

**SONY.**

# **VAIO® Slimtop™ LCD Computer Reference Manual**

PCV-L620



## Notice to Users

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## Safety Information

### Owner's Record

The model number and serial number are located on the back of your VAIO computer. Record the serial number in the space provided here. Refer to the model and serial number when you call your Sony Service Center.

Model Number: PCV-L620

Serial Number: \_\_\_\_\_

### WARNING

- ☐ To prevent fire or shock hazard, do not expose your VAIO computer to rain or moisture.
- ☐ Never install modem or telephone wiring during a lightning storm.
- ☐ Never install telephone jacks in wet locations unless the jack is specifically designed for wet locations.
- ☐ Never touch uninsulated telephone wire or terminals unless the telephone line has been disconnected at the network interface.
- ☐ Use caution when installing or modifying telephone lines.
- ☐ Avoid using the modem during an electrical storm.
- ☐ Do not use the modem or a telephone to report a gas leak in the vicinity of the leak.

**! The use of optical instruments with this product will increase eye hazard.**

## Regulatory Information

### Declaration of Conformity

Trade Name: SONY  
Model No.: PCV-L620  
Responsible Party:  
Sony Electronics Inc.  
Address:  
1 Sony Drive  
Park Ridge, NJ 07656  
Telephone No: 201-930-6970

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

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the 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 the 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.

You are cautioned that any changes or modifications not expressly approved in this manual could void your authority to operate this equipment.

Only peripherals (computer input/output devices, terminals, printers, etc.) that comply with FCC Class B limits may be attached to this computer product. Operation with non-compliant peripherals is likely to result in interference to radio and television reception.

All cables used to connect peripherals must be shielded and grounded. Operation with cables, connected to peripherals, that are not shielded and grounded, may result in interference to radio and television reception.

## *FCC Part 68*

This equipment complies with Part 68 of the FCC rules. The ringer equivalence number (REN) and the FCC registration number are printed on the modem board. If requested, this information must be supplied to the telephone company.

The REN is used to determine the quantity of devices which may be connected to the phone line. Excessive REN's on the telephone line may result in the devices not ringing in response to an incoming call. In most, but not all areas, the sum of the REN's should not exceed five (5.0). To be certain of the number of devices that may be connected to the line, as determined by the total REN's, contact the telephone company to determine the maximum REN for the calling area.

This modem uses the USOC RJ-11 telephone jack.

If this equipment causes harm to the telephone network, the telephone company will, when practical, notify you in advance that temporary discontinuance of service may be required. If advance notice isn't practical, the telephone company will notify you as soon as possible. Also, you will be advised of your right to file a complaint with the FCC if you believe it is necessary.

The telephone company may make changes in its facilities, equipment, operations or procedures that could affect the operations of the equipment. If this happens, the telephone company will notify you in advance, in order for you to make the necessary modifications in order to maintain uninterrupted service.

If trouble is experienced with this modem, for repair or warranty information, please contact 1-888-4SONYPC, or write to the Sony Customer Information Center, One Sony Drive, Park Ridge, NJ 07656.

This equipment cannot be used on telephone-company-provided coin service. Connection to Party Line Service is subject to state tariffs.

Repair of the modem should be made only by a Sony Service Center or Sony authorized agent. For the Sony Service Center nearest you, call 1-800-222-SONY (1-800-222-7669).

## *Telephone Consumer Protection Act of 1991*

The Telephone Consumer Protection Act of 1991 makes it unlawful for any person to use a computer or other electronic device to send any message via a telephone facsimile machine unless such message clearly contains, in a margin at the top or bottom of each transmitted page or on the first page of the transmission, the date and time it is sent and an identification of the business, other entity, or individual sending the message, and the telephone number of the sending machine or such business, other entity, or individual.

In order to program this information into your facsimile, see your fax software documentation.



You are cautioned that any changes or modifications not expressly approved in this manual could void your authority to operate this equipment.

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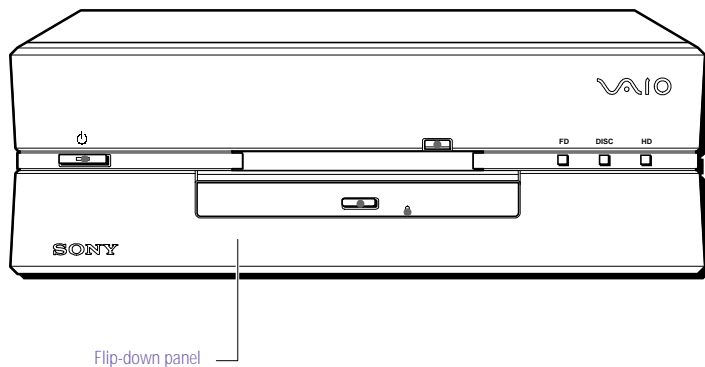


# *Chapter 1*

## *Identifying Components*

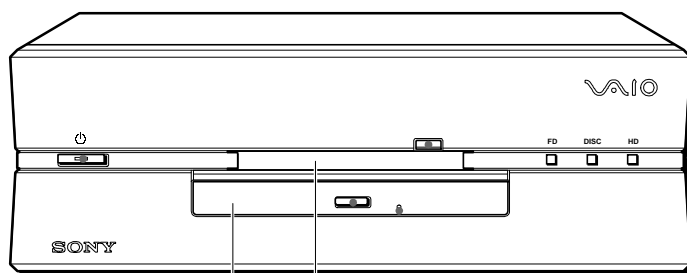
The following sections identify and describe each component that is visible from the exterior of the VAIO® Computer. Internal components are identified in Chapters 3, 4, and 5 of this manual.

## Front View



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## Drives



DVD-ROM disc drive

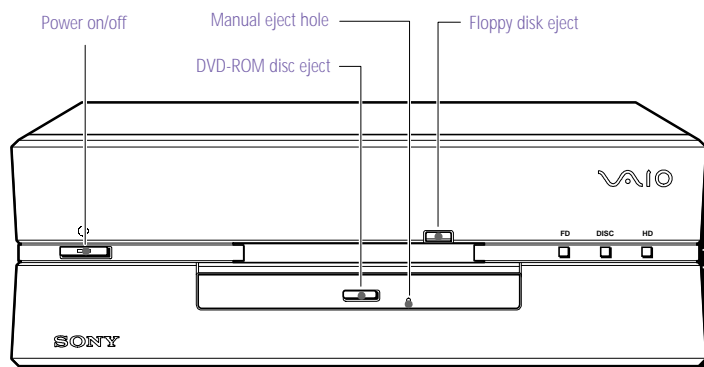
Floppy disk drive

SHA0002.VSD

<i>Drive</i>	<i>Description</i>
Diskette drive	3.5-inch, 1.44 Mbyte.
DVD-ROM drive *	DVD-ROM disc read: 4.8X (maximum performance). CD-ROM disc read: 24X (maximum performance).

- \* Data on a DVD-ROM is read at a variable transfer rate, ranging from 2X at the innermost track to 4.8X at the outermost track (the data transfer standard 1X rate is 1385 kbytes/s). The average data transfer rate is 3.6X (4986 kbytes/s). Data on a CD-ROM is read at a variable transfer rate, ranging from 10.5X at the innermost track to 24X at the outermost track (the data transfer standard 1X rate is 150 kbytes/s). The average data transfer is 18X (2700 kbytes/s).

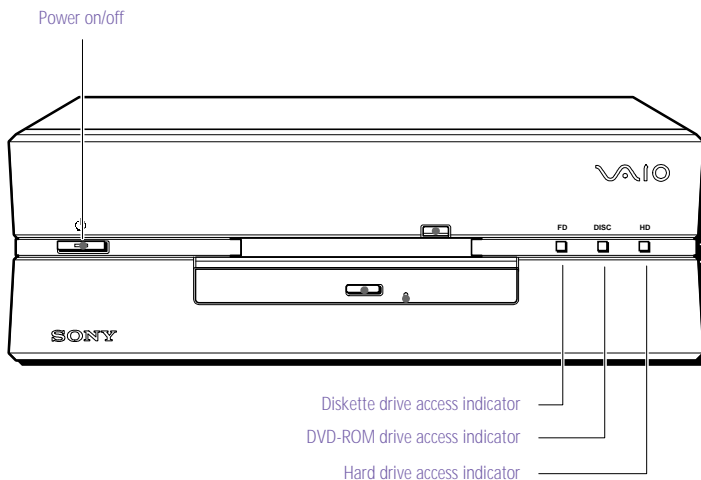
## Buttons and Switches



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<i>Button or switch</i>	<i>Description</i>
Power/Standby switch	Turns system power on and off.
Floppy disk eject button	Ejects a diskette.
DVD-ROM disc eject button	Automatically opens and closes the DVD-ROM tray.
Emergency eject hole	Ejects an optical disc.

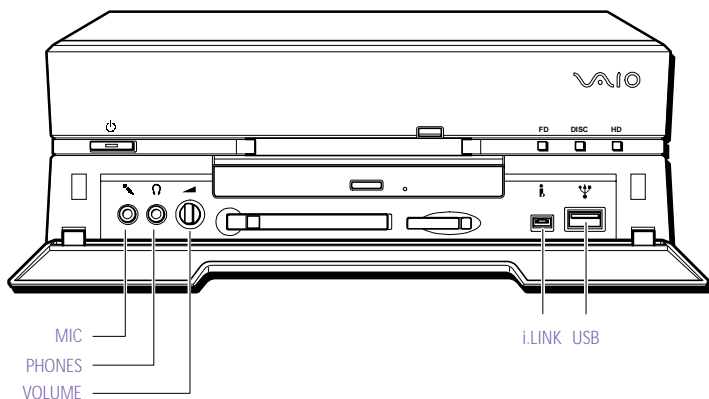
## Indicators



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<i>Indicator</i>	<i>Description</i>
Power/Standby indicator	Standby (amber) indicates the computer is in standby mode. On (green) indicates the computer is out of standby mode, ready to use. Off (no color) indicates the computer is turned off.
Diskette drive access indicator	On (green) indicates diskette drive activity.
DVD-ROM drive access indicator	On (orange) indicates optical disc activity.
Hard disk drive access indicator	On (green) indicates hard disk drive activity.

## Connectors

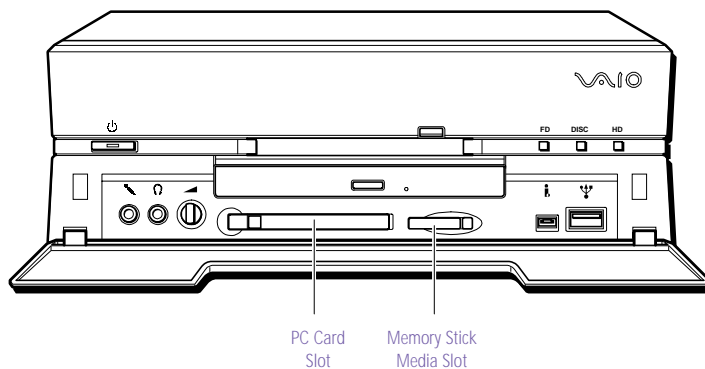


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Connector	Description
MIC	Connects to microphone.
PHONES	Connects to headphones.
i.LINK <sup>®</sup> (IEEE-1394)*	Connects to digital device that has a 4-pin i.LINK connector.
USB	Connects to USB devices.
VOLUME	Controls headphone volume.

\* To connect to a 6-pin i.LINK device, use the i.LINK connector on the back of the system. A 6-pin i.LINK connector can supply power from the computer to the device if the device also has a 6-pin i.LINK connector. A 4-pin i.LINK connector cannot supply power to the device.

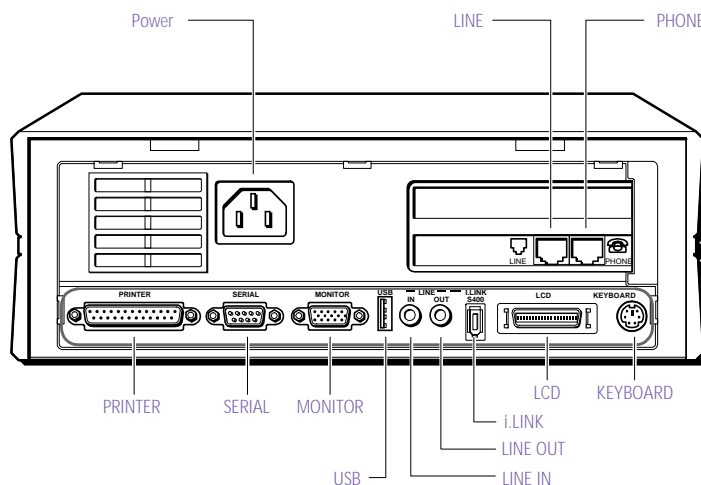
## Slots



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Slot	Description
PC Card Slot	Accommodates one Type I or Type II PCMCIA card
Memory Stick™ Media Slot	Accommodates Memory Stick media

## Rear View



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Connector	Description
Power	AC input power
LINE	Connects to phone cable from wall jack
PHONE	Connects to telephone
PRINTER	Connects to parallel device
SERIAL	Connects to serial device
MONITOR	Connects to VGA monitor
USB	Connects to USB devices
LINE IN	Connects to output connector on audio device
LINE OUT	Connects to input connector on audio device
i.LINK (IEEE-1394)*	Connects to digital device that has a 6-pin i.LINK connector
LCD	Connects to VAIO Slimtop™ LCD monitor
KEYBOARD	Connects to keyboard

\* To connect to a 6-pin i.LINK device, use the i.LINK connector on the back of the system. A 6-pin i.LINK connector can supply power from the computer to the device if the device also has a 6-pin i.LINK connector. A 4-pin i.LINK connector cannot supply power to the device.

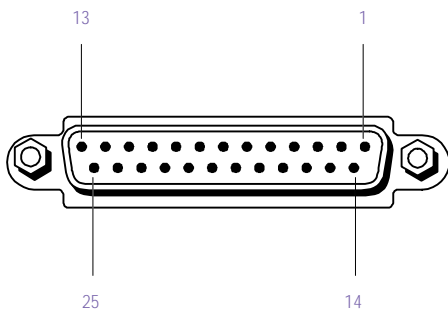


## I/O Connectors

The following section identifies the various I/O connectors.

### PRINTER Port

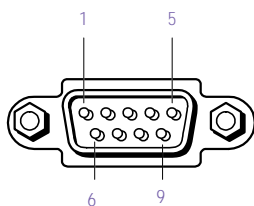
The PRINTER port is a standard 25-pin DB-25 female connector assigned as LPT1.



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### SERIAL Port

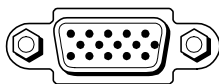
The SERIAL port is a standard 9-pin DB-9 male connector assigned as COM1.



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### MONITOR

The MONITOR connector is a standard 15-pin female high-density VGA-type connector.

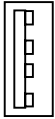


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### USB Connectors

A USB connector is located on the front and rear panels.

Rear panel



Front panel



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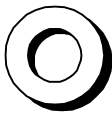
### PHONE, MIC, LINE IN, and LINE OUT

The PHONES, MIC, LINE IN, and LINE OUT jacks are physically identical, but have different connections. They are standard 3.5 mm stereo mini-jacks. The PHONES and MIC jacks are located on the front panel. The LINE IN and LINE OUT jacks are located on the rear panel.

PHONES



MIC

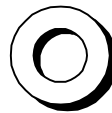


Front panel

LINE IN



LINE OUT



Rear panel

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Connector	Description
PHONES	1.0 Vrms output (typical) at 31 mW (32 ohm) output (max)
MIC	Electroret condenser microphone input
LINE IN	1.0 Vrms input (max), 50 Kohm impedance
LINE OUT	1.0 Vrms out (max)

*i.LINK (IEEE-1394)*

The 6-pin i.LINK (IEEE-1394) connector on the rear panel can supply power from the computer to a device if the device also has a 6-pin i.LINK connector. The connector supplies 10V to 12V. The total power supplied by the 6-pin i.LINK connector cannot exceed 6 watts.

6-pin i.LINK  
(IEEE-1394)



On rear panel

4-pin i.LINK  
(IEEE-1394)

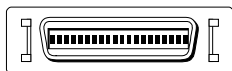


On front panel

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*LCD*

The LCD connector is a 40-pin female MDR-type connector.

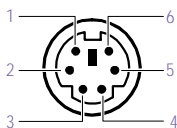


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**!** Do not connect any other LCD monitor other than the Sony VAIO Slimtop LCD monitor.

*KEYBOARD*

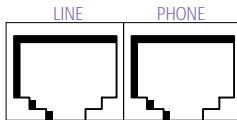
The KEYBOARD connector is a mini DIN-type female connector.



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### LINE and PHONE

The LINE and PHONE jacks are physically identical and have identical connections. They are standard RJ-11 female phone jacks. However, the LINE jack is for connecting to a telephone line that comes from the wall jack, and the PHONE jack is for connecting the computer to a telephone.



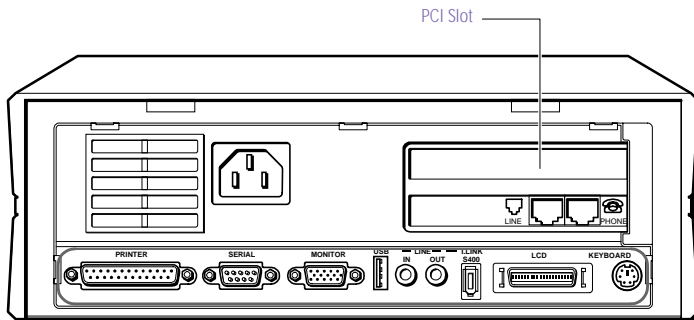
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Accidentally plugging a phone line from the wall into the modem's PHONE jack, and a telephone into the LINE jack, will not damage the modem card or telephone equipment. However, the modem will not work correctly.

### Expansion Slot

One PCI slot is available for expansion. The other PCI slot is occupied by the fax/modem card.



SHA0008.VSD

# *Chapter 2*

## *Configuring Your System*

This chapter contains information on configuring your system. Configuring your system can consist of the following:

- ❑ Making changes to the CMOS settings
- ❑ Making changes to the display's power management settings
- ❑ Changing the system board jumper position

## Accessing the CMOS Setup Utility

You must access the CMOS Setup Utility to make changes to the CMOS settings (see “[CMOS Setup Options](#)” on page 67 for information on CMOS settings).

! Before rebooting the system, save any open files and exit Windows®.

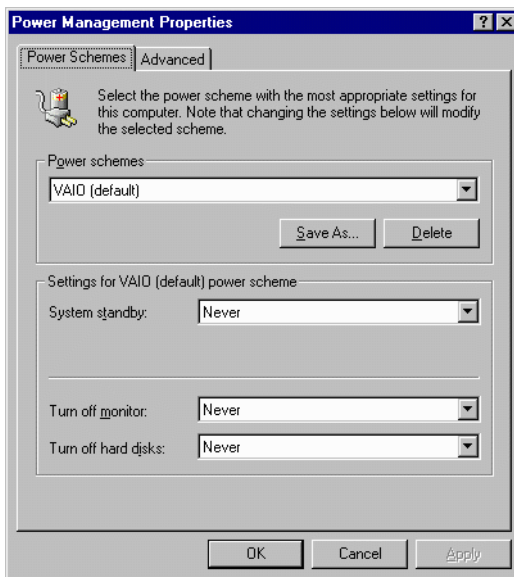
- 1 Reboot the system. The following message appears during the initial boot sequence:  
Press TAB to show the POST screen, DEL to enter SETUP
- 2 Press DEL after the progress bar starts.
- 3 Use the arrow keys to select an item from the main menu.
- 4 Press Enter to display the options for the selected item.
- 5 Use the arrow keys to select an option.
- 6 Press Page Up or Page Down to modify the setting.
- 7 Press ESC to return to the main menu.
- 8 Select SAVE & EXIT SETUP, type Y, then press Enter. Follow the onscreen prompts.

## Changing the Display's Power Management Settings

A display that has power management capability is designed to operate on reduced power or shut itself off after the system has been idle for a specified period of time.

- 1 From the Start menu, point to Settings, then click Control Panel.
- 2 Click the Power Management icon.

The Power Management Properties dialog box opens, with the Power Schemes tab displayed.



- 3 Select the power scheme that is most appropriate for the way you use your computer.

To change a power scheme, change the settings for System standby, Turn off monitor, and Turn off hard disks.

The System standby option allows you to specify the period of inactivity (in minutes) that you want to elapse before your computer goes on standby when your computer is running on AC power. Power is reactivated when you move the mouse or press a key.

The Turn off monitor option allows you to specify the period of

inactivity (in minutes) that you want to elapse before your monitor turns off when your computer is running on AC power. The display reactivates when you move the mouse or press a key.

The Turn off hard disks option allows you to specify the period of inactivity (in minutes) that you want to elapse before your hard disks turn off when your computer is running on AC power.

- 4 To save a new power scheme, first modify the settings, click Save As, type a descriptive name, and then click OK.
- 5 Click the Advanced tab.



- 6 Select the desired settings, and then click OK.



## Configuring the System Board

The system board contains the following configuration jumpers:

- ❑ Clear CMOS
- ❑ VGA Enable
- ❑ INTEN



The configuration jumpers should never need changing unless otherwise directed by a technical support or service technician.



Before opening the system, save any open files, exit Windows, turn off the power of the computer and all attached peripherals, and unplug the power cord.

### Clear CMOS Jumper

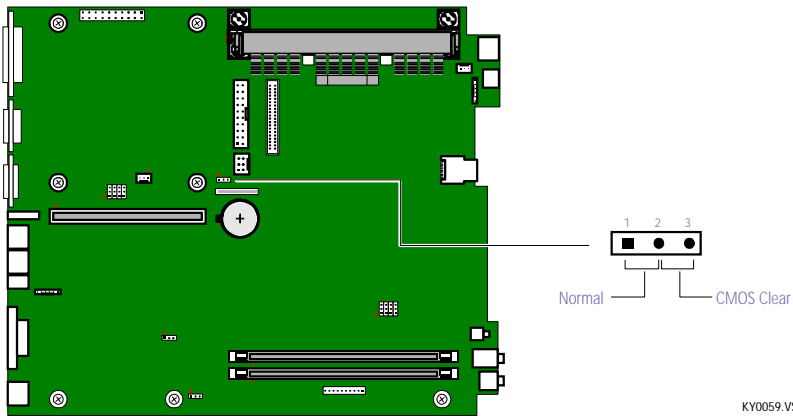
The Clear CMOS jumper provides two modes of operation: Normal mode, and Clear CMOS mode.

Normal mode allows normal access to the BIOS Setup Utility. The Central Processing Unit (CPU) input clock is forced to remain at 100 MHz (fast mode), and the Basic Input/Output System (BIOS) uses the User CMOS settings (as opposed to the System CMOS settings). The CMOS and NVRAM settings are only cleared if the checksum test returns false. Access to specific setup fields is controlled by a supervisor password or user password.

The Clear CMOS mode removes the password that is stored in CMOS. No other parameters are cleared.

To change the Clear CMOS jumper, perform the following steps:

- 1 Remove the system cover (see “[Removing the System Cover](#)” on page 22).
- 2 Set the jumpers as directed by a service technician (also see “[CMOS Clear \(CMOS\)](#)” on page 62).



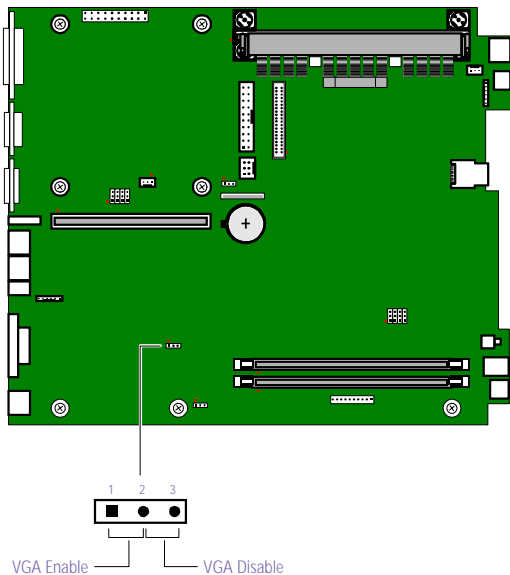
- 3 Reinstall the system cover (see “[Replacing the System Cover](#)” on page 23).

### VGA Enable Jumper

You can enable or disable the onboard VGA controller if you install a VGA PCI add-in card.

To change the VGA enable jumper, perform the following steps:

- 1 Remove the system cover (see “[Removing the System Cover](#)” on page 22).
- 2 Set the jumper to enable or disable (see “[VGA Enable \(VGAEN\)](#)” on page 63).



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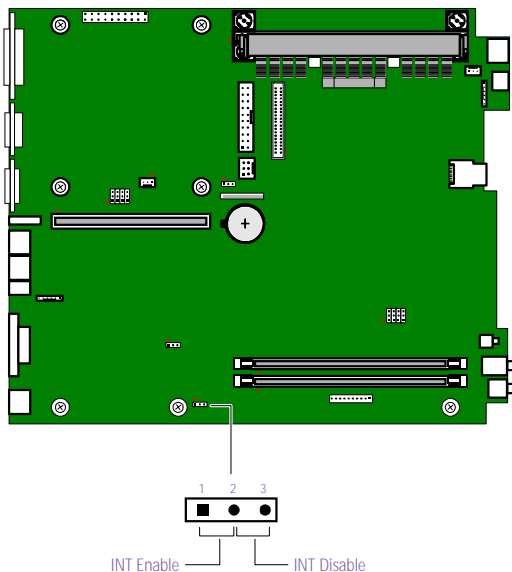
- 3 Reinstall the system cover (see “[Replacing the System Cover](#)” on page 23).

### INTEN Jumper

You can enable or disable the onboard VGA interrupt if you install a VGA PCI add-in card.

To change the INTEN jumper, perform the following steps:

- 1 Remove the system cover (see “[Removing the System Cover](#)” on page 22).
- 2 Set the jumper to enable or disable (see “[VGA INT](#)” on page 64).



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- 3 Reinstall the system cover (see “[Replacing the System Cover](#)” on page 23).

# *Chapter 3*

## *Removing, Installing, and Replacing Components*

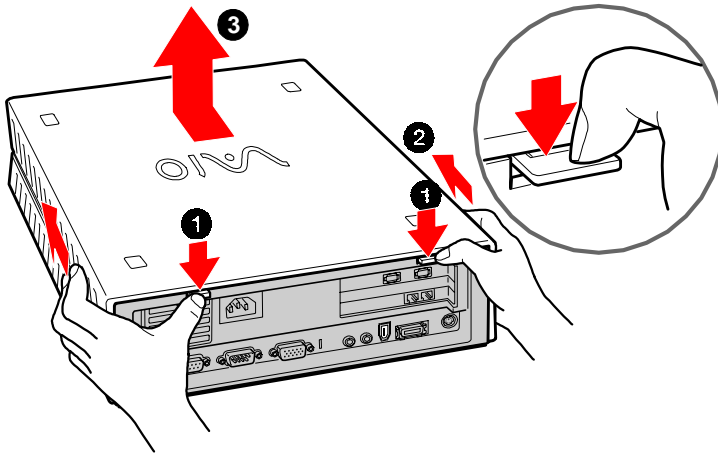
This chapter describes removing, installing, and replacing major components for upgrading, reconfiguring, and troubleshooting the components.

! Before opening the system unit, save any open files, exit Windows, turn off the power of the computer and all attached peripherals, and then unplug the power cord.

## Removing the System Cover

You must remove the system cover to access the system board, add-in cards, power supply, battery, and internal drives.

- 1 From the rear of the unit, push down on the two tabs that secure the system cover to the chassis.
- 2 Slide the system cover back. The panel slides back about ½ inch.



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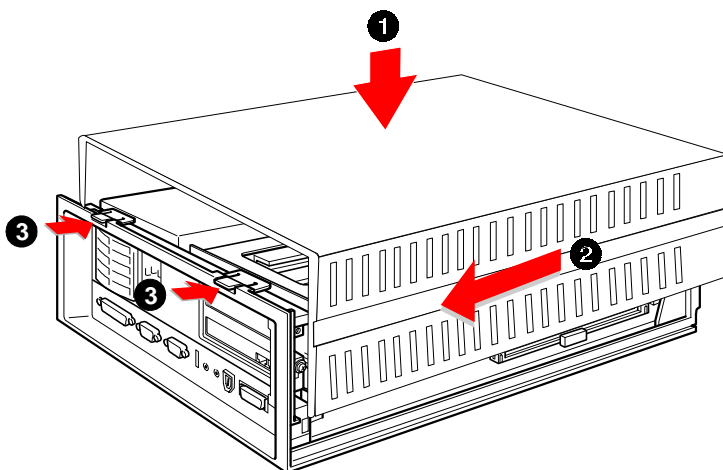


This works best if the spacers are installed on the unit, or the unit sits on a rubber mat.

- 3 Lift straight up to remove it.

## Replacing the System Cover

- 1 Position the system cover over the chassis such that the front portion of the system cover extends past the front of the unit.
- 2 Carefully lower the system cover down over the chassis. The rear of the system cover should be about  $\frac{1}{2}$  inch in from the rear of the unit.
- 3 Carefully slide the system cover back until the tabs snap into place. Check the front to make sure all drives and connectors are correctly aligned.




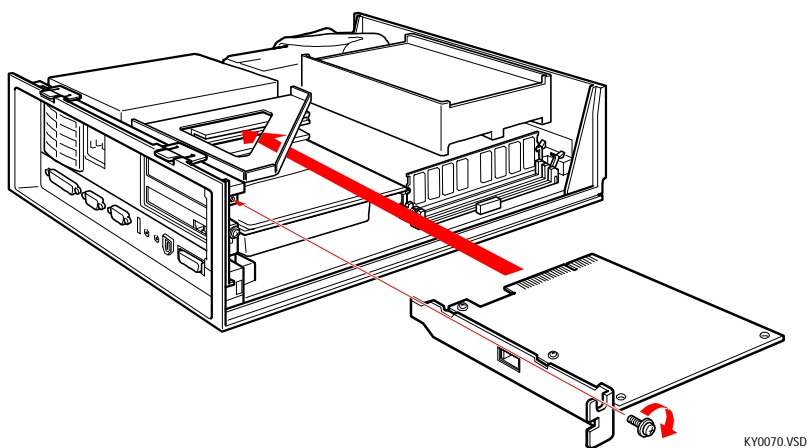
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## Installing an Add-In Card

! Before opening the system unit, save any open files, exit Windows, turn off the power of the computer and all attached peripherals, and then unplug the power cord.

- 1 Remove the system cover (see “[Removing the System Cover](#)” on page 22).
- 2 Remove the slot cover adjacent to the selected slot connector on the system board (see “[Removing a Slot Cover](#)” on page 40).
- 3 Insert the add-in card into the PCI slot connector. Use a gentle rocking motion, pressing down until the card is fully seated.

 Align the card's bracket so that the bottom of the bracket fits into the slot at the bottom of the chassis. Assume that the top of the bracket fits snugly against the chassis lip after the card is fully inserted.



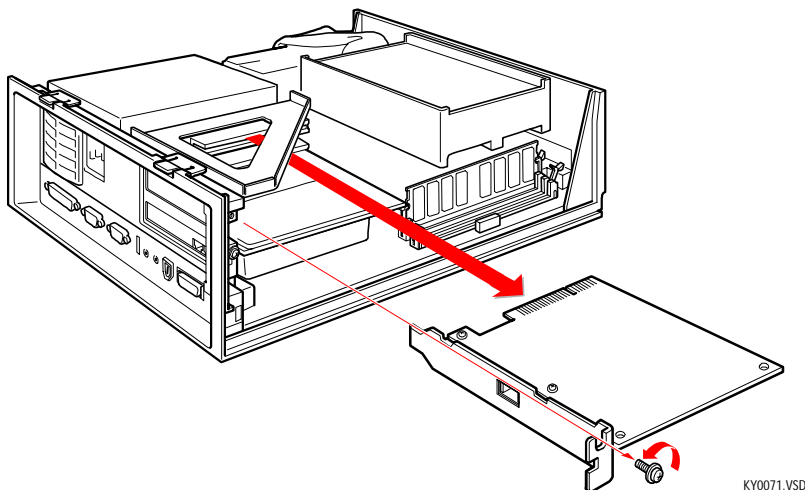
- 4 Attach any necessary cables to the card (see the instructions that came with the add-in card).
- 5 Replace the system cover (see “[Replacing the System Cover](#)” on page 23).
- 6 Turn on the computer and follow any instructions that came with the add-in card.




## Removing an Add-in Card

! Before opening the system unit, save any open files, exit Windows, turn off the power of the computer and all attached peripherals, and then unplug the power cord.

- 1 Remove the system cover (see “Removing the System Cover” on page 22).
- 2 Disconnect any cables attached to the add-in card.
- 3 Remove the screw that secures the add-in card to the chassis.
- 4 Remove the add-in card from the PCI slot connector and store the card in an anti-static wrapper for future use.



 Grasp the card with one hand on each end, and gently pull up as you rock the card from side to side.

! Hold the add-in card by its edges and do not touch any components or connector contacts on the card. Static electricity in your body may damage sensitive components on the card. As a precaution, touch any exposed metal part on the metal chassis (preferably the metal part on the power supply) before handling an add-in card to discharge any static electricity in your body.

- 5 If you do not replace the card or install another add-in card, install a slot cover over the vacant slot at the rear of the chassis (see “[Covering an Open I/O Slot](#)” on page 41).
- 6 Replace the system cover (see “[Replacing the System Cover](#)” on page 23).

## Replacing the Lithium Battery

You may need to replace the lithium battery if your computer consistently loses the date or time settings after turning it off. The lithium battery has a typical life of three years, after which the battery may be too weak to power the CMOS memory.

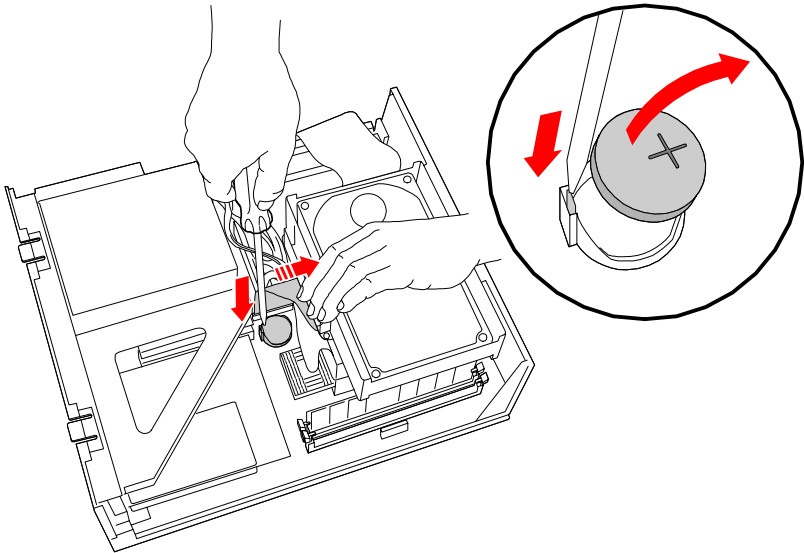
! When you remove the lithium battery, all values stored in the CMOS memory (BIOS setup values and Plug and Play values) may be lost. Although the computer can hold the charge for a short time while replacing the battery, it is safer to assume that the settings will be lost. When the values are lost, the BIOS values revert to their factory-default settings (see “[Accessing the CMOS Setup Utility](#)” on page 14).

Do not handle damaged or leaking batteries.

The lithium battery may explode if mistreated. Do not disassemble it or dispose of it in fire.

- 1 Reboot your computer by selecting Shut Down... from the Start menu, and then selecting Restart the computer.
- 2 If the error message “Error: Check date and time settings” appears during the reboot sequence, press F3, then press F2 during the reboot process to access the BIOS Setup Utility. Otherwise it is not necessary to replace the battery at this time, and you can skip all remaining steps.
- 3 Compare all the BIOS options to their default settings (see “[CMOS Setup Options](#)” on page 67). Make a list of all the BIOS options that are different from their default values. You will refer to this list when you restore the BIOS settings later.
- 4 Press ESC, then select Exit from the main menu using the right arrow key. The Exit Discarding Changes is automatically selected (it is the first item in the list).
- 5 Press Enter, type N when prompted to save, then press Enter to exit the BIOS Setup Utility.
- 6 Turn off the computer and unplug the power cord.
- 7 Remove the system cover (see “[Removing the System Cover](#)” on page 22).

- 8 Gently push the diskette drive ribbon cable back enough to allow access to the battery.



KY0072.VSD

- 9 Insert a small flathead screwdriver into the small space at the top of the battery holder.
- 10 Gently pry the battery out and dispose of it according to the instructions that came with the new battery.
- 11 While holding the diskette drive ribbon cable out of the way, insert the new battery into the battery holder, with the plus (+) side up.



The Sony CR2032 battery is recommended. Using a type of battery other than a CR2032 may present a risk of fire or explosion.

- 12 Replace the system cover (see “[Replacing the System Cover](#)” on page 23).
- 13 Reconnect the power cord and turn on the computer.

- 14 If the error message “Error: Check date and time settings.” appears during the reboot sequence, press DEL to access the CMOS Setup Utility. If no error message displays, the computer’s CMOS settings were retained during the battery replacement and you can skip the remaining steps.
- 15 Refer to the list you made in step 3 and restore any non-default CMOS settings (see “[CMOS Setup Options](#)” on page 67).
- 16 Select SAVE & EXIT SETUP from the main menu using the arrow keys, then press Enter.
- 17 Type Y, then press Enter to save the changes and exit the CMOS Setup Utility.

The computer’s CMOS settings are now restored.

## Installing System Memory

**!** Before opening the system unit, save any open files, exit Windows, turn off the power of the computer and all attached peripherals, and then unplug the power cord.

- 1 If necessary, remove the memory module you wish to replace (see “Removing a Memory Module” on page 32).
- 2 Remove the new memory module(s) from its anti-static package. Hold the memory module only by its edges to prevent static-electricity damage.
- 3 Choose the size of the memory module and configuration as shown in the following table. Memory modules can vary in size and speed between sockets. The minimum memory size is 8 MB. The maximum memory size is 256 MB. The BIOS automatically detects the type, size, and speed of the memory modules.

### Memory module configurations (MB)

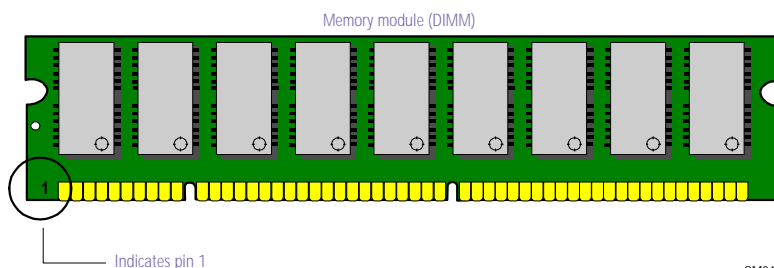
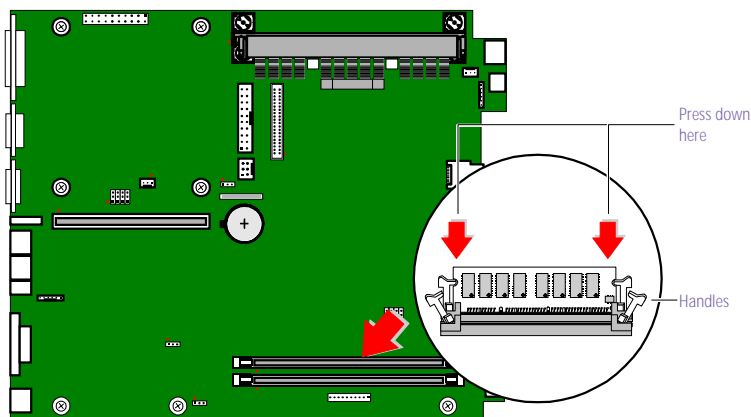
<i>DIMM1</i>	<i>DIMM2</i>
0, 8, 16, 32, 64, 128	0, 8, 16, 32, 64, 128

**!** Touch any exposed metal part of the chassis to discharge static electricity in your body before handling a memory module.



Use only 100 MHz FSB-supported memory. Do not mix 66 MHz memory with 100 MHz memory. Supports SDRAM memory. Does not support EDO memory or buffered DIMM memory.

- 4 Align the module over the appropriate socket, noting the location of pin 1 on the module and pin 1 on the socket.



OM04586.VSD

- 5 Carefully but firmly insert the edge of the module into the socket.
- 6 Press down firmly and evenly at both corners until the module is fully seated.



When the module is fully seated, the handles on each side are straight up and locked into the slot on each side of the module. If the handles are not totally straight upright, continue to press down on each side of the module until the handles lock into place.

- 7 Replace the system cover (see “[Replacing the System Cover](#)” on page 23).

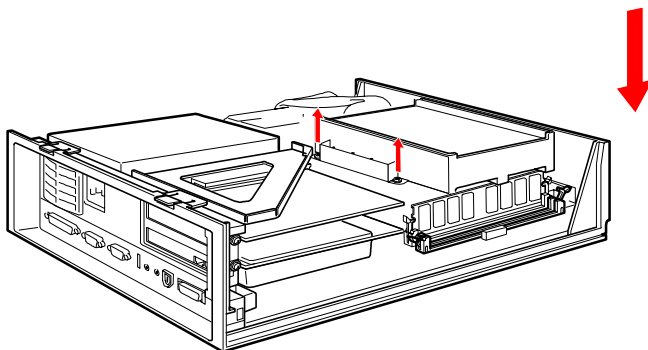
Your computer automatically recognizes the extra memory and configures itself accordingly when you turn it on. No further action is required.

## Removing a Memory Module


You may need to remove a memory module if you change the memory configuration or replace a bad module.

! Before opening the system unit, save any open files, exit Windows, turn off the power of the computer and all attached peripherals, and then unplug the power cord.

- 1 Remove the system cover (see “[Removing the System Cover](#)” on page 22).
- 2 Locate the memory module you wish to remove.

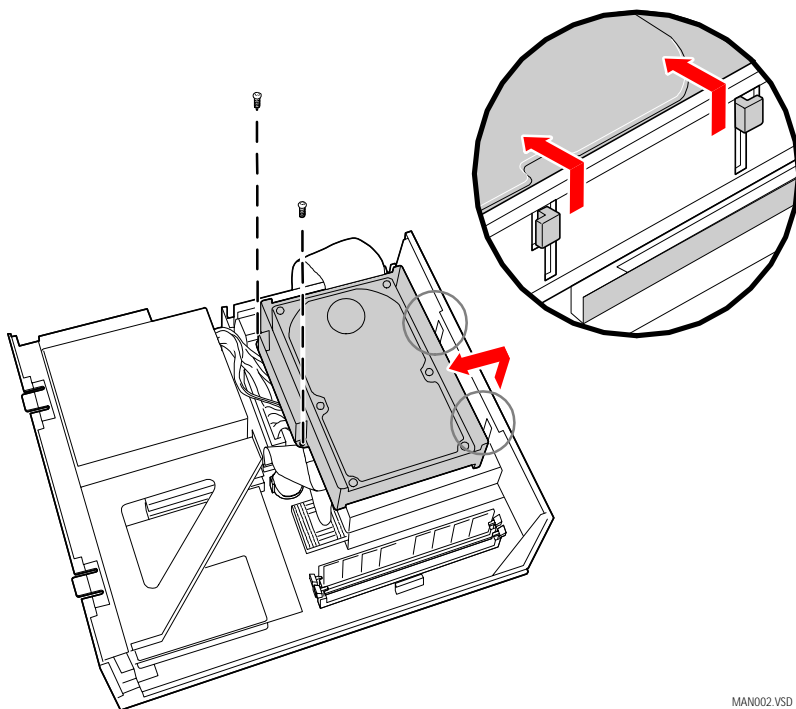


KY0073.VSD

 If the memory module you wish to remove is DIMM #2, skip steps 3 to 5. Otherwise, continue.



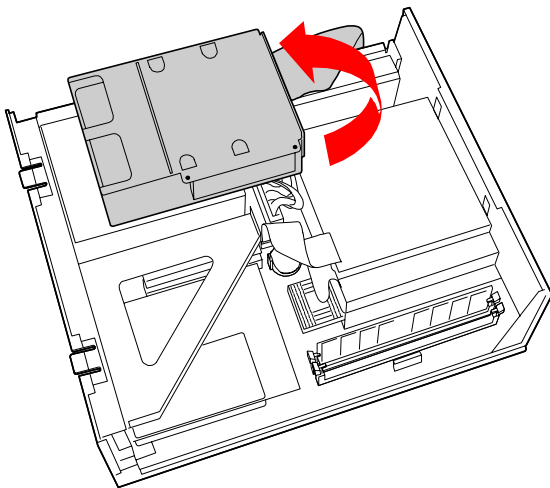
- 3 Remove the two screws that secure the hard drive carrier to the diskette drive housing.



MAN002.VSD

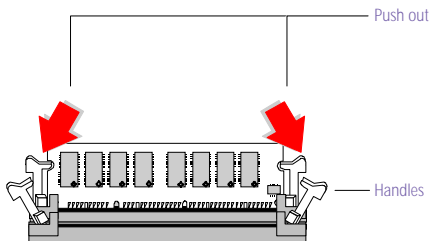
- 4 Lift up the hard drive carrier about  $\frac{1}{2}$ " (until the tabs reach the stops), then pull sideways (away from the front panel) until the hard drive carrier is clear.

- 5 Flip the hard drive carrier upside down and let it rest on the power supply while you remove DIMM #1.



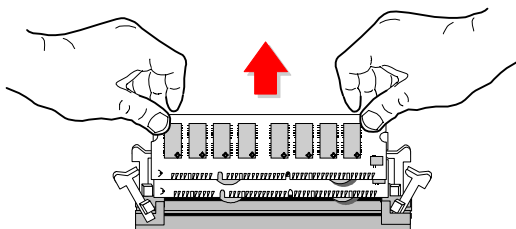
MAN003.VSD

- 6 Push out the handle on each side of the memory module to eject the module from its socket.



KY0042.VSD

- 7 Lift the memory module out by grasping it by its edges. Store the module in a static-free bag.



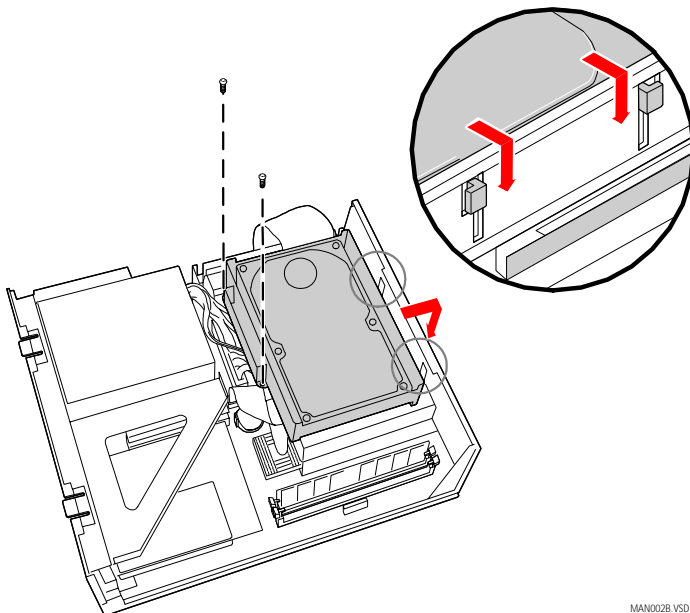
KY0043.VSD

**!** Touch any exposed metal part of the chassis to discharge static electricity in your body before handling the memory module.



If the memory module you removed is DIMM #2, stop. Otherwise, continue.

- 8 Flip the hard drive carrier back to its normal position.
- 9 Insert the drive carrier tabs into the chassis slots, then slip the drive carrier down until the holes in the hard drive carrier align with the holes in the diskette drive carrier.



MAN002B.VSD

- 10 Replace the two screws that secure the hard drive carrier to the diskette drive housing.
- 11 Replace the system cover (see “[Replacing the System Cover](#)” on page 23).

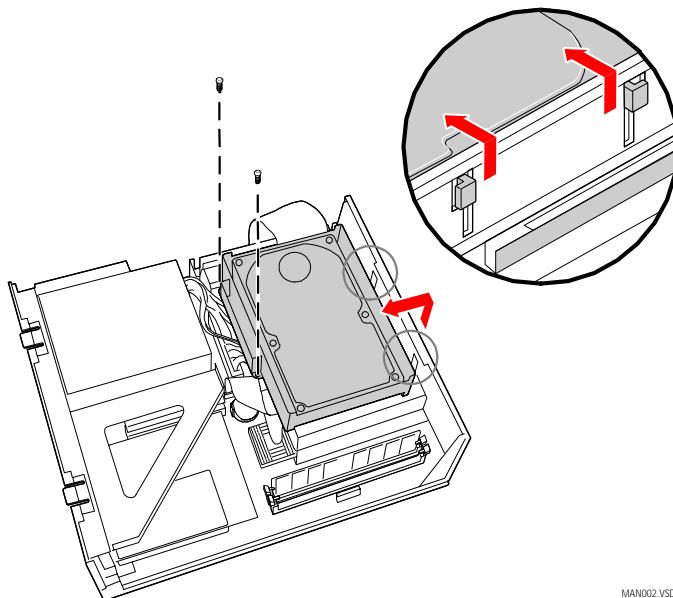
## Replacing the Hard Drive

! Before opening the system unit, save any open files, exit Windows, turn off the power of the computer and all attached peripherals, and then unplug the power cord.



Be sure to back up any files on your hard drive that you want to preserve before you replace the drive.

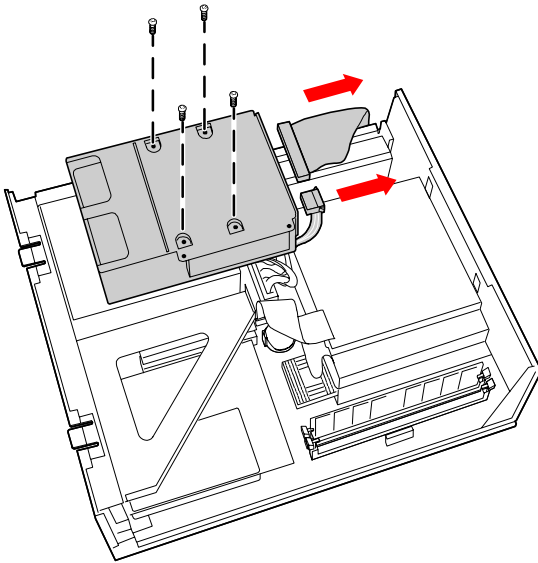
- 1 Remove the system cover (see “Removing the System Cover” on page 22).
- 2 Remove the two screws that secure the hard drive carrier to the diskette drive housing.



MAN002.VSD

- 3 Lift the hard drive carrier about  $\frac{1}{2}$ " (until it reaches the stops), then pull sideways (away from the front panel) until the drive carrier is clear.
- 4 Untwist the white cable tie that secures the power supply cable to the hard drive carrier.

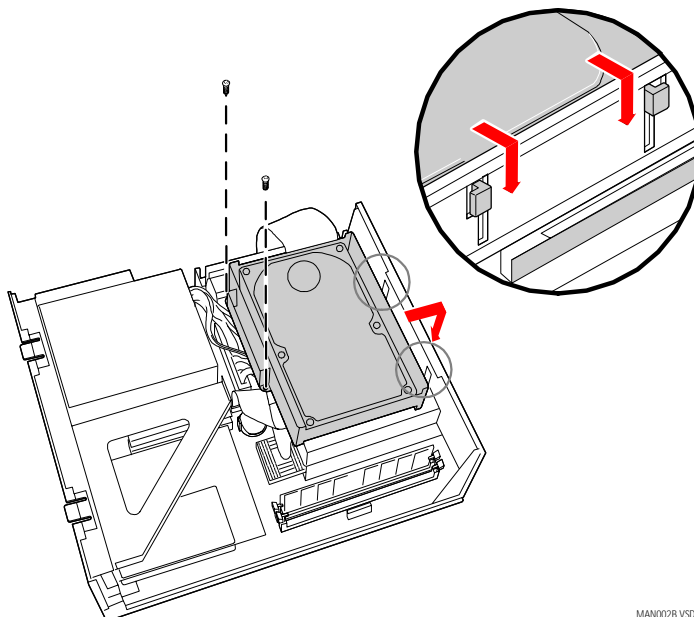
- 5 Unplug the ribbon cable and power supply cable from the hard drive connectors.



MAN004.VSD

- 6 Remove the four screws that secure the hard drive to the bottom of the drive carrier.
- 7 Remove the hard drive from the drive carrier.
- 8 Configure the new hard drive as the Primary Master IDE drive (refer to the instructions that came with the new hard drive).
- 9 Insert the new hard drive into the drive carrier.
- 10 Replace the four screws that secure the drive to the drive carrier.
- 11 Reconnect the ribbon cable and power supply cable to the new hard drive.

- 12 Insert the drive carrier tabs into the chassis slots, then slip the drive carrier down until the holes in the hard drive carrier align with the holes in the diskette drive carrier.



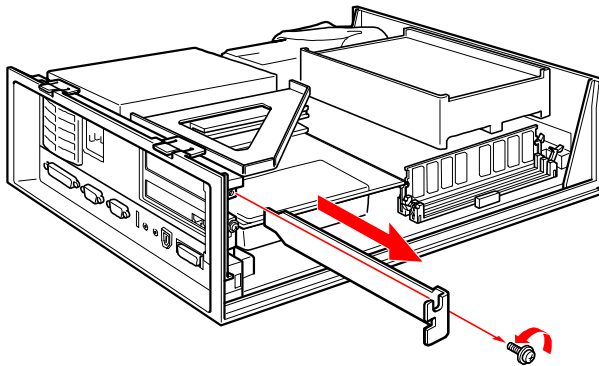
MAN002B.VSD

- 13 Replace the two screws that secure the hard drive carrier to the diskette drive carrier.
- 14 Secure the power supply cable to the side of the hard drive carrier using the white plastic cable tie.
- 15 Replace the system cover (see [“Replacing the System Cover”](#) on page 23).

## Removing a Slot Cover

You remove a slot cover when you install an add-in card that occupies a previously-empty slot.

- 1 Lay the system on its side with the open side facing up and the slot covers facing you.
- 2 Locate the slot of the cover you want to remove.
- 3 Remove the screw from the slot cover.
- 4 Carefully remove the loose slot cover and retain it for future use.



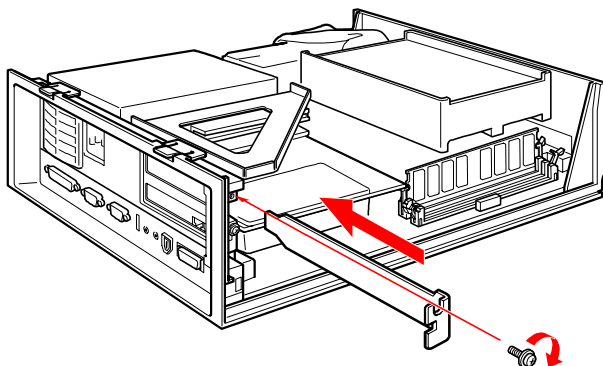
KY0069.VSD



## Covering an Open I/O Slot

Slot covers prevent air from escaping through the empty hole. If air escapes, the components inside the computer cannot be properly cooled. This may damage some components, especially the main processor (which generates the most heat).

- 1 Fit the bottom end of the slot cover (removed earlier) between the chassis and system board.



KY0076.VSD

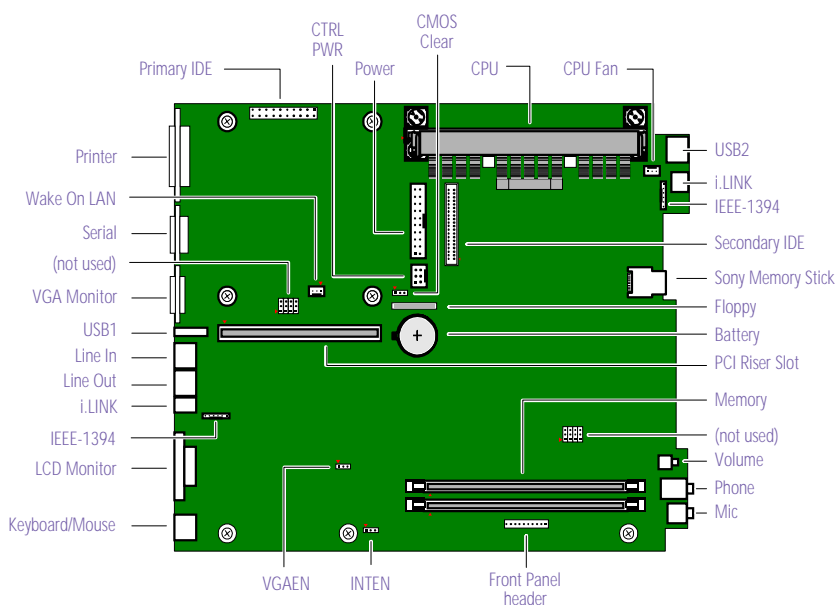
- 2 Push the slot cover in until it rests firmly on the lip in the chassis. All add-in card brackets and slot covers rest on this lip.
- 3 Replace the screw (removed earlier) to secure the I/O slot cover.



# Chapter 4

## System Board

This chapter identifies each component on the system board and provides a detailed description of each connector and jumper on the system board.

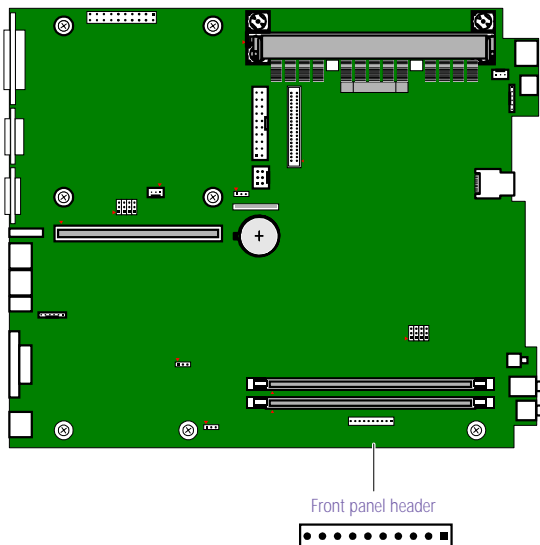


OM04581.VSD

## Connectors

### Front Panel Header

The front panel header is a 10-pin header that provides connections to various front panel functions.

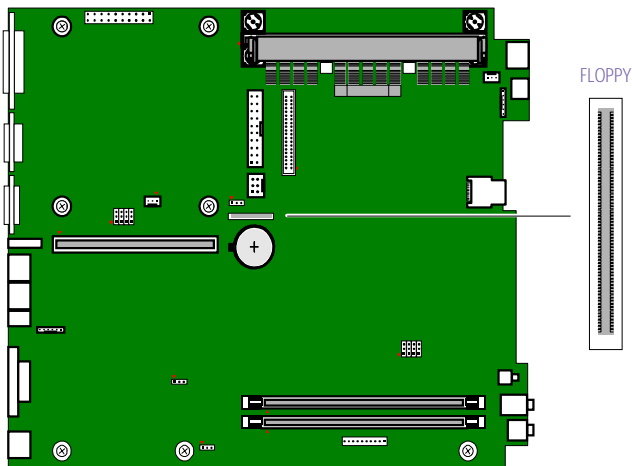


KY0031.VSD

Pin #	Name	Description
1	+5	+5V from power supply
2	LED (DVD-ROM)	Connects to LED on DVD-ROM
3	LED (FDD)	Connects to LED on floppy disk drive
4	LED (HDD)	Connects to LED on IDE hard disk drive
5	LED (MODEM)	Connects to LED on modem card
6	Reserved	(not used)
7	LED3	Connects to Standby/Sleep (red) signal from power supply
8	LED4	Connects to Power (green) anode signal from power supply
9	POWER SW	Connects to power switch
10	GND	Connects to signal ground

### Diskette Drive (FLOPPY) Connector

The FLOPPY connector is a 26-pin connector for a slim notebook-type diskette drive.



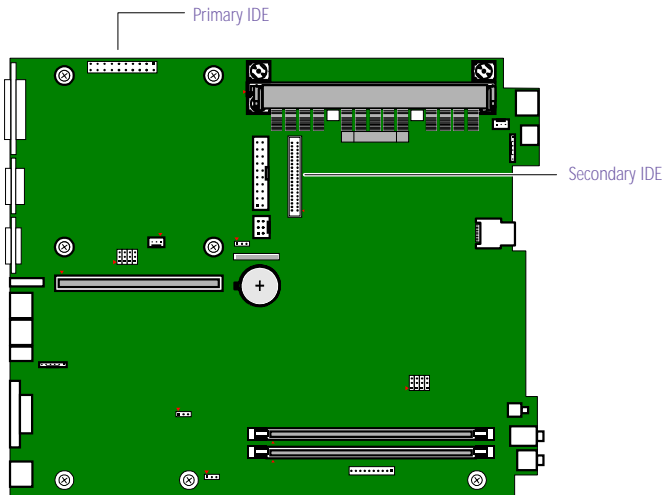
OM04701H.VSD

### IDE Connectors

There are two IDE (Integrated Drive Electronics) connectors: a Primary IDE and a Secondary IDE connector.

The Primary IDE connector is a 40-pin 2.54mm pitch header-type connector for the 3.5 inch hard disk drive.

The Secondary IDE connector is a 50-pin 2mm pitch header-type connector for the slim notebook-type CD-ROM drive.

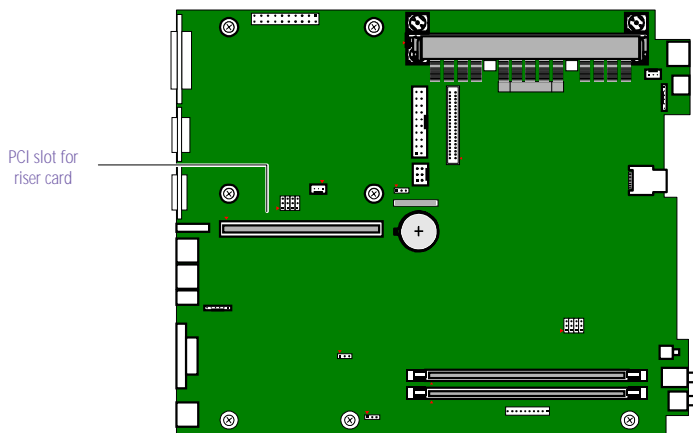


OM04701G.VSC

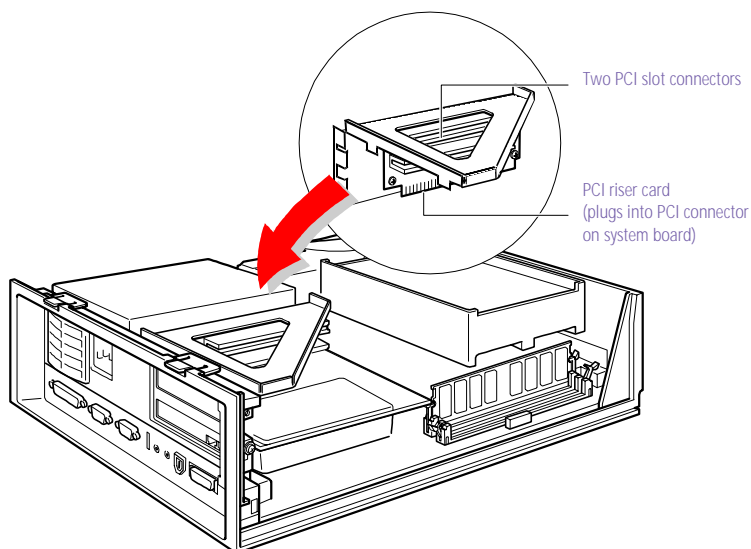
### PCI Slot Connectors

The system board contains one PCI Riser slot connector for a PCI riser card. The PCI riser card in turn provides two PCI slot connectors for PCI add-in cards. One PCI slot connector is available for an add-in PCI card. The other PCI slot connector is occupied by the fax/modem card.

The PCI slots in the riser card support 32-bit 5V and Universal (3.3/5V) PCI add-in cards.

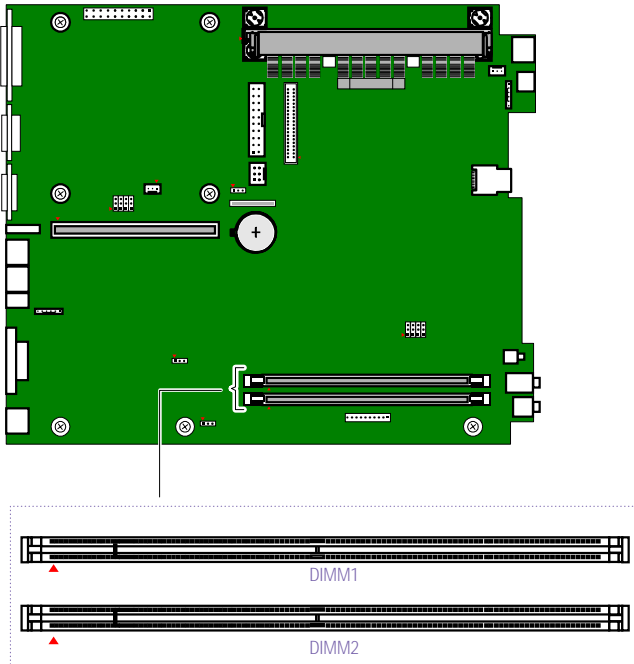


OM04599B.VSD



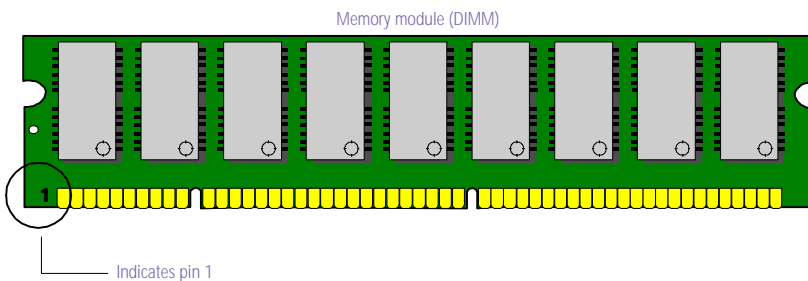
KY0091.VSD

## Memory Module (DIMM) Connectors



OM04710A.VSD

Both sides of each Dual Inline Memory Module (DIMM) look very similar. The side with pin 1 has a small "1" to the left of pin 1. Be sure to orient a DIMM correctly in the DIMM connector (a small triangle on the connector indicates pin 1).

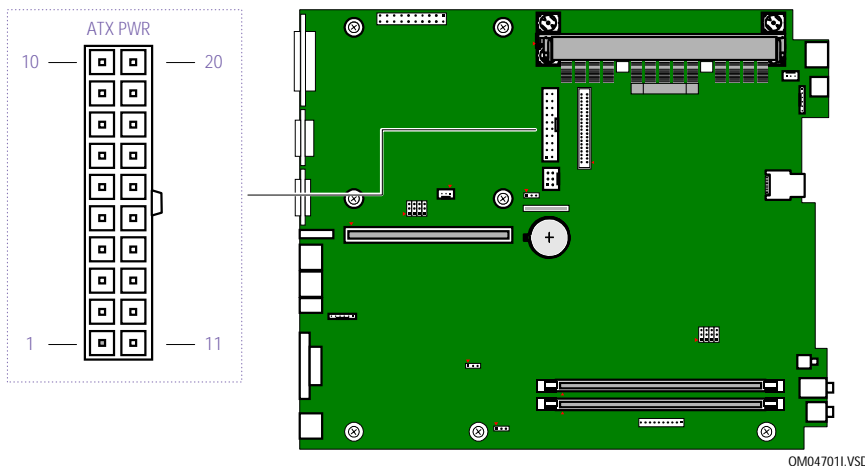


OM04908B.VSD



### Power (ATX PWR) Connector

The ATX PWR connector is a 20-pin Molex-type header connector that provides power to the ATX system board.



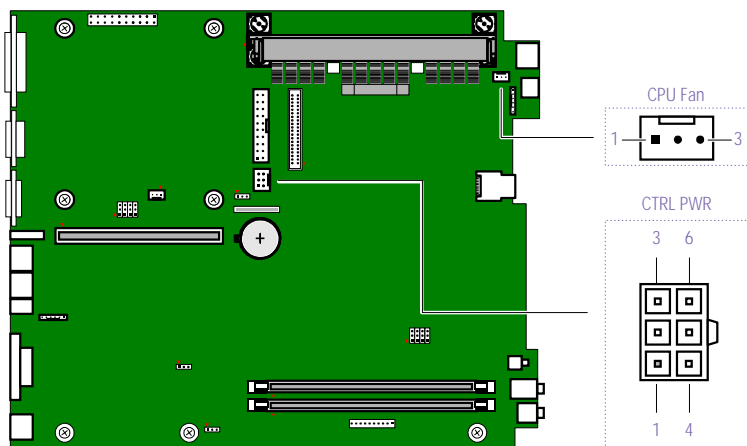
#### Power connector

Pin #	Name	Pin #	Name
1	+3.3V	11	+3.3V
2	+3.3V	12	-12V
3	GND	13	GND
4	+5V	14	PS-ON# (power supply remote on/off control)
5	GND	15	GND
6	+5V	16	GND
7	GND	17	GND
8	PWRGD (power good)	18	NC
9	+5VSB	19	+5V
10	+12V	20	+5V

### Fan (CPU FAN, CTRL PWR) Connectors

The CPU Fan connector is a 1 x 3-pin straight header connector that controls the CPU cooling fan.

The CTRL PWR connector is a 2 x 3-pin connector that controls the power supply cooling fan. It connects to P3 from the power supply.



KY0034.VSC

#### CPU Fan connector

Pin	Signal Name
1	GND
2	FAN_CTRL (+12V)
3	FAN_SEN

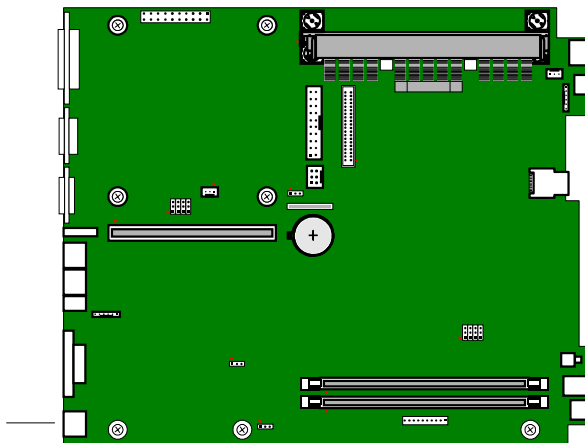
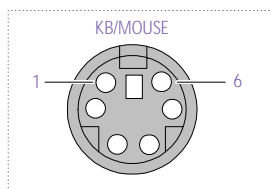
#### CTRL PWR connector

Pin	Signal Name
1	Fan M
2	Fan C*
3	3.3V sense
4	NC (key)
5	Reserved
6	Reserved

\* Power supply provides 12V to this pin when system is in Power On mode (for fastest fan speed), and 6V when system is in Suspend mode (to reduce fan noise).

### Keyboard/Mouse (KB/MOUSE) Connector

The combination keyboard/mouse connector is a 6-pin female PS/2-type (mini-DIN) connector that can accommodate the supplied VAIO Smart convertible keyboard and wheel mouse, or a PS/2 keyboard only.



KY0032.VSI

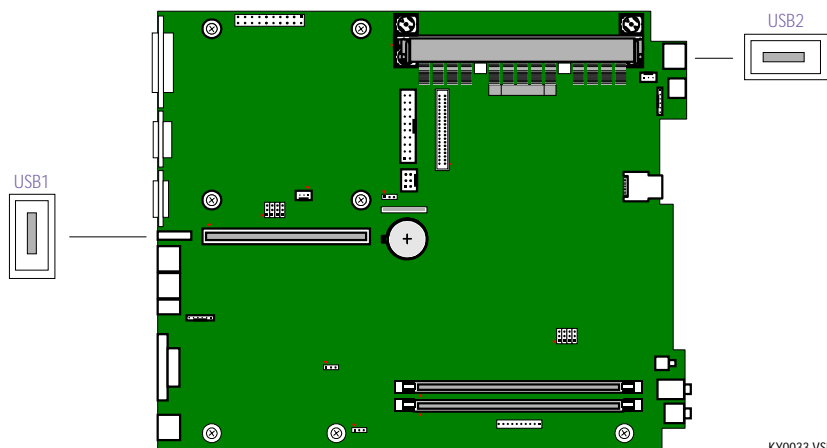
### Keyboard/Mouse connector

Pin	Signal Name
1	Keyboard data
2	Mouse data
3	GND
4	+5V (fused)
5	Keyboard clock
6	Mouse clock

## USB Connectors

There are two USB ports that permit connection of two USB peripheral devices directly to the system without having to use an external hub. If more USB devices are needed, connect an external hub to either USB1 or USB2.

USB1 is a standard USB connector accessible from the rear panel. USB2 is a standard USB connector accessible from the front panel.



KY0033.VSC

### USB1 connector (rear panel)

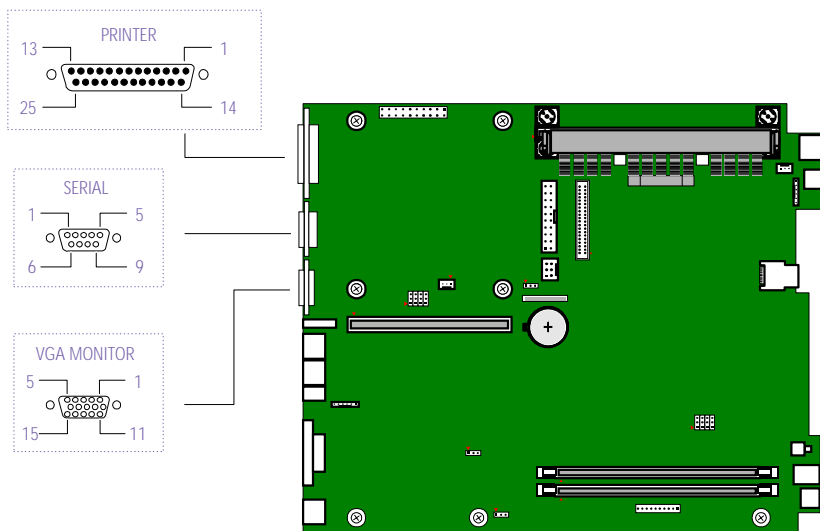
Pin	Signal Name
1	Power
2	USBP0#
3	USBP0
4	GND

### USB2 connector (front panel)

Pin	Signal Name
1	Power
2	USBP1#
3	USBP1
4	GND

### PRINTER, SERIAL, and VGA MONITOR Connectors

The SERIAL connector is a DB-9 male connector. The PRINTER connector is a DB-25 female connector. The VGA MONITOR connector is a 15-pin D-sub female connector.



OM04701D.VSD

#### PRINTER connector

Pin	Signal Name	Pin	Signal Name
1	STROBE#	14	AUTO FEED#
2	DATA BIT 0	15	FAULT#
3	DATA BIT 1	16	INIT#
4	DATA BIT 2	17	SLCT IN#
5	DATA BIT 3	18	GND
6	DATA BIT 4	19	GND
7	DATA BIT 5	20	GND
8	DATA BIT 6	21	GND
9	DATA BIT 7	22	GND
10	ACK#	23	GND
11	BUSY	24	GND
12	ERROR	25	GND
13	SELECT		

**SERIAL 1 connector**

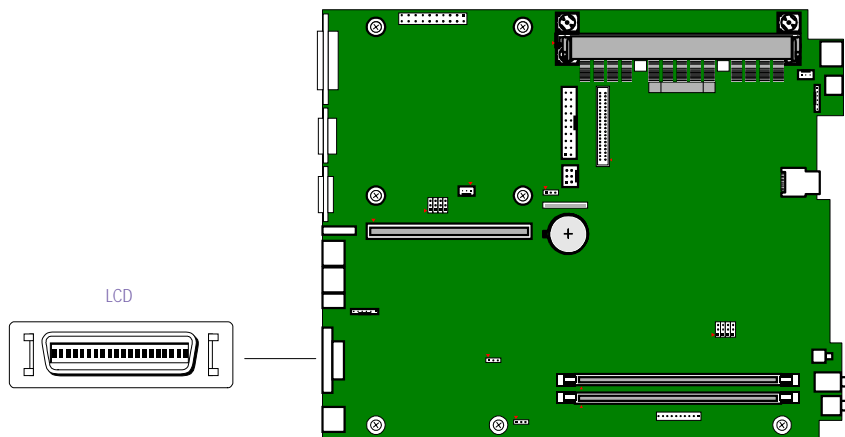
<i>Pin</i>	<i>Signal Name</i>
1	DCD
2	RXD#
3	TXD#
4	DTR#
5	GND
6	DSR
7	RTS
8	CTS
9	RI

**VGA MONITOR connector**

<i>Pin</i>	<i>Signal Name</i>
1	RED
2	GREEN
3	BLUE
4	GND
5	DDC GND
6	RED GND
7	GREEN GND
8	BLUE GND
9	NC
10	GND
11	GND
12	SDA
13	HORIZONTAL SYNC
14	VERTICAL SYNC
15	SCL

### LCD Connector

The LCD connector is a 40-pin MDR-type connector for the Sony VAIO Slimtop LCD monitor.

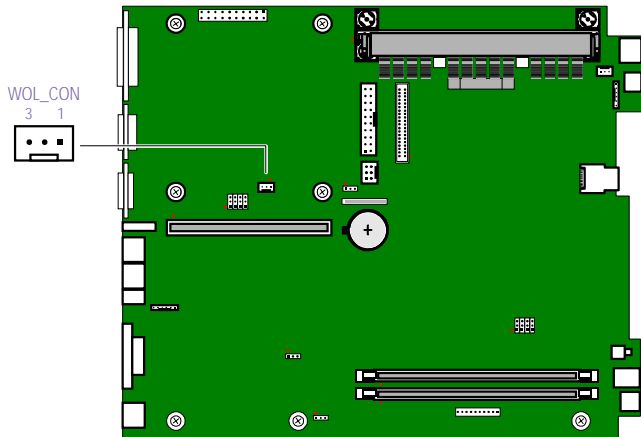


KY0094.VSD

! Do not connect any other LCD other than the Sony VAIO Slimtop LCD monitor.

### Wake On LAN (WOL\_CON) Connector

The WOL\_CON connector is a 3-pin header connector that provides the Wake On LAN function.



KY0096.VSD

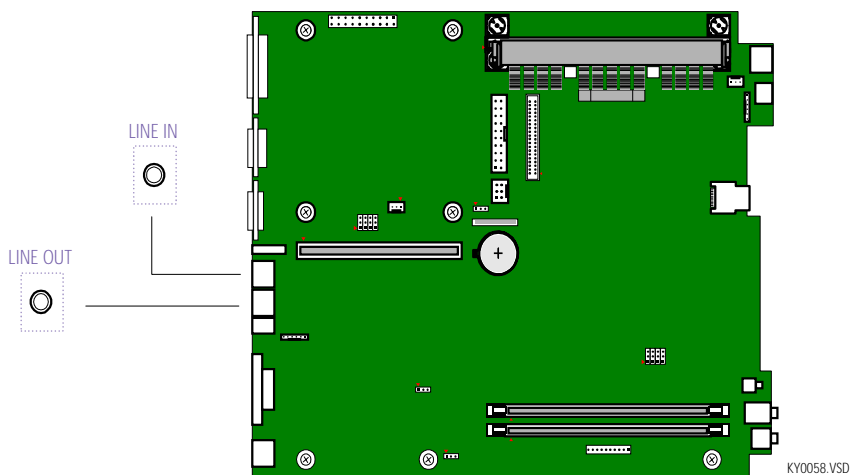
### Wake On LAN connector

Pin	Signal
1	+5V SB
2	GND
3	WOL signal



### LINE IN and LINE OUT Connectors

The LINE IN and LINE OUT jacks are stereo mini-jacks (3.5 mm) that connect to a stereo audio device (not an audio source from a video device). Connect a stereo audio output jack to the LINE IN jack, and the LINE OUT jack to a stereo audio input jack.



#### LINE IN jack

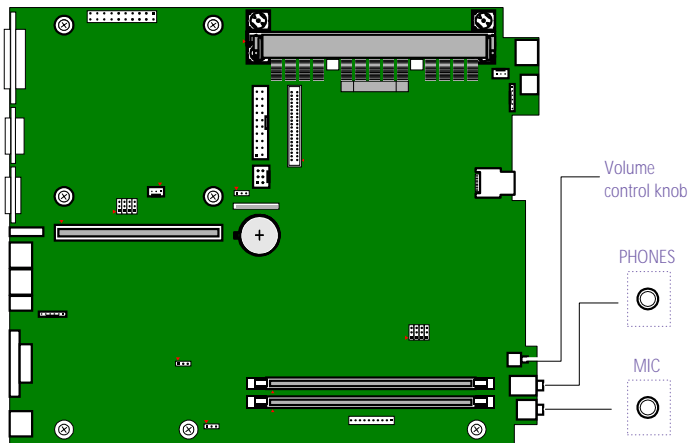
Pin	Signal
Sleeve	GND
Tip	Audio-Left In
Ring	Audio-Right In

#### LINE OUT jack

Pin	Signal
Sleeve	GND
Tip	Audio-Left Out
Ring	Audio-Right Out

## PHONE and MIC Connectors

The PHONES jack is a stereo mini-jack (3.5 mm) that connects to headphones. The MIC jack is a stereo mini-jack (3.5 mm) that connects to a microphone.



KY0058A-VSD

### PHONES jack

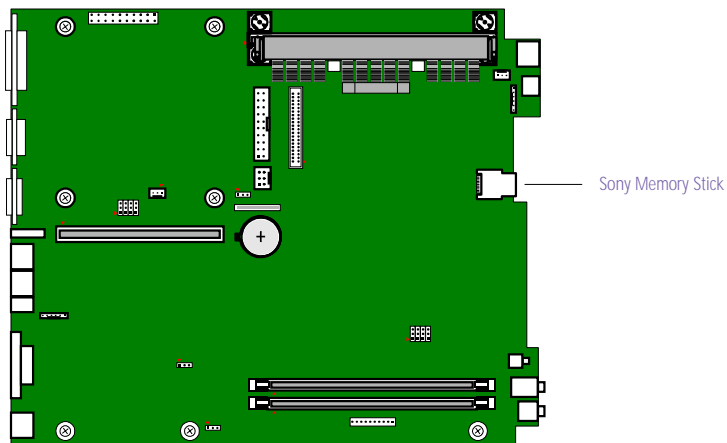
Pin	Signal
Sleeve	GND
Tip	Left out
Ring	Right out

### MIC jack

Pin	Signal
Sleeve	GND
Tip	Microphone mono in
Ring	Electret bias voltage

### *Sony Memory Stick Slot Connector*

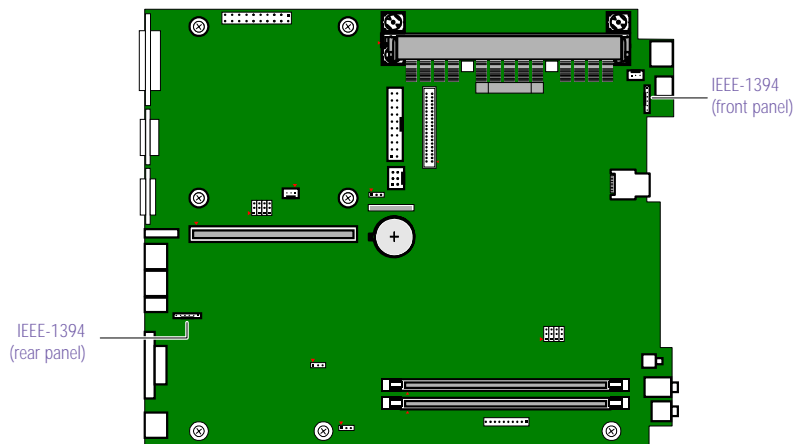
The Sony Memory Stick slot connector is a 10-pin MCR 103-10S connector.



KY0097.VSD

### *i.LINK Interface Header Connectors*

The system board has two i.LINK (IEEE-1394) interface header connectors. A cable connects each 6-pin header connector to the riser card.



MAN001.VS

#### **IEEE-1394 interface header connector (rear panel)**

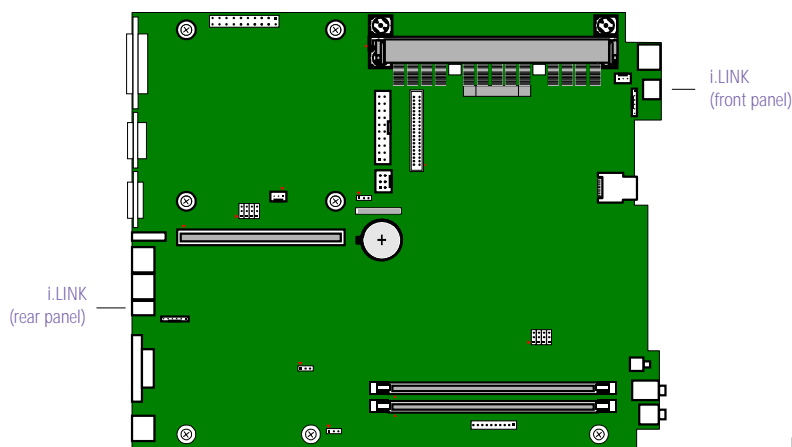
Pin	Signal Name
1	Ground
2	TA1+
3	TA1-
4	TB1+
5	TB1-
6	Ground

#### **IEEE-1394 interface header connector (front panel)**

Pin	Signal Name
1	Ground
2	TPA2+
3	TPA2-
4	TPB2+
5	TPB2-
6	Ground

### *i.LINK Connectors*

The system board has two i.LINK (IEEE-1394) connectors: a 4-pin connector is accessible from the front panel, and a 6-pin connector is accessible from the rear panel. Use the front-panel connector to connect to devices that use a 4-pin i.LINK (IEEE-1394) connector. Use the rear-panel connector to connect to devices that use a 6-pin\* i.LINK (IEEE-1394) connector.



MAN001A.VS

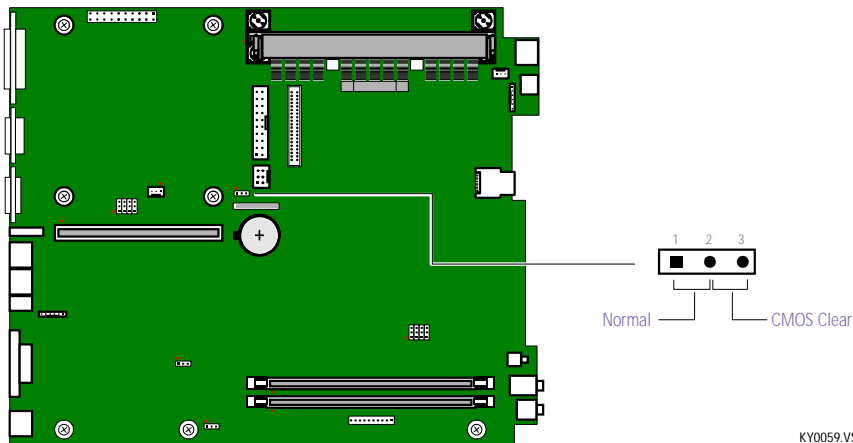
\* A 6-pin i.LINK connector can supply power from the computer to the device if the device also has a 6-pin i.LINK connector. A 4-pin i.LINK connector cannot supply power to a device.

## Configuration Jumpers

The configuration jumpers include CMOS Clear, VGA Enable, and INTEN.

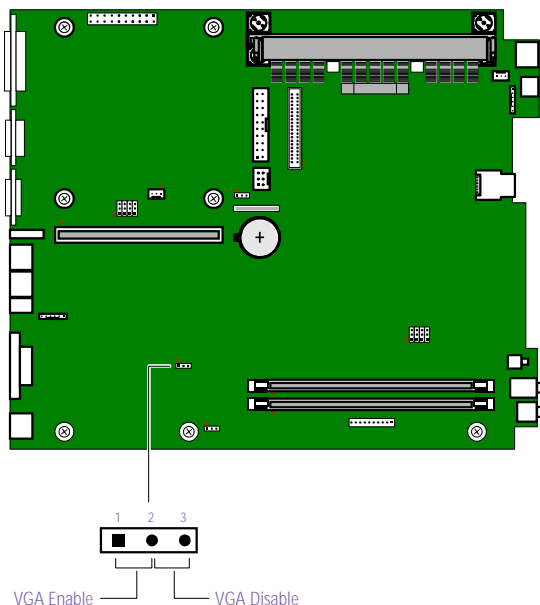
### CMOS Clear (CMOS)

A jumper cap is installed on pins 1 and 2 (Normal) of the CMOS header when the computer is shipped. Do not move the jumper cap to the CMOS Clear position unless otherwise directed by a technical support person.



### VGA Enable (VGAEN)

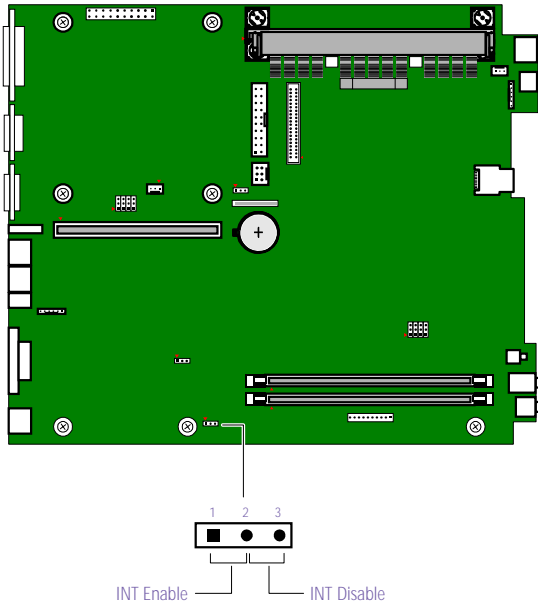
The VGAEN jumper is a 3-pin header that enables or disables the onboard VGA controller. The computer ships with a jumper cap in the Enable position.



KY0092.VSC

## VGA INT

The VGA INT jumper is a 3-pin header that enables or disables the onboard VGA interrupt. The computer ships with a jumper cap in the Enable position.



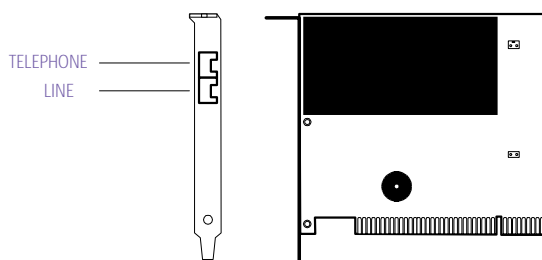
KY0093.VSC



# Chapter 5

## Fax/Modem Card

The K56flex™ technology/V.90-compatible data fax/modem card occupies PCI slot #1 in the Riser card. The fax/modem card has two RJ-11 jacks that are accessible from the rear panel: one to connect a telephone line, and one to connect a phone.



KY0038.VSC

<i>Name</i>	<i>Connector Type</i>	<i>Description</i>
TELEPHONE	RJ-11	Connects to phone
LINE	RJ-11	Connects to telephone line



# Chapter 6

## CMOS Setup Options

This chapter describes each screen in the CMOS SETUP UTILITY (see “Accessing the CMOS Setup Utility” on page 14).

The CMOS Setup Utility presents the following menu items on the main screen:

- ❑ STANDARD CMOS SETUP
- ❑ BIOS FEATURES SETUP
- ❑ CHIPSET FEATURES SETUP
- ❑ POWER MANAGEMENT SETUP
- ❑ PNP AND PCI SETUP
- ❑ LOAD SETUP DEFAULTS
- ❑ SUPERVISOR PASSWORDS
- ❑ USER PASSWORD
- ❑ IDE HDD AUTO DETECTION
- ❑ SAVE & EXIT SETUP
- ❑ EXIT WITHOUT SAVING

Use the arrow keys to choose a menu item. Press Enter to display the item's options. Use the arrow keys to select an option. Use the Page Up or Page Down keys to modify a setting.

Press Esc to go back to the main menu. Press F10 to save the changes and exit, or press Esc to discard the changes. Follow the on-screen prompts for other choices. The bottom of the screen presents a summary of the keyboard keys to use for navigation and control.

The current setting is shown in [brackets] unless the item cannot be modified. Items beneath the current setting indicate available settings.

## STANDARD CMOS SETUP Screen

Date (mm:dd:yy)	[Sat, Oct 16 1999]
Time (hh:mm:ss)	[14 : 52: 53]
HARD DISKS	
Primary Master	
Primary Slave	
Secondary Master	
Secondary Slave	
TYPE	[Auto] None User
MODE	[AUTO] NORMAL LBA LARGE
Drive A	[1.44M, 3.5 in.] 2.88M, 3.5 in. None 360K, 5.25 in. 1.2M, 5.25 in. 720K, 3.5 in.
Drive B	[None] 360K, 5.25 in. 1.2M, 5.25 in. 720K, 3.5 in. 1.44M, 3.5 in. 2.88M, 3.5 in.
Floppy 3 Mode Support	[Disabled] Drive A Drive B Both
Video	[EGA/VGA] CGA 40 CGA 80 MONO
Halt On	[All, But Keyboard] All, But Diskette All, But Disk/Key All Errors No Errors

## BIOS FEATURES SETUP Screen

CPU Internal Core Speed	500MHz*
Boot Virus Detection	[Enabled] Disabled
Processor Serial Number	[Disabled] Enabled
BIOS Update	[Enabled] Disabled
Quick Power On Self Test	[Enabled] Disabled
HDD Sequence SCSI/IDE First:	[IDE] SCSI
Boot Sequence	[CDROM,A,C] D,A E,A F,A C only LS/ZIP ,C LAN,A,C A,C C,A A,CDROM,C CDROM,C,A
Floppy Disk Access Control	[R/W] Read Only
IDE HDD Block Mode Sectors	[HDD MAX] Disabled 2 4 8 16 32

---

\* MHz denotes microprocessor internal clock speed. Other factors may affect application performance.

HDD S.M.A.R.T. capability	[Disabled] Enabled
Silent Boot	[Enabled] Disabled
Boot Up Sound	[Disabled] Enabled
Boot Up Volume*	[Medium] High Mute Low
PCI/VGA Palette Snoop	[Disabled] Enabled
Video ROM BIOS Shadow	[Enabled] Disabled
C8000 - CBFFF Shadow	[Disabled] Enabled
CC000 - CFFFF Shadow	[Disabled] Enabled
D0000 - D3FFF Shadow	[Disabled] Enabled
D4000 - D7FFF Shadow	[Disabled] Enabled
D8000 - DBFFF Shadow	[Disabled] Enabled
DC000 - DFFFF Shadow	[Disabled] Enabled
Boot Up NumLock Status	[Off] On
Typematic Rate Setting	[Disabled] Enabled

---

\* Becomes enabled only when Boot Up Sound is enabled.

Typematic Rate (Chars/Sec):	[6] 8 10 12 15 20 24 30
Typematic Delay (Msec)	[250] 500 750 1000
Security Option	[System] Setup
PS/2 Mouse Function Control	[Auto] Enabled

## CHIPSET FEATURES SETUP Screen

SDRAM Configuration	[By SPD] Disabled 7ns (143MHz) 8ns (125MHz)
SDRAM CAS Latency*	[2T] 3T
SDRAM RAS to CAS Delay*	[2T] 3T
SDRAM RAS Precharge Time*	[2T] 3T
SDRAM Idle Timer*	[8T] 10T 12T 16T 32T Infinite 0T 2T 4T
SDRAM MA Wait State	[Normal] Slow Fast
Graphics Aperture Size	[64MB] 128MB 256MB 4MB 8MB 16MB 32MB
Video Memory Cache Mode	[UC] USWC
PCI 2.1 Support	[Enabled] Disabled
DRAM are 64 (Not 72) bits wide	
Data Integrity Mode†	Non-ECC
Onboard FDC Controller	[Enabled] Disabled

---

\* These settings depend on the setting in SDRAM Configuration, and become enabled only when SDRAM Configuration is Disabled.

† Read only.



Onboard Serial Port 1	[3F8H/IRQ4] 2F8H/IRQ3 3E8H/IRQ4 2E8H/IRQ10 Disabled
Onboard Serial Port 2	[2F8H/IRQ3] 3E8H/IRQ4 2E8H/IRQ10 3F8H/IRQ4
Onboard Parallel Port	[378H/IRQ7] 278H/IRQ5 Disabled 3BCH/IRQ7
Parallel Port Mode	[Bi-direct] EPP ECP ECP+EPP
ECP DMA Select*	[3] 1
Onboard PCI IDE Enable	[Both] Primary Secondary Disable
IDE Ultra DMA Mode	[Auto] Disable
IDE0 Master PIO/DMA Mode	[Auto]
IDE0 Slave PIO/DMA Mode	0/0
IDE1 Master PIO/DMA Mode	1/0
IDE1 Slave PIO/DMA Mode	2/0
(each has identical options)	3/1 4/2

---

\* This setting is enabled when Parallel Port Mode is set to ECP or ECP+EPP.

## POWER MANAGEMENT SETUP Screen

Power Management	[User Define] Disable Min Saving Max Saving
Video Off Option	[Suspend -> Off] Always On
Video Off Method	[DPMS OFF] DPMS Reduce ON Blank Screen V/H SYNC+Blank DPMS Standby DPMS Suspend
** PM Timers **	
HDD Power Down	[Disable] 1 Min 2 Min 3 Min 4 Min 5 Min 6 Min 7 Min 8 Min 9 Min 10 Min 11 Min 12 Min 13 Min 14 Min 15 Min
Suspend Mode*	[Disable] 30 Sec 1 Min 2 Min 4 Min 8 Min 20 Min 30 Min 40 Min 1 Hour

---

\* Enabled only when Power Management is not set to Disable.

**\*\* Power Up Control \*\***

PWR Button < 4 Secs	[Soft Off] Suspend
PWR Up On Modem Act	[Disabled] Enabled
Automatic Power Up	[Disabled] Everyday By Date
Time (hh:mm:ss) Alarm <sup>*</sup>	[ 3: 2: 0]
Date Of Month Alarm <sup>†</sup>	[1] 2 . . . 31

**\*\* Fan Monitor \*\***

CPU Fan Speed	[(displays actual RPM)] Ignore
Power Fan Speed	[(displays actual RPM)] Ignore

**\*\* Thermal Monitor \*\***

CPU Temperature	[(displays actual temperature)] Ignore
MB Temperature	[(displays actual temperature)] Ignore

**\*\* Voltage Monitor \*\***

VCORE Voltage	[(displays actual voltage)] Ignore
+3.3V Voltage	[(displays actual voltage)] Ignore
+5V Voltage	[(displays actual voltage)] Ignore
+12V Voltage	[(displays actual voltage)] Ignore
-12V Voltage	[(displays actual voltage)] Ignore

---

<sup>\*</sup> Displays only when Automatic Power Up is Everyday or By Date.

<sup>†</sup> Displays only when Automatic Power Up is By Date.

## *PNP AND PCI SETUP Screen*

PNP OS Installed	[No] Yes
Slot 1 IRQ	[Auto]
Slot 2 IRQ	NA 3 4 5 7 9 10 11 12 14 15
PCI Latency Timer	[32] PCI Clock . . . 255 PCI Clock 0 PCI Clock 1 PCI Clock . . . 31 PCI Clock
IRQ 3 Used By ISA	[No/ICU] Yes
IRQ 4 Used By ISA	[No/ICU] Yes
IRQ 5 Used By ISA	[Yes] No/ICU
IRQ 7 Used By ISA	[No/ICU] Yes
IRQ 9 Used By ISA	[No/ICU] Yes
IRQ 10 Used By ISA	[No/ICU] Yes
IRQ 11 Used By ISA	[No/ICU] Yes
IRQ 12 Used By ISA	[No/ICU] Yes

IRQ 14 Used By ISA	[No/ICU] Yes
IRQ 15 Used By ISA	[No/ICU] Yes
DMA 1 Used By ISA	[No/ICU] Yes
DMA 3 Used By ISA	[No/ICU] Yes
DMA 5 Used By ISA	[No/ICU] Yes
ISA MEM Block BASE	[No/ICU] C800 CC00 D000 D400 D800 DC00
USB IRQ	[Enabled] Disabled
ONB VGA BIOS First	[No] Yes
Onboard Audio	[Enabled] Disabled]
Onboard Cardbus	[Enabled] Disabled
Onboard 1394	[Enabled] Disabled

### *LOAD SETUP DEFAULTS Screen*

Press Enter to load setup defaults except standard CMOS setup.

### *SUPERVISOR PASSWORD Screen*

Press Enter to change, set, or disable the supervisor password. Follow the prompts.

### *USER PASSWORD Screen*

Press Enter to change, set, or disable the user password. Follow the prompts.

### *IDE HDD AUTO DETECTION Screen*

Press Enter to auto-configure the hard disk drives.

### *SAVE & EXIT SETUP Screen*

Press Enter to save changes in the CMOS and exit CMOS Setup Utility. Follow the prompts.

### *EXIT WITHOUT SAVING Screen*

Press Enter to exit CMOS Setup Utility without saving the changes. Follow the prompts.

# *Chapter 7*

## *Miscellaneous Technical Information*

This chapter contains information on the following subjects:

- ❑ User and Supervisor password
- ❑ Beep code error messages
- ❑ PCI configuration status and error messages
- ❑ DMA channel assignments
- ❑ IRQ assignments
- ❑ System I/O address map
- ❑ Memory map

## About User and Supervisor Passwords

The system allows you to specify up to two passwords (a User password and a Supervisor password) in the BIOS Setup Utility. The User password is required; the Supervisor password is optional.

Access to the BIOS Setup Utility depends on which passwords were previously set, as indicated next.

<i>If you set these passwords...</i>	<i>...the following passwords are required:</i>
User password only	User password is required at bootup.
Supervisor password only	No password is required at bootup. Supervisor password is required by most setup options.
Both passwords	User password is required at bootup. Supervisor password is required by most setup options.



## *Beep Code Error Messages*

During a normal bootup, a single short beep signifies that the system is OK. Other beep patterns signify errors. The number of beeps indicates the specific error that occurred.

The Sony Online Support technical representative will need to know how many beeps your system produces if there is an error, so be sure to count the number of beeps before calling for support.

## PCI Configuration Status and Error Messages

The following is a list of status and error messages that may appear on your system from time to time.

<i>Message</i>	<i>Meaning</i>
Floppy Disk Controller Resource Conflict	The diskette controller has requested a resource that is already in use.
CMOS Checksum Error, CMOS Cleared	The CMOS data was reinitialized due to an CMOS checksum error.
CMOS Data Invalid, CMOS Cleared	Invalid entry in the CMOS.
Parallel Port Resource Conflict	The parallel port has requested a resource that is already in use.
PCI Error Log is Full	This message is displayed when more than 15 PCI conflict errors are detected. No additional PCI errors can be logged.
PCI I/O Port Conflict	Two devices requested the same resource, resulting in a conflict.
PCI IRQ Conflict	Two devices requested the same resource, resulting in a conflict.
PCI Memory Conflict	Two devices requested the same resource, resulting in a conflict.
Primary Boot Device Not Found	The designated primary boot device (hard disk drive, diskette drive, DVD-ROM drive, or network drive) could not be found.
Primary IDE Controller Resource Conflict	The primary IDE controller has requested a resource that is already in use.
Primary Input Device Not Found	The designated primary input device (keyboard, mouse, or other, if input is redirected) could not be found.
Primary Output Device Not Found	The designated primary output device (display, serial port, or other, if input is redirected) could not be found.
Secondary IDE Controller Resource Conflict	The secondary IDE controller has requested a resource that is already in use.
Serial Port 1 Resource Conflict	Serial port 1 has requested a resource that is already in use.

## *DMA Channel Assignments*

This shows the factory default values. Windows 98 reassigns resources to best meet the needs of a particular configuration.

<i>DMA Channel</i>	<i>Default Assignment</i>
2	Standard diskette drive controller
3	ECP printer port (LPT1) for ECP
4	Direct memory access controller

## IRQ Assignments



This shows the factory default values. Windows 98 will reassign resources to best meet the needs of a particular configuration. PCI IRQs can be shared between several PCI devices.

IRQ #	Default Assignment
00	System timer
01	Standard 101/102-key or Microsoft Natural Keyboard
02	Programmable interrupt controller
03	Communications port (COM2)
04	Communications port (COM1)
06	Standard diskette controller
07	ECP printer port (LPT1)
08	System CMOS/real time clock
09	Intel 82371AB/EB PCI to USB universal host controller
09	Vortex AU8810 PCI audio
09	SCI IRQ used by ACPI bus
09	Vortex AU8810 multifunction PCI platform
09	LT Win Modem
09	ACPI IRQ holder for PCI IRQ steering
09	ACPI IRQ holder for PCI IRQ steering
09	Ricoh RL5C475 cardbus controller
10	Sony OHCI i.LINK(IEEE 1394) PCI host controller
10	ACPI IRQ holder for PCI IRQ steering
11	RAGE LT PRO AGP 2X (English)
11	ACPI IRQ holder for PCI IRQ steering
12	WheelMouse1 (PS/2)
13	Numeric data processor
14	Primary IDE controller (dual FIFO)
14	Intel 82371AB/EB PCI bus master IDE controller
15	Secondary IDE controller (dual FIFO)
15	Intel 82371AB/EB PCI bus master IDE controller

## System I/O Address Map

<i>Address Range (hex)</i>	<i>Description</i>
0010h-001Fh	Motherboard resources
0020h-0021h	Programmable interrupt controller
0022h-003Fh	Motherboard resources
0040h-0043h	System timer
0044h-005Fh	Motherboard resources
0060h-0060h	Standard 101/102-key or Microsoft Natural Keyboard
0061h-0061h	System speaker
0062h-0063h	Motherboard resources
0064h-0064h	Standard 101/102-key or Microsoft Natural Keyboard
0065h-006Fh	Motherboard resources
0070h-0073h	System CMOS/real time clock
0074h-007Fh	Motherboard resources
0080h-0090h	Direct memory access controller
0091h-0093h	Motherboard resources
0094h-009Fh	Direct memory access controller
00A0h-00A1h	Programmable interrupt controller
00A2h-00BFh	Motherboard resources
00C0h-00DFh	Direct memory access controller
00E0h-00EFh	Motherboard resources
00F0h-00FFh	Numeric data processor
0170h-0177h	Secondary IDE controller (dual FIFO)
0170h-0177h	Intel 82371AB/EB PCI bus master IDE controller
01F0h-01F7h	Primary IDE controller (dual FIFO)
01F0h-01F7h	Intel 82371AB/EB PCI bus master IDE controller
0280h-028Fh	Motherboard resources
0290h-0297h	Motherboard resources
02F8h-02FFh	Communications port (COM2)
0376h-0376h	Secondary IDE controller (dual FIFO)
0376h-0376h	Intel 82371AB/EB PCI bus master IDE controller
0378h-037Bh	ECP Printer port (LPT1)
03B0h-03BBh	RAGE LT PRO AGP 2X (English)
03C0h-03DFh	RAGE LT PRO AGP 2X (English)

<i>Address Range (hex)</i>	<i>Description</i>
03F0h-03F1h	Motherboard resources
03F2h-03F5h	Standard diskette controller
03F6h-03F6h	Primary IDE controller (dual FIFO)
03F6h-03F6h	Intel 82371AB/EB PCI bus master IDE controller
03F7h-03F7h	Standard diskette controller
03F8h-03FFh	Communications port (COM1)
04D0h-04D1h	Motherboard resources
0778h-077Bh	ECP printer port (LPT1)
0CF8h-0CFFh	PCI bus
A000h-A0FFh	LT Win Modem
A400h-A407h	LT Win Modem
A800h-A81Fh	Intel 82371AB/EB PCI to USB universal host controller
B000h-B007h	Primary IDE controller (dual FIFO)
B000h-B00Fh	Intel 82371AB/EB PCI bus master IDE controller
B008h-B00Fh	Secondary IDE controller (dual FIFO)
B400h-B407h	Vortex AU8810 PCI audio
B400h-B407h	Vortex AU8810 multifunction PCI platform
B800h-B807h	Vortex AU8810 PCI audio
B800h-B807h	Vortex AU8810 multifunction PCI platform
D000h-DFFFh	Intel 82443BX Pentium® III processor to AGP controller
D800h-D8FFh	RAGE LT PRO AGP 2X (English)
E400h-E43Fh	Motherboard resources
E800h-E80Fh	Motherboard resources

## Memory Map

Address Range (hex)	Description
00000000h-0009FFFFh	System board extension for ACPI BIOS
000A0000h-000AFFFFh	RAGE LT PRO AGP 2X (English)
000B0000h-000BFFFFh	RAGE LT PRO AGP 2X (English)
000C0000h-000CBFFFh	RAGE LT PRO AGP 2X (English)
000F0000h-000FFFFFh	System board extension for ACPI BIOS
00100000h-07FFFFFFh	System board extension for ACPI BIOS
08000000h-08000FFFh	Ricoh RL5C475 cardbus controller
DF800000h-DF800FFFh	LT Win Modem
E0000000h-E003FFFFh	Vortex AU8810 PCI audio
E0000000h-E003FFFFh	Vortex AU8810 multifunction PCI platform
E0800000h-E0803FFFh	Sony OHCI i.LINK(IEEE-1394) PCI host controller
E1000000h-E10007FFh	Sony OHCI i.LINK(IEEE-1394) PCI host controller
E1800000h-E3EFFFFFh	Intel 82443BX Pentium® III processor to AGP controller
E1800000h-E1800FFFh	RAGE LT PRO AGP 2X (English)
E1820000h-E183FFFFh	RAGE LT PRO AGP 2X (English)
E2000000h-E2FFFFFFh	RAGE LT PRO AGP 2X (English)
E3F00000h-E3FFFFFFh	Intel 82443BX Pentium® III processor to AGP controller
E4000000h-E7FFFFFFh	Intel 82443BX/DX/ZX Pentium® III processor to PCI bridge
FFFE0000h-FFFFFFFFh	System board extension for ACPI BIOS





# Chapter 8

## Specifications

This chapter describes the technical specifications for the Sony PCV-L620 computer.

### Processor

---

500 MHz \* Intel® Pentium® III processor (with 100 MHz FSB)

---

\* MHz denotes microprocessor internal clock speed. Other factors may affect application performance.

### Chipset

---

Intel 440BX-100 AGP/PCI/ISA chipset

---

### PCI Bus

---

PCI Level 2.1, 33 MHz zero wait state

---

2 PCI slots (1 open)

---

### Memory Modules (DIMMs)

---

Installed memory	128 Mbytes SDRAM
Maximum memory	256 Mbytes (128Mbytes in each socket)
Voltage	3.3 V memory only
Pins	168-pins with gold-plated contacts
SDRAM type	PC100 (100 MHz), unrestricted CAS latency 2, unbuffered, 64 bits (non-ECC)

---

## DIMM Configurations

<i>DIMM1</i> *	<i>DIMM2</i> *
0, 16, 32, 64, 128	0, 16, 32, 64, 128

\* The PCV-L620 is shipped with 128 MB. SDRAM is expandable to 256 MB. Computer SDRAM is unbuffered DIMM, specification Rev. 1.0 or later. Supports SDRAM memory. Does not support EDO memory or buffered DIMM memory. Memory can be installed in either socket. Memory size can vary between sockets. DIMMs can be single- or double-sided. DIMMs must be 3.3V unbuffered 4-clock, 64-bit or 72-bit, 66 MHz or 100 MHz SDRAM module. Use only 100 MHz FSB-supported memory. Do not mix 66 MHz memory with 100 MHz memory.

## L2 Cache

Installed	512 kbytes secondary write-back cache (in processor), direct-mapped organization, BSB cache
Controller	Intel 440BX Host Bridge/Controller

## Graphics

Controller*	ATI Rage™ LT Pro 64-bit 2X AGP graphics accelerator including 1X and 2X modes with sidebands
Video memory	8 Mbytes
Resolution (displayed resolution depends on the graphics display you use)	
True color (32 bits)	Up to 1280 x 1024 at 75 Hz non-interlaced
True color (24 bits)	Up to 1600 x 1200 at 75 Hz non-interlaced
High color (16 bits)	Up to 1600 x 1200 at 75 Hz non-interlaced
256 colors (8 bits)	Up to 1600 x 1200 at 85 Hz non-interlaced

\* Supports DDC-1 and DDC-2b standards for Plug and Play displays.

## Audio

Sound chip	Aureal 8810 PCI sound controller plus AC97
Wave synthesis	Aureal wavetable synthesis effect
Sound effects	A3D stereo
Audio sampling rate	Up to 48 kHz at 16 bits
Front panel	Mic (for microphone) Phones (for stereo headphone) Volume control (for headphone)
Rear panel	Line In (from audio output connector) Line Out (to audio input connector)

## Communications

Modem	K56flex technology, V.90-compatible data/fax modem*
Fax	14.4 kbps maximum

\* Due to FCC limitations, the maximum permissible data speed is 53 kbps during download transmissions. Actual data speeds may vary due to a variety of factors.

## I/O and Expansion Slots

Serial ports	One high-speed NS16C550-compatible port
Parallel port	One high-speed bi-directional Centronics-compatible port with ECP and EPP modes
Modem ports	Two RJ-11 connectors (for line and phone)
USB ports	USB1 (front panel) and USB2 (rear panel)
PCI slots	One available slot. Maximum length for add-in cards is 6.6 inches
IDE connectors	Primary and secondary

## i.LINK Interface

Ports	Two (one at front panel, one at rear panel)
Speed	Up to 400 Mbps
Chipset	TI TSB12LV22 and TSB41LV03 OHCI
Enable/disable function	From BIOS

## Drives and Controllers

Diskette controller	765A-compatible (supports up to 2.88 MByte)
Diskette drive	1.44 MByte 3.5-inch MFDD
EIDE controller	Supports PIO Mode 4 EIDE drives and Ultra DMA/33 Mode drives
IDE hard drive*	13.0 GByte <sup>†</sup>
DVD-ROM drive	CD-ROM disc: 24X (maximum performance) <sup>‡</sup> DVD-ROM disc: 4.8X (maximum performance)

\* Bus-mastering EIDE driver installed.

<sup>†</sup> GB means one billion bytes when referring to hard drive capacity. Accessible capacity may vary.

<sup>‡</sup> Data on a DVD-ROM is read at a variable transfer rate, ranging from 2X at the innermost track to 4.8X at the outermost track (the data transfer standard 1X rate is 1385 kbytes/s). The average data transfer rate is 3.6X (4986 kbytes/s). Data on a CD-ROM is read at a variable transfer rate, ranging from 10.5X at the innermost track to 24X at the outermost track (the data transfer standard 1X rate is 150 kbytes/s). The average data transfer is 18X (2700 kbytes/s).

## System CMOS

Make and model	Award
ROM	2Mbit flash-ROM
Passwords	User and supervisor passwords supported
Recovery boot block	Supported
Power management	APM 1.2
Advanced features	ACPI-1.0 compliant hardware for use with APM and PNP BIOS APIs
Plug and Play devices	Supported with steerable DMA channels and interrupts
Special features	PC-98 ready, multi-boot, PCI add-in card auto-configure

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