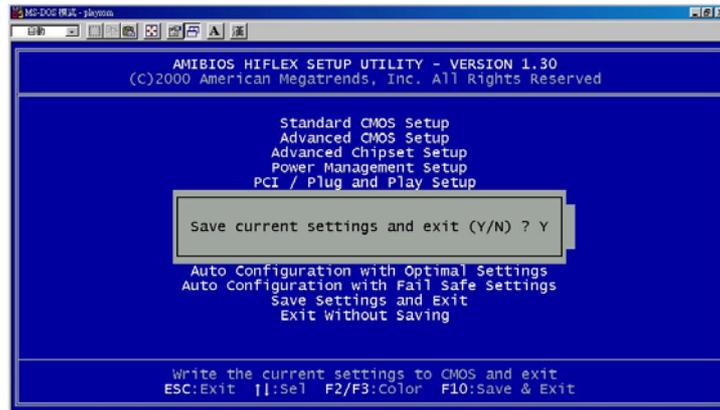
Auto Configuration with Fail Safe Settings



Fail-Safe Defaults

The Fail-Safe default settings consist of the safest set of system configuration parameter settings. Use the Fail-Safe default settings if the system is behaving erratically. They should always work but do not provide optimal system performance characteristics.

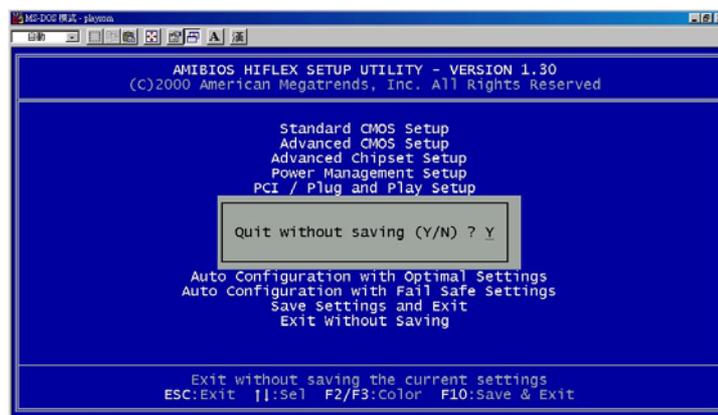
Save Settings and Exit



Save current setting and exit

Press 'Y' to save the current setting, then exit BIOS Setup utility. It also causes BIOS to reset the system and take effect with the latest setting that has been making by user. Press 'N', will bring user back to the main manual of BIOS setup utility.

Exit Without Saving



Quit Without saving

Press 'Y' to exit BIOS Setup utility and not to save the current changes. It will not cause BIOS to reset the system and all the CMOS setting remain and same as before. Press 'N', will bring user back to the main manual of BIOS setup utility.