SONY.

VAIO® Slimtop™ Computer/
VAIO Slimtop LCD Computer
Reference Manual

PCV-L400/PCV-L600/PCV-L600S

Notice to Users

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-L400⁄PCV-L600⁄ PCV-L600S

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-L400/PCV-L600/
PCV-L600S
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 the appropriate section of this manual.

Front View

Flip-down panel
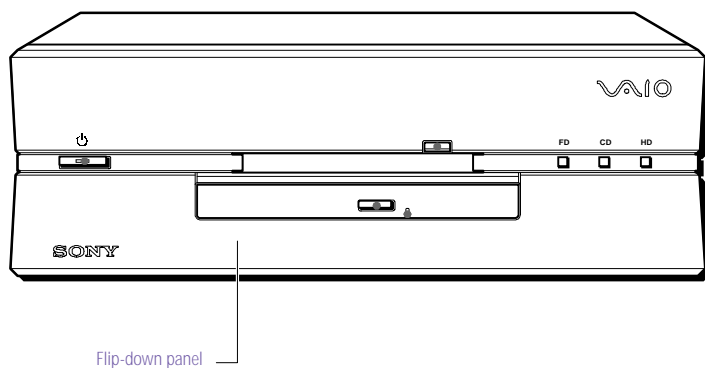
SHA0001.VSD

Drives
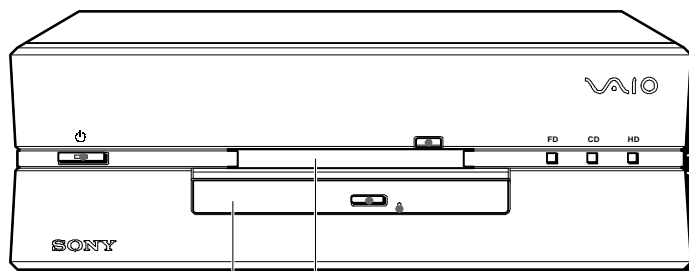
CD-ROM disc drive   Floppy disk drive

SHA0002.VSD

Drive	Description
Diskette drive	3.5-inch, 1.44 Mbyte.
CD-ROM drive	CD-ROM disc read: 24X (maximum performance).*

* Data on a CD-ROM disc is read at a variable transfer rate, ranging from 10.3X at the innermost track to 24X at the outermost track (the data transfer standard 1X rate is 150 kbytes/s). The average data transfer rate is 17X (2550 kbytes/s).

Buttons and Switches

Power on/off

Manual eject hole

Floppy disk eject
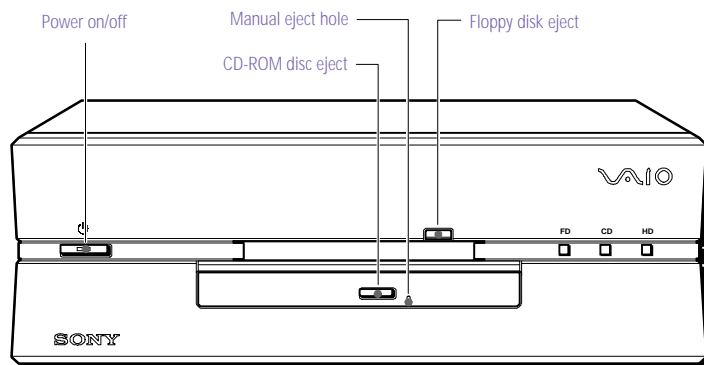
CD-ROM disc eject

SHA0003.VSD

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

Indicators

Power on/off

VAIO

FD   CD   HD

SONY

Diskette drive access indicator

CD-ROM drive access indicator

Hard drive access indicator
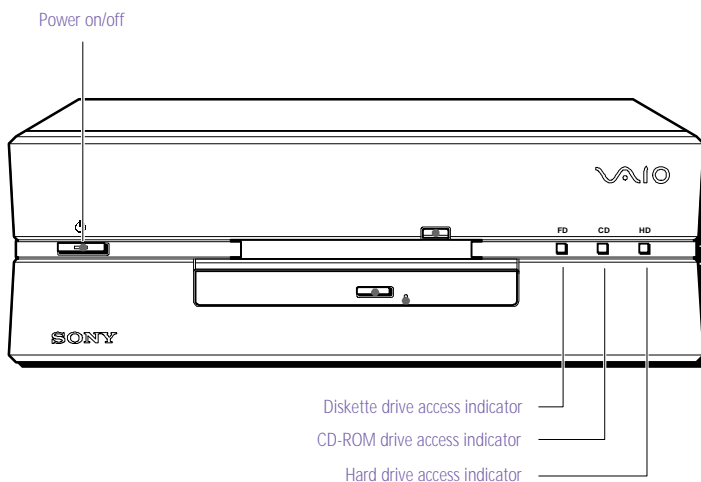
SHA0004.VSD

Indicator	Description
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.
CD-ROM drive access indicator	On (orange) indicates CD-ROM disc activity.
Hard disk drive access indicator	On (orange) indicates hard disk drive activity.

Connectors
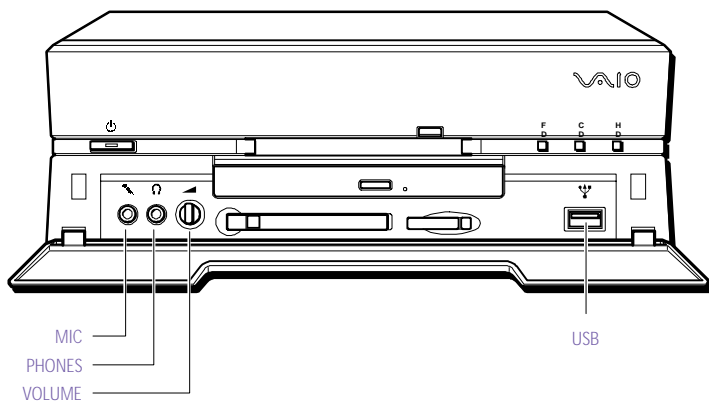
SHA0005.VSD

Connector	Description
MIC	Connects to microphone.
PHONES	Connects to headphones.
USB	Connects to USB devices.
VOLUME	Controls volume.

Slots

PC Card Slot   Memory Stick
Media Slot
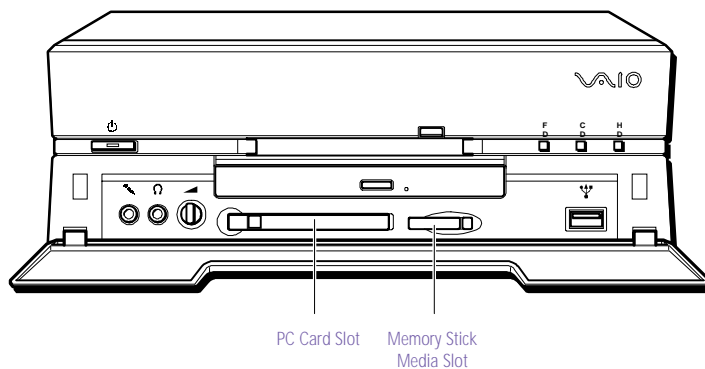
SHA0006.VSD

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

Rear View
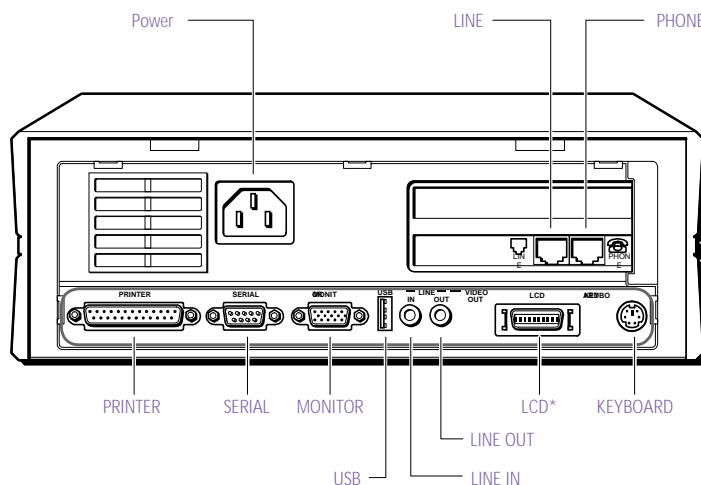
SHA0007.VSD

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
LCD	Connects to VAIO Slimtop LCD[*] monitor
KEYBOARD	Connects to keyboard

* VAIO Slimtop LCD models only.

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.
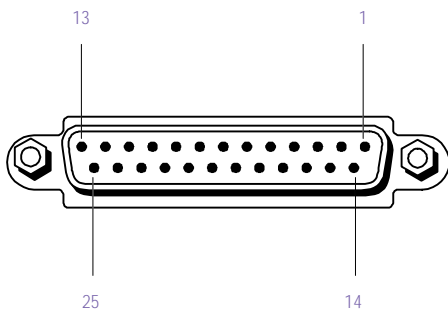
KY0005.VSD

SERIAL Port

The SERIAL port is a standard 9-pin DB-9 male connector assigned as COM1.
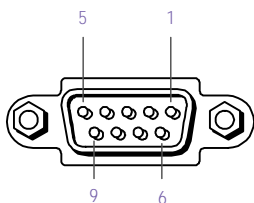
KY0057.VSD

MONITOR

The MONITOR connector is a standard 15-pin female high-density VGA-type connector.
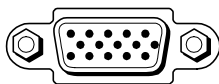
SHA0009.VSD

USB Ports

A USB port is located on the front and real panels.

Rear panel
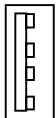
Front panel

KY0003.VSD

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   LINE IN   LINE OUT

Front panel   Rear panel

KY0013.VSD

Connector	Description
PHONES	1.0 Vrms output (typical)
MIC	Electrolet condenser microphone input
LINE IN	1.0 Vrms input (typical), 10 Kohm impedance
LINE OUT	2.0 Vrms out (max)

LCD (VAIO Slimtop LCD models only)

The LCD connector is a 26-pin female MDR-type connector.
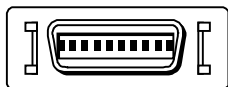
KY0004.VSD

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

KEYBOARD

The KEYBOARD connector is a standard 6-pin PS/2$^{®}$-type female connector.
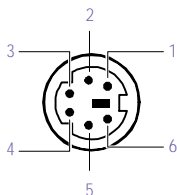
KY0002.VSD

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.
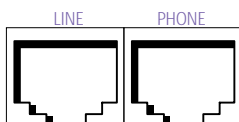
KY0014.VSD

✍ 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.

PCI Slot
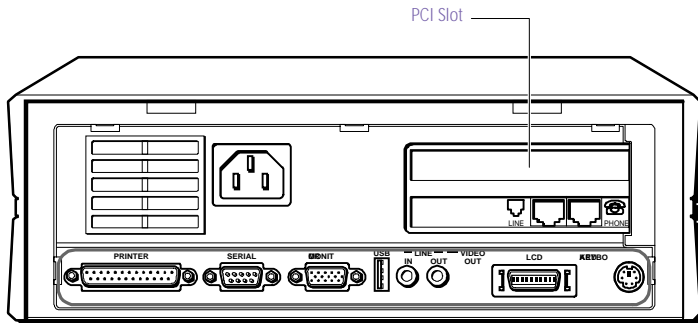
SHA0008.VSD

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 65 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 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, 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 Display icon.

3 Click the Screen Saver tab. The Energy-Star dialog box opens.

4 Click Settings.

The Power Management Properties dialog box opens, with the Power Schemes tab displayed.
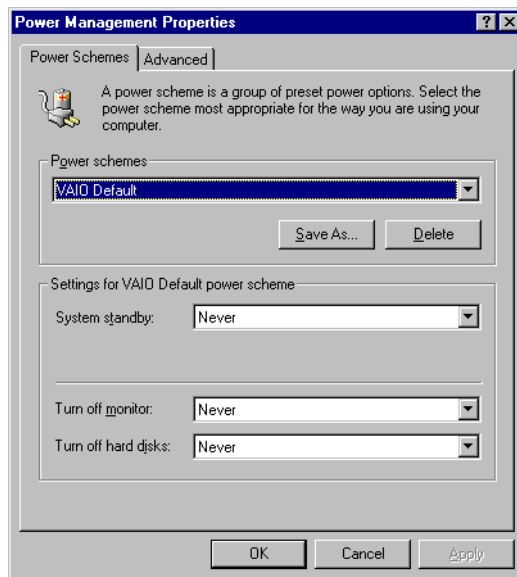
5 Select the power scheme that is most appropriate for the way you use your computer.

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.

6 To save a new power scheme, first modify the settings, click Save As, type a descriptive name, and then click OK.

7 Click the Advanced tab.

8 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 20).

2 Set the jumpers as directed by a service technician (also see "CMOS Clear (CMOS)" on page 59).

3 Reinstall the system cover (see "Replacing the System Cover" on page 21).

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 20).

2   Set the jumper to enable or disable (see "VGA Enable (VGAEN)" on page 60).

3   Reinstall the system cover (see "Replacing the System Cover" on page 21).

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 20).

2   Set the jumper to enable or disable (see "INTEN" on page 61).

3   Reinstall the system cover (see "Replacing the System Cover" on page 21).

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.
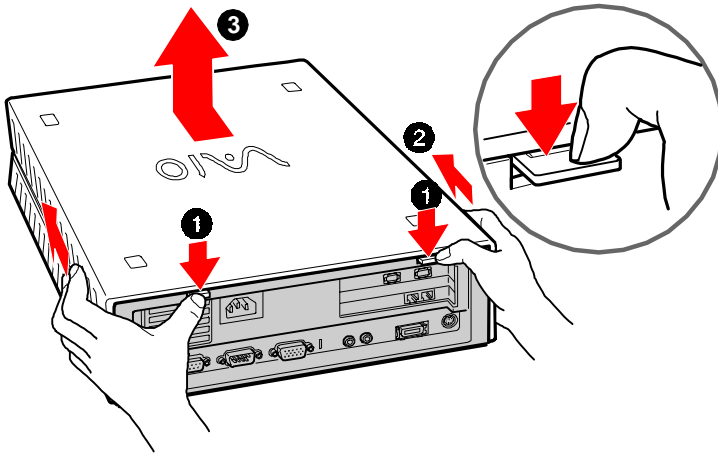
KY0064B.VSD

✎ 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 ½ 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.
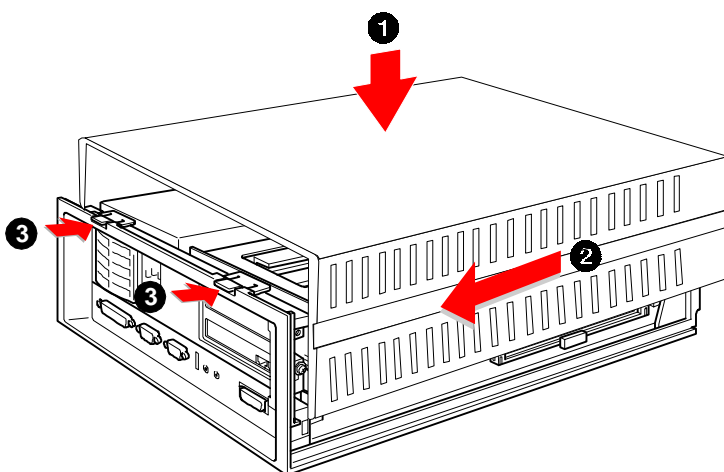
KY0077.VSD

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 20).

2 Remove the slot cover adjacent to the selected slot connector on the system board (see "Removing a Slot Cover" on page 32).

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. Assure that the top of the bracket fits snugly against the chassis lip after the card is fully inserted.

KY0070.VSD
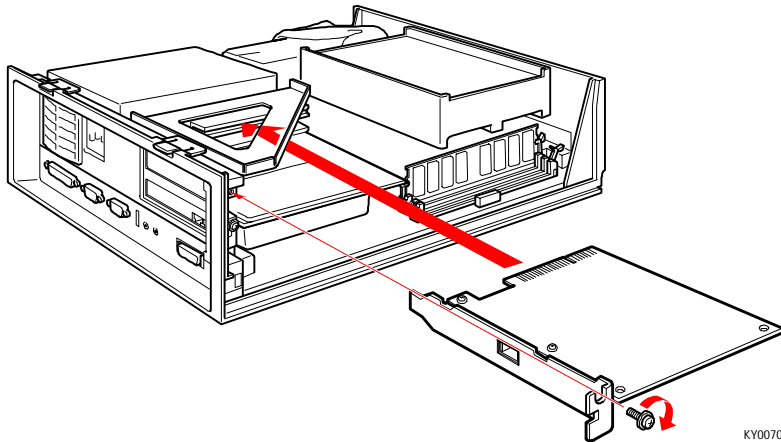
4 Attach any necessary cables to the card (see the instructions that came with the add-in card).

5 Replace the system cover (see "Replacing the System Cover" on page 21).

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 20).

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.

KY0071.VSD
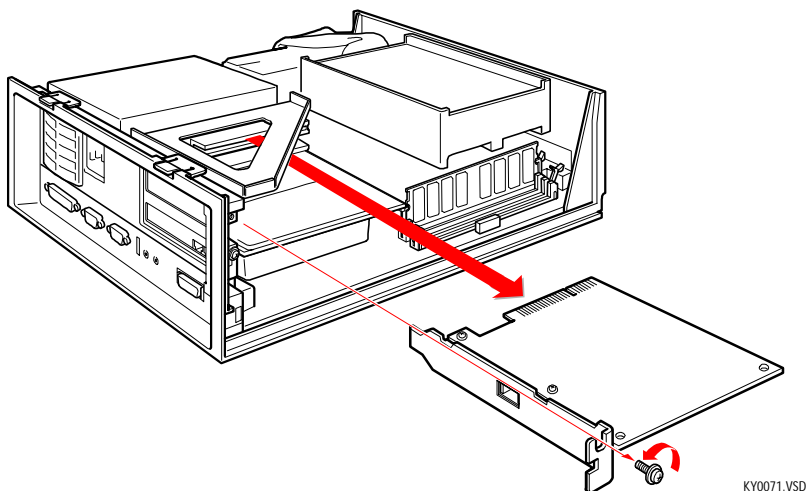
> ✏ Grasp the card with one hand on each end, and gently pull up as you rock the card from side to side.

> ! 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 33).

6 Replace the system cover (see "Replacing the System Cover" on page 21).

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 65). 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 20).

8 Remove all add-in cards (see "Removing an Add-in Card" on page 23) to gain access to the battery. You may also need to disconnect some cables.

> ! Touch any exposed metal part of chassis to discharge static electricity in your body before handling an add-in card or other sensitive electronic component.

9 Insert a small flathead screwdriver into the small space at the top of the battery holder.
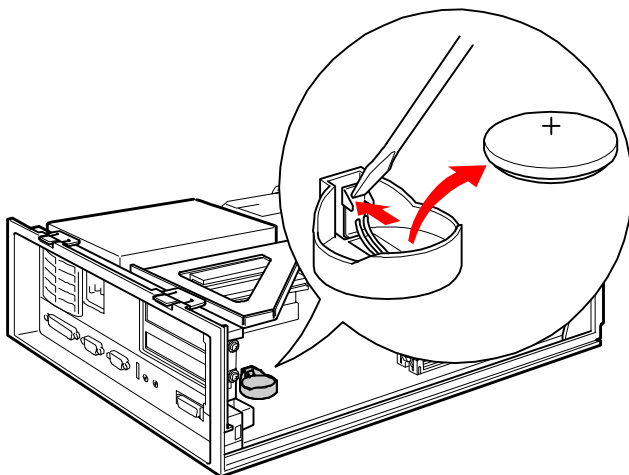
KY0072.VSD

10 Gently pry the battery out and dispose of it according to the instructions that came with the new battery.

11 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 all add-in cards that were removed.

13 Reconnect any cables that were disconnected.

14 Replace the system cover (see "Replacing the System Cover" on page 21).

15 Reconnect the power cord and turn on the computer.

16 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.

17 Refer to the list you made in step 3 and restore any non-default CMOS settings (see "CMOS Setup Options" on page 65).

18 Select SAVE & EXIT SETUP from the main menu using the arrow keys, then press Enter.

19 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 30).

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)[*]

DIMM1	DIMM2
0, 8, 16, 32, 64, 128	0, 8, 16, 32, 64, 128

* The PCV-L400 is shipped with 64 MB. The PCV-L600 and PCV-L600S are shipped with 128 MB. SDRAM is expandable to 256 MB on all models.

> ! 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.

Press down here

Handles

Memory module (DIMM)

1

Indicates pin 1

OM04586.VSD
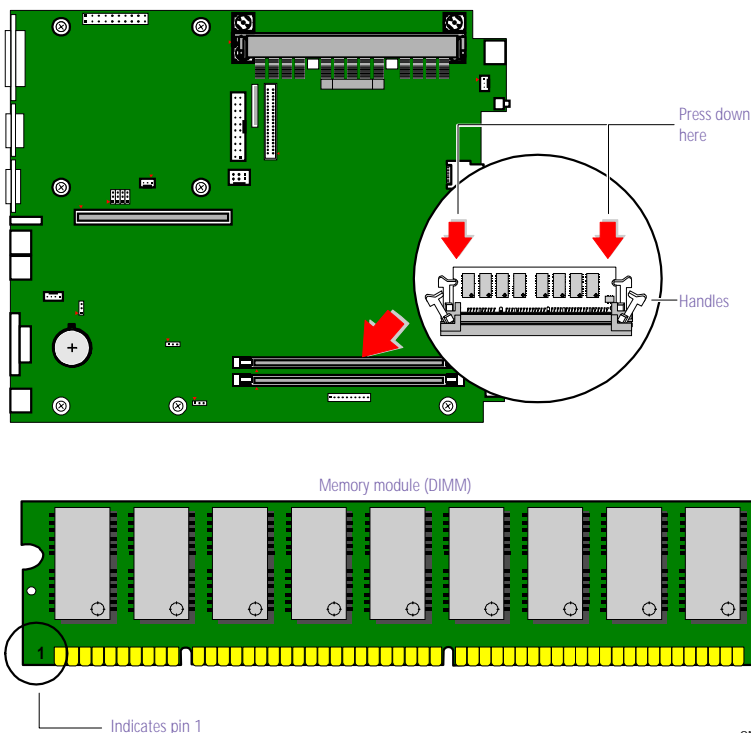
5   Carefully but firmly insert the edge of the module into the socket.

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 21).

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 20).

2 Locate the memory module you wish to remove.
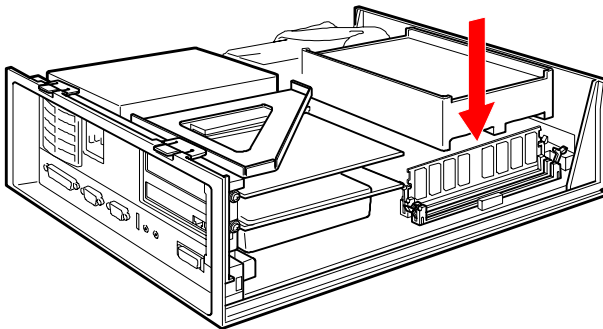
KY0073.VSD

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

Push out

Handles
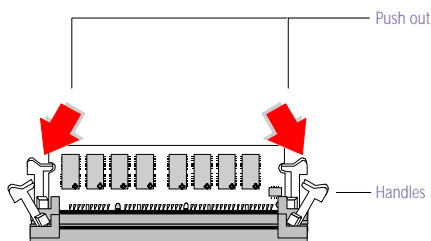
KY0042.VSD

4   Lift the memory module out by grasping it by its edges. Store the
module in a static-free bag.
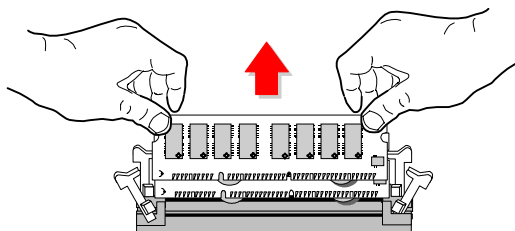
KY0043.VSD

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

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.
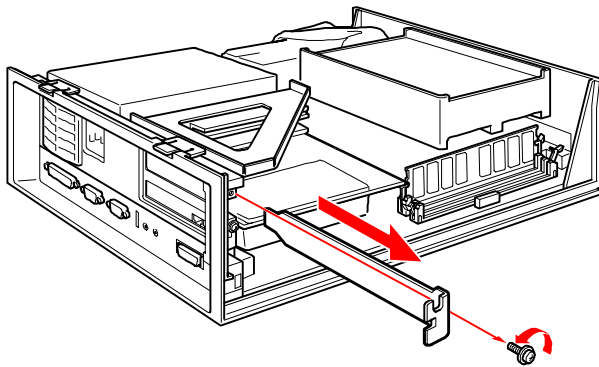
KY0069.VSD

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.
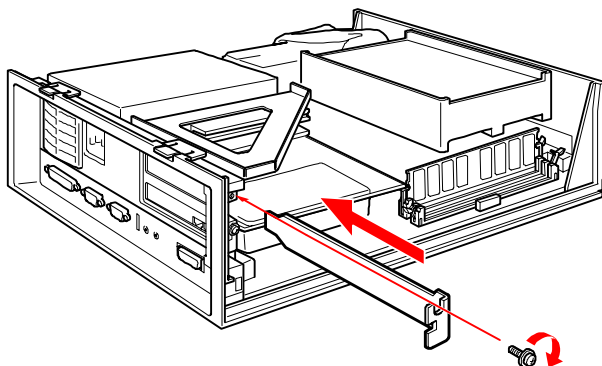
KY0076.VSD

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
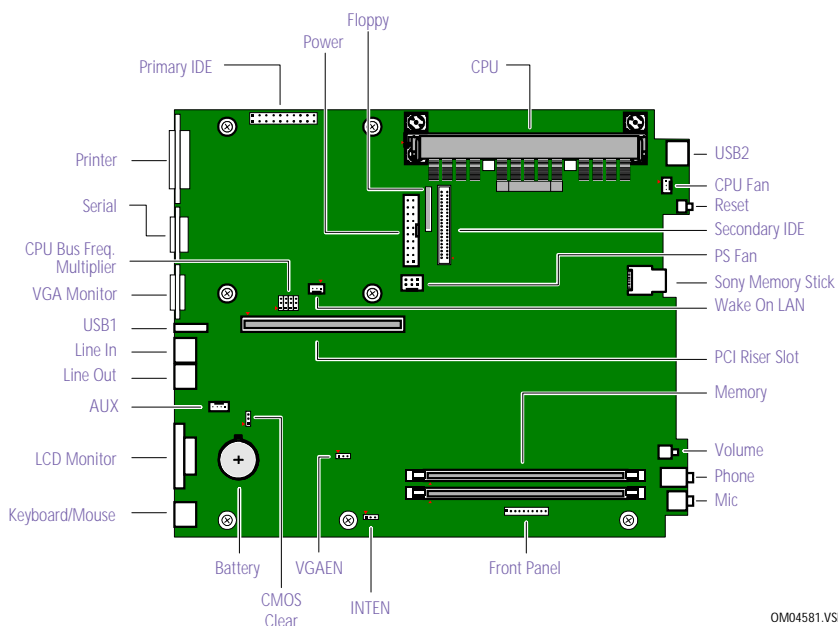
Connectors

Front Panel Header

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

Front panel header
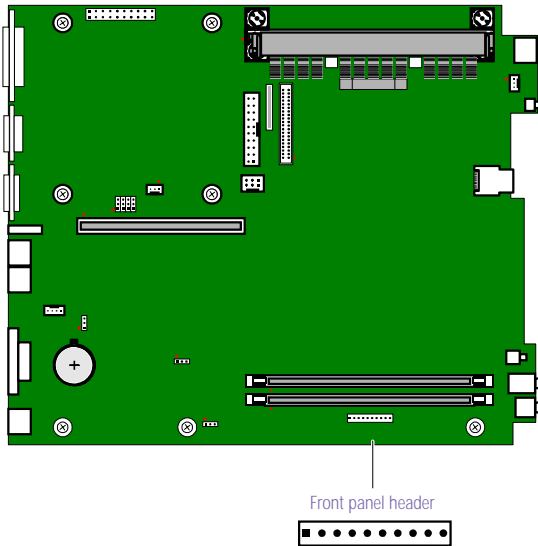
KY0031.VSD

Pin #	Name	Description
1	+5	+5V from power supply
2	LED (CD-ROM)	Connects to LED on CD-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.

FLOPPY
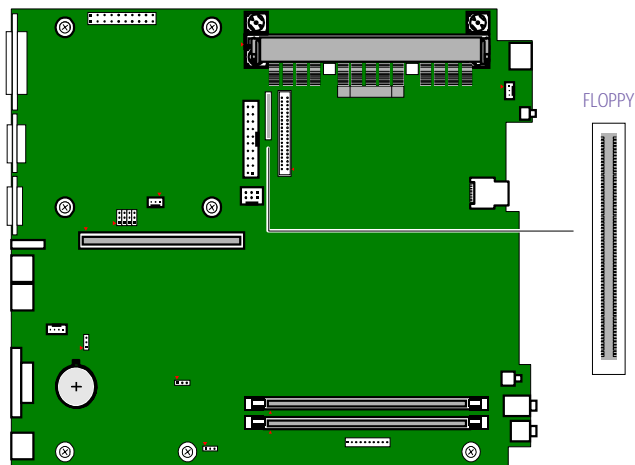
OM04701H.VSD

Diskette Drive connector

Pin	Signal
1	+5V
2	INDEX
3	+5V
4	DRIVE_SELECT_0#
5	+5V
6	DSKCHG#
7	NC
8	READY#
9	HD
10	MOTOR_ON#
11	NC
12	DIRECTION#
13	MODE_SELECT#
14	STEP#
15	GND
16	WRITE_DATA#

Diskette Drive connector *(continued)*

Pin	Signal
17	GND
18	WRITE_GATE#
19	GND
20	TRACK_00#
21	GND
22	WRITE_PROTECT#
23	GND
24	READ_DATA#
25	GND
26	SIDE_ONE_SELECT#

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.
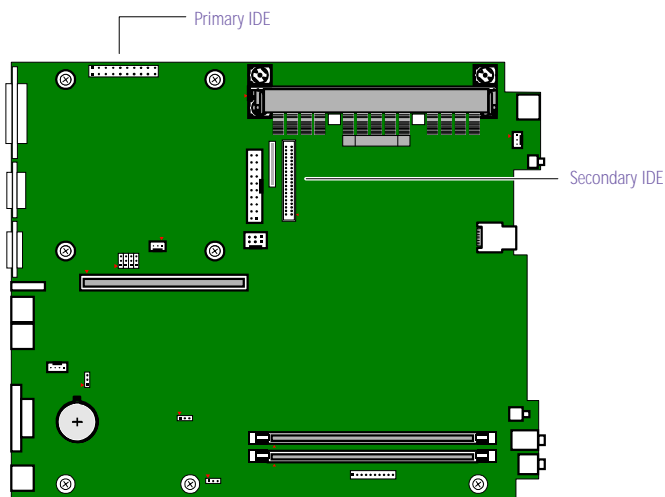
OM04701G.VSD

IDE Primary connector

Pin	Signal
1	Reset IDE
2	GND
3	Data 7
4	Data 8
5	Data 6
6	Data 9
7	Data 5
8	Data 10
9	Data 4
10	Data 11
11	Data 3

IDE Primary connector *(continued)*

Pin	Signal
12	Data 12
13	Data 2
14	Data 13
15	Data 1
16	Data 14
17	Data 0
18	Data 15
19	GND
20	(Key)
21	DDRQ0
22	GND
23	I/O Write#
24	GND
25	I/O Read#
26	GND
27	IOCHRDY
28	P_ALE (Cable Select pull-up)
29	DDACK0#
30	GND
31	IRQ 14
32	Reserved
33	Address 1
34	Reserved
35	Address 0
36	Address 2
37	Chip Select 1P#
38	Chip Select 3P#
39	Activity#
40	GND

IDE Secondary connector

Pin	Signal
1	LOUT
2	ROUT
3	LRTN (AGND)
4	RRTN (AGND)
5	HRST
6	HD08
7	HD07
8	HD09
9	HD07
10	HD10
11	HD05
12	HD11
13	HD04
14	HD12
15	HD03
16	HD13
17	HD02
18	HD14
19	HD01
20	HD15
21	HD00
22	DMARQ
23	GND
24	HIOR#
25	HIOW#
26	GND
27	HIORDY
28	DMACK#
29	HIRQ
30	HIOCS16#
31	HA01
32	PDIAG#
33	HA00
34	HA02

IDE Secondary connector *(continued)*

Pin	Signal
35	HCSO#
36	HSC1#
37	DASP#
38	+5V
39	+5V
40	+5V
41	+5V
42	+5V
43	GND
44	GND
45	GND
46	GND
47	CSEL
48	GND
49	Reserved
50	DIGITAL OUT

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.

PCI slot for
riser card

OM04599B.VSD

Two PCI slot connectors
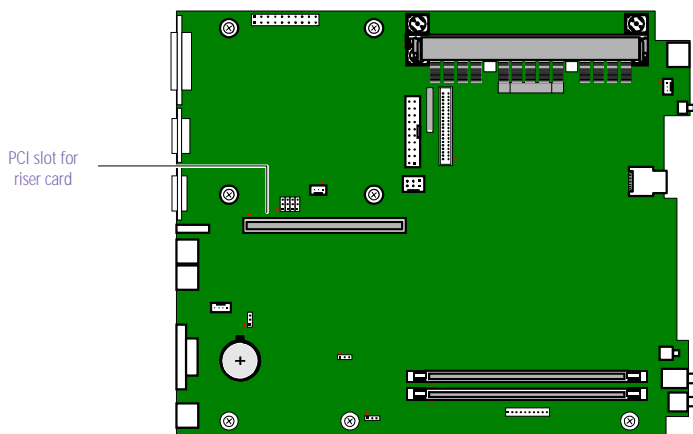
PCI riser card
(plugs into PCI connector
on system board)
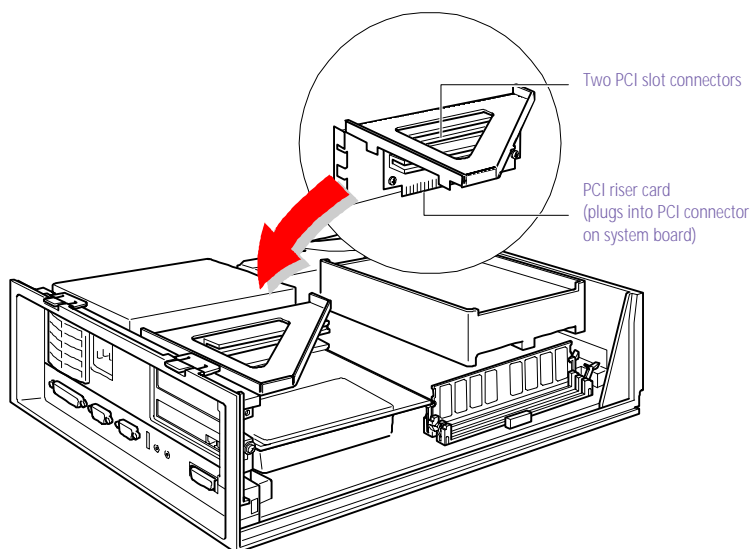
KY0091.VSD

PCI Riser Slot connector *

Pin	Side B Signal	Side A Signal
1	-12V	TRST#
2	TCK	+12V
3	GND	TMS
4	TDO	TDI
5	+5V	+5V
6	+5V	INTA#
7	INTB#	INTC#
8	INTD#	+5V
9	PRSNT1#	Reserved
10	Reserved	+5V (I/O)
11	PRSNT2#	Reserved
12	GND	GND
13	GND	GND
14	Reserved	*CLK2
15	GND	RST#
16	CLK1	+5V (I/O)
17	GND	*GND1#
18	*REQ1#	GND
19	+5V (I/O)	Reserved
20	AD31	AD30
21	AD29	*GNT2#
22	GND	AD28
23	AD27	AD26
24	AD25	GND
25	*REQ2#	AD24
26	C/BE3#	ADSEL
27	AD23	+3.3V
28	GND	AD22
29	AD21	AD20
30	AD19	GND
31	+3.3V	AD18
32	AD17	AD16
33	C/BE2#	+3.3V
34	GND	FRAME#

PCI Riser Slot connector *

Pin	Side B Signal	Side A Signal
35	IRDY#	GND
36	+3.3V	TRDY#
37	DEVSEL#	GND
38	GND	STOP#
39	LOCK#	+3.3V
40	PERR#	SDONE
41	+3.3V	SBO#
42	SERR#	GND
43	+3.3V	PAR
44	C/BE1#	AD15
45	AD14	+3.3V
46	GND	AD13
47	AD12	AD11
48	AD10	GND
49	GND	AD09
50	(Key)	(Key)
51	(Key)	(Key)
52	AD08	C/BE0#
53	AD07	+3.3V
54	+3.3V	AD06
55	AD05	AD04
56	AD03	GND
57	GND	AD02
58	AD01	AD00
59	+5V (I/O)	+5V (I/O)
60	ACK64#	REQ64#
61	+5V	+5V
62	+5V	+5V

* "#" means active low signal. "*" means signal is different from standard PCI. "GNT1#" means GNT# signal for PCI slot 1. "CLK1" means signal for PCI slot 1. GNT2#" means GNT# signal for PCI slot 2. "CLK2" means signal for PCI slot 2.

Memory Module (DIMM) Connectors

DIMM1

DIMM2
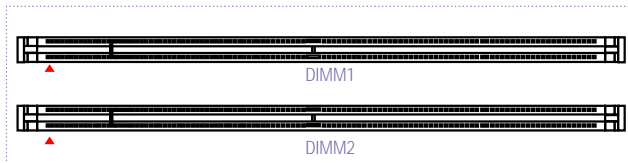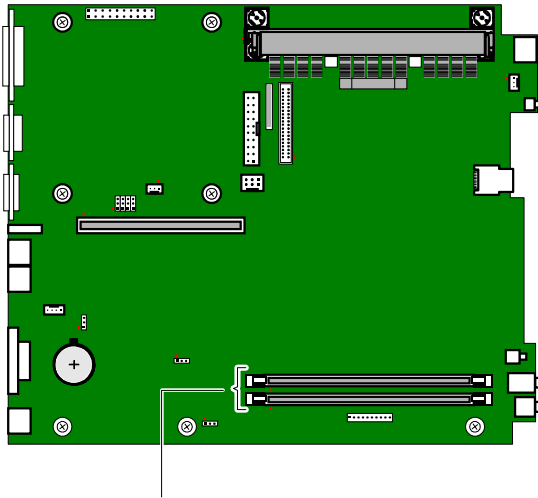
OM04710A.VSD

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).

Memory module (DIMM)

1

Indicates pin 1
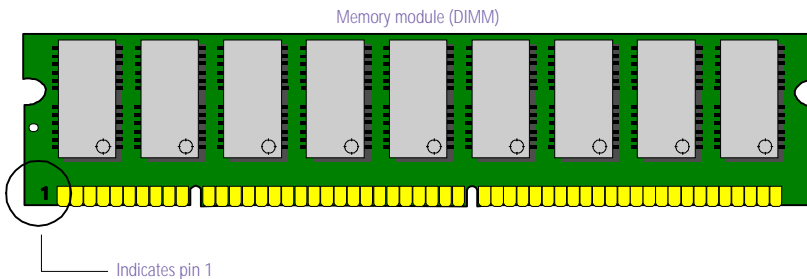
OM04908B.VSD

Power (ATX PWR) Connector

The ATX PWR connector is a 20-pin Molex-type header connector that provides power to the ATX system board.
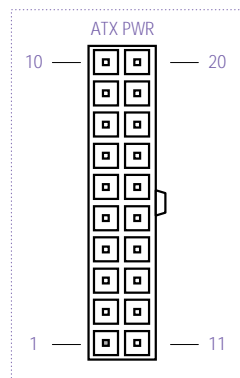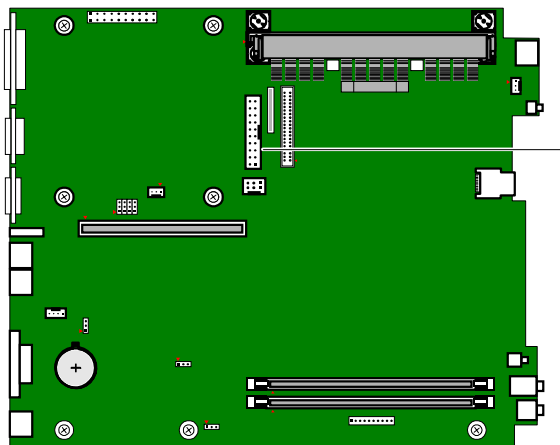
OM04701I.VSD

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.VSD
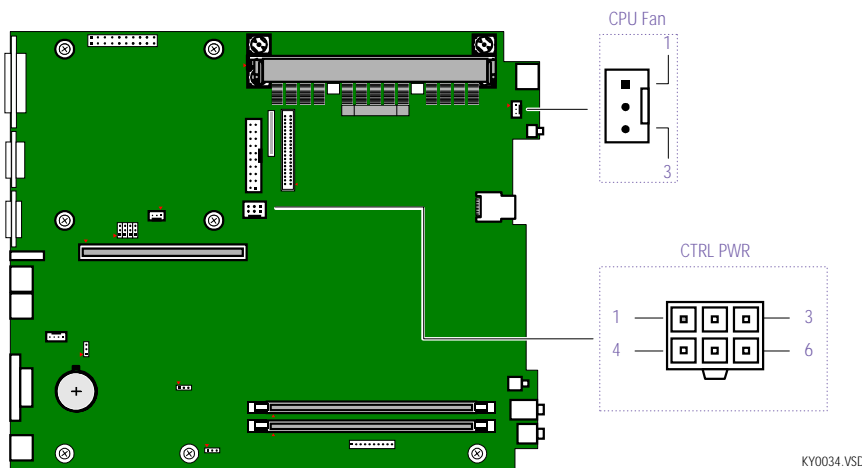
CPU Fan connector

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 a PS/2 keyboard or mouse.
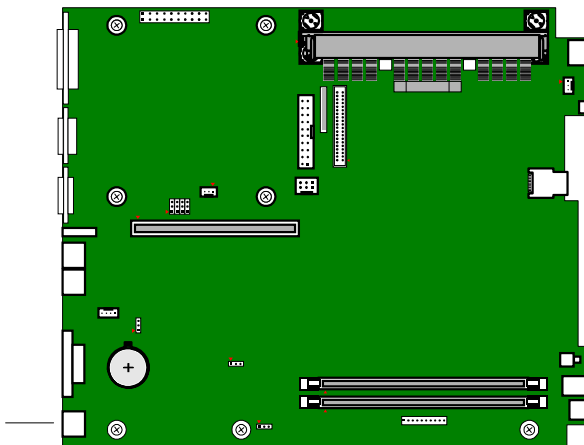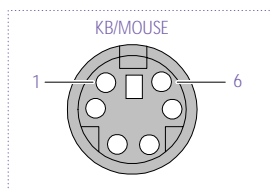
KY0032.VSD

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.
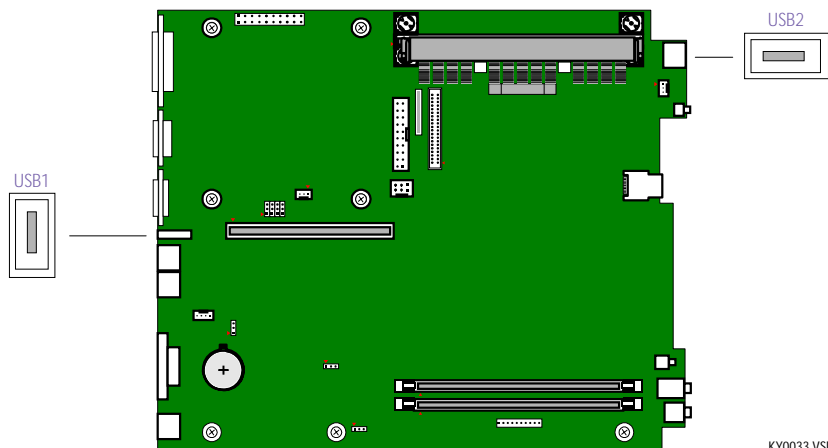
KY0033.VSD

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.
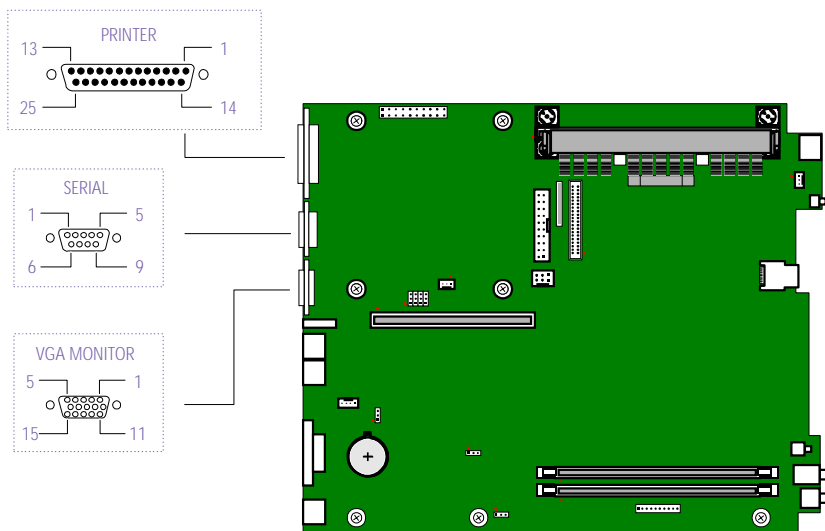
OM04701D.VSD

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

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

VGA Monitor connector

Pin	Signal Name
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 Monitor Connector (VAIO Slimtop LCD models only)

The LCD monitor connector is a 26-pin MDR-type connector for the Sony VAIO Slimtop LCD monitor.
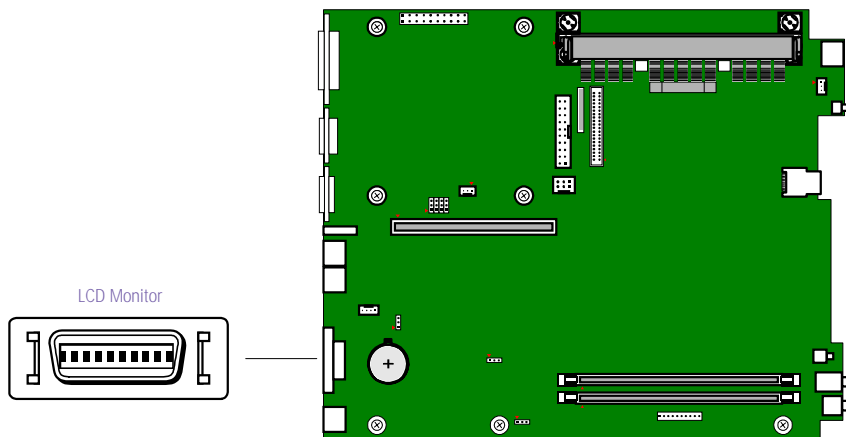
LCD Monitor

KY0094.VSD

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

LCD Monitor connector

Pin	Signal	Pin	Signal
1	POWER GND	14	TxOUT0 -
2	TxOUT0GND	15	TxOUT0 +
3	POWLED anode	16	SUSLED anode
4	TxOUT1 -	17	TxOUT1GND
5	TxOUT1 +	18	PVDDON
6	TxOUT2 -	19	TxOUT2GND
7	TxOUT2 +	20	Reserved
8	DETECT#	21	MSGLED#
9	BLON	22	TxCLKOUT -
10	TxCLKOUTGND	23	TxCLKOUT +
11	POWER +12V (Fused, 1A)	24	POWER +12V (Fused, 1A)
12	Audio R	25	Audio GND
13	Audio L	26	POWER GND

Auxiliary (AUX) Connector

The AUX connector is a standard 4-pin ATAPI-style 2.54 mm single line header connector for external audio sound input.
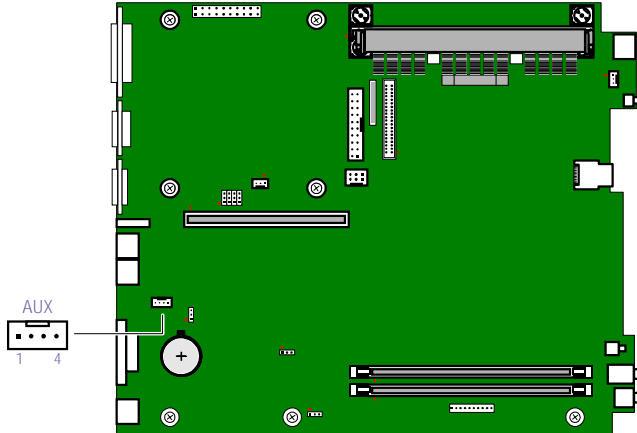
KY0095.VSD

AUX connector

Pin	Signal
1	Left Line In
2	GND
3	GND
4	Right Line In

Wake On LAN (WOL_CON) Connector

The WOL_CON connector is a 3-pin header connector that provides the Wake On LAN function.
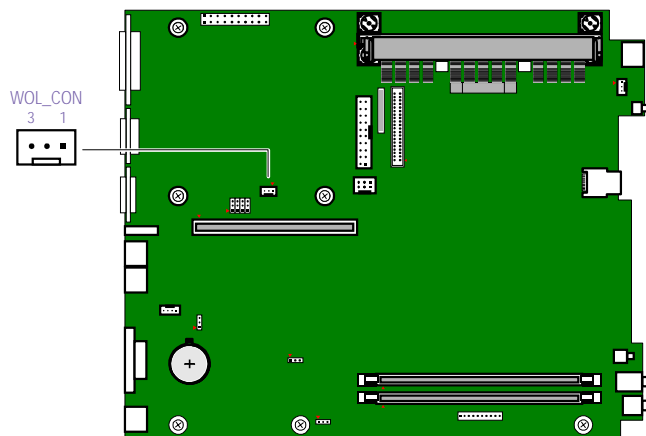
KY0096.VSD

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.

KY0058.VSD
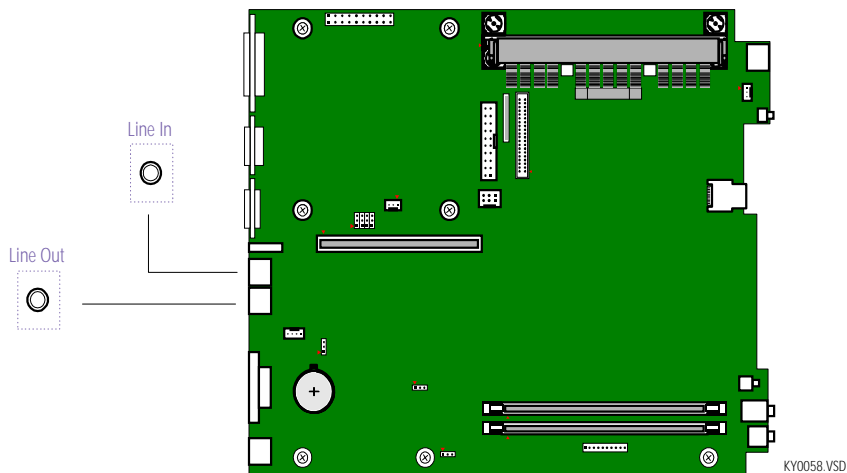
Line In jack

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

Phones and Mic Connectors

The Phones jack is 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.
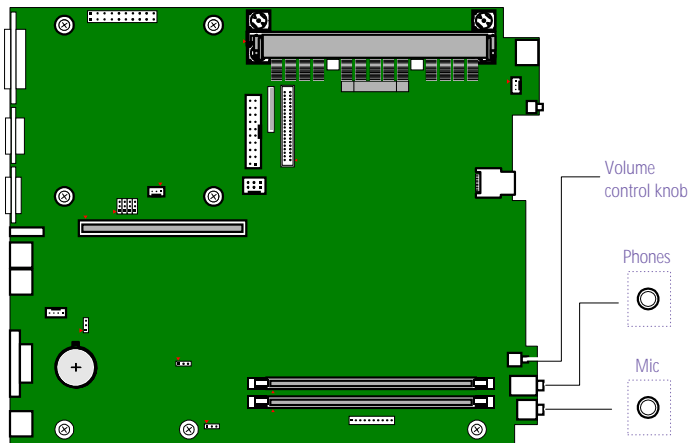
KY0058A.VSD

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 Connector

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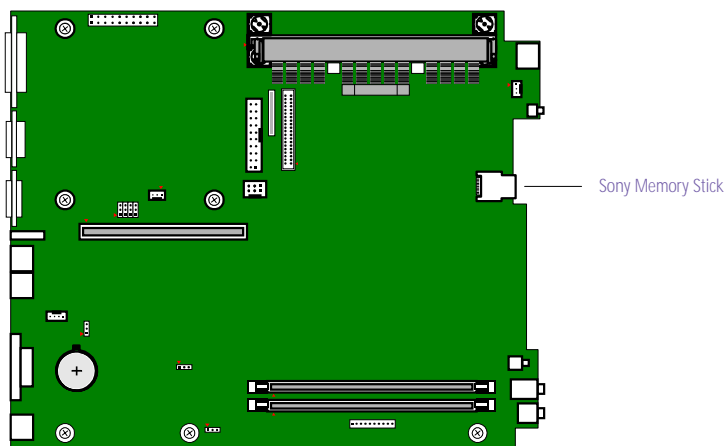
Sony Memory Stick

KY0097.VSD

Sony Memory Stick connector

Pin	Signal
1	VSS
2	BS
3	Reserved
4	DIO
5	Reserved
6	INS
7	Reserved
8	SCLK
9	VCC
10	VSS

Configuration Jumpers

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

CMOS Clear (CMOS)

A jumper cap is installed on pins 2 and 3 (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.

KY0059.VSD
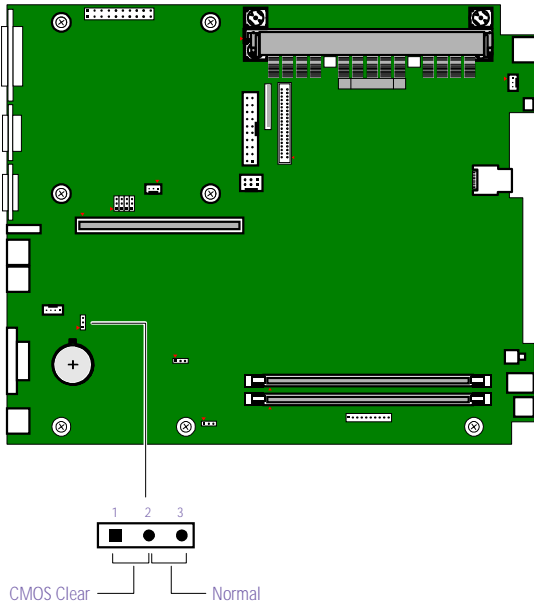
VGA Enable (VGAEN)

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.
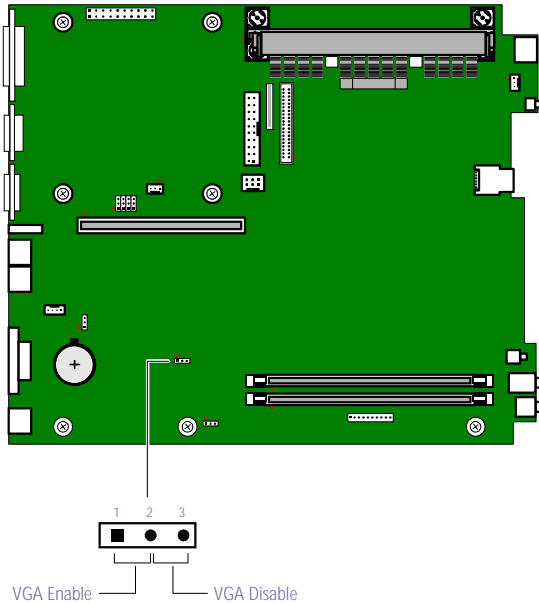
KY0092.VSD

INTEN

The INTEN 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.
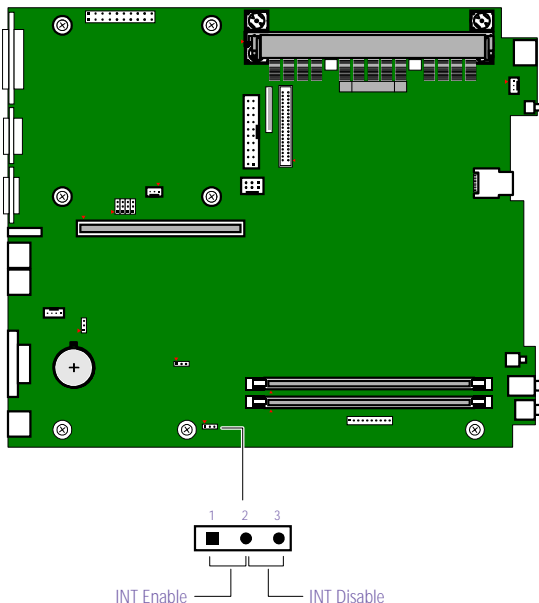
KY0093.VSD

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.
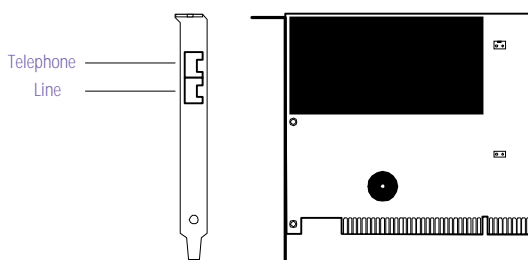
Telephone ————

Line ————

KY0038.VSD

Connectors

Name	*Connector Type*	*Description*
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 BIOS DEFAULTS
❑ 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):	[Mar 15 1999]
Time (hh:mm:ss):	[15:45:56]

HARD DISKS

Primary Master:
Primary Slave:
Secondary Master:
Secondary Slave:

Type	[Auto]
	User
	None
Mode	[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 Errors]
	No Errors
	All, But Keyboard
	All, But Diskette
	All, But Disk/Key

BIOS FEATURES SETUP Screen

CPU Internal Core Speed:	400MHz
Boot Virus Detection:	[Enabled] Disabled
CPU Level 1 Cache:	[Enabled] Disabled
CPU Level 2 Cache:	[Enabled] Disabled
CPU Level 2 Cache ECC Check:	[Disabled] Enabled
BIOS Update:	[Enabled] Disabled
Turbo Mode:	[Disabled] Enabled
Quick Power On Self Test:	[Enabled] Disabled
HDD Sequence SCSI/IDE First:	[IDE] SCSI
Boot Sequence:	[A, CDROM, C] CDROM, C, A D, A E, A F, A C only LS/ZIP, C LAN, A, C LAN, C, A A, C C, A
Boot Up Floppy Seek:	[Disabled] Enabled
Floppy Disk Access Control:	[R/W] Read Only
IDE HDD Block Mode Sectors:	[HDD MAX] Disabled 2 4 8 16 32

HDD S.M.A.R.T. capability:	[Disabled] Enabled
OS/2 Onboard Memory > 64M:	[Disabled] Enabled
Silent Boot:	[Enabled] Disabled
Boot Up Sound:	[Enabled] Disabled
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
DRAM Idle Timer:*	[10T]
	12T
	16T
	32T
	Infinite
	0T
	2T
	4T
	8T
SDRAM MA Wait State:	[Normal]
	Slow
	Fast
Snoop Ahead:	[Enabled]
	Disabled
Host Bus Fast Data Ready:	[Disabled]
	Enabled
16-bit I/O Recovery Time:	[1 BUSCLK]
	2 BUSCLK
	3 BUSCLK
	4 BUSCLK
8-bit I/O Recovery Time:	[1 BUSCLK]
	2 BUSCLK
	3 BUSCLK
	4 BUSCLK
	5 BUSCLK
	6 BUSCLK
	7 BUSCLK
	8 BUSCLK

---

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

Graphics Aperture Size:	[64MB] 128MB 256MB 4MB 8MB 16MB 32MB
Video Memory Cache Mode:	[UC] USWC
PCI 2.1 Support:	[Enabled] Disabled
Memory Hole At 15M-16M:	[Disabled] Enabled
DRAM are 64 (Not 72) bits wide	
Data Integrity Mode:	Non-ECC
Onboard FDC Controller:	[Enabled] Disabled
Onboard FDC Swap A & B:	[No Swap] Swap AB
Onboard Serial Port 1:	[3F8H/IRQ4] 2F8H/IRQ3 3E8H/IRQ4 2E8H/IRQ10 Disabled
Onboard Serial Port 21:	[2F8H/IRQ3] 3E8H/IRQ4 2E8H/IRQ10 Disabled 3F8H/IRQ4
Onboard Parallel Port:	[378H/IRQ7] 278H/IRQ5 Disabled 3BCH/IRQ7
Parallel Port Mode:	[Normal] EPP ECP ECP+EPP
ECP DMA Select:[*]	[3] 1

---

[*] Enabled when Parallel Port Mode is ECP or ECP+EPP.

Onboard PCI IDE Enable: [Both]
Primary
Secondary
Disable

IDE Ultra DMA Mode: [Auto]
Disable

IDE0 Master PIO/DMA Mode:
IDE0 Slave PIO/DMA Mode:
IDE1 Master PIO/DMA Mode:
IDE1 Slave PIO/DMA Mode: [Auto]
0/0
1/0
2/0
3/1
4/2

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 Disable.

** Power Up Control **

PWR Button < 4 Secs:	[Soft Off] Suspend
PWR Up On Modem Act:	[Enabled] Disabled
Automatic Power Up:	[Disabled] Everyday By Date
Time (hh:mm:ss) Alarm:*	[17:32: 0]
Date Of Month Alarm:†	[1] . . . 31

** Fan Monitor **

CPU Fan Speed:	[5273RPM] Ignore
Power Fan Speed:	[4017] Ignore

** Thermal Monitor **

CPU Temperature:	N/A
MB Temperature:	[32°C/89°F] Ignore

** Voltage Monitor **

VCORE Voltage:	[2.0V] Ignore
+3.3V Voltage:	[3.3V] Ignore
+5V Voltage:	[5.1V] Ignore
+12V Voltage:	[11.7V] Ignore
-12V Voltage:	[-12.2V] Ignore

---

* Displays only when Automatic Power Up is Everyday or By Date.

† Displays only when Automatic Power Up is By Date.

PNP AND PCI SETUP Screen

PNP OS Installed:	[No]
	Yes

Slot 1 IRQ:	
Slot 2 IRQ:	[Auto]
	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
ISA MEM Block SIZE:[*]	[8K] 16K 32K 64K
SYMBIOS SCSI BIOS:	[Disabled] Auto
USB IRQ:	[Enabled] Disabled
ONB VGA BIOS First:	[No] Yes
Onboard Audio:	[Enabled] Disabled]
Onboard Cardbus:	[Enabled] Disabled

---

[*] Displays only when ISA MEM Block BASE is not No/ICU.

LOAD BIOS DEFAULTS Screen

Press Enter to load BIOS default settings except standard CMOS setup.

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
❏   PCI configuration space 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.

If you set these passwords...	*...the following passwords are required:*
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.

Message	Meaning
Floppy Disk Controller Resource Conflict	The diskette controller has requested a resource that is already in use.
NVRAM Checksum Error, NVRAM Cleared	The NVRAM data was reinitialized due to an NVRAM checksum error.
NVRAM Cleared By Jumper	The Clear CMOS jumper block has been changed to the clear position.
NVRAM Data Invalid, NVRAM Cleared	Invalid entry in the NVRAM.
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, CD-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.

Static Device Resource Conflict	A non-Plug and Play ISA card has requested a resource that is already in use.
System Board Device Resource Conflict	A non-Plug and-Play ISA card 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.

DMA Channel	Plug & Play	Default Assignment
0	Yes	Open
1	Yes	Sound
2	Yes	Standard diskette drive controller
3	Yes	Parallel port (for ECP)
4	N/A	Reserved
5		Open
6		Open
7		Sound

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
0	Interval timer
1	Keyboard buffer full
2	Cascade interrupt from slave PIC
3	COM2 (used for Sony Original Function)
4	Communications ports (COM1 and COM3)
5	PCMCIA
6	Standard diskette drive controller
7	Printer port (LPT1)
8	System CMOS/real time clock
9	IrDA
10	Video, audio, fax/modem, user-specified
11	CardBus, USB, user-specified
12	Onboard PS/2-compatible mouse port
13	Numeric data processor
14	Primary IDE controller
15	Secondary IDE controller

System I/O Address Map

Address Range (hex)	Description
0000 - 000F	DMA controller 1
0020 - 0021	Programmable interrupt controller 1
002E - 002F	Super I/O controller configuration registers
0040 - 0043	Counter/timer 1
0048 - 004B	Counter/timer 2
0060	Keyboard controller byte - reset IRQ
0061	NMI status and speaker controller
0064	Keyboard controller, CMD/STAT byte
0070 (bit 7)	Enable NMI
0070 (bits 6:0)	Real time clock, address
0071	Real time clock, data
0078	Reserved for system board configuration
0079	Reserved for system board configuration
0080 - 008F	DMA page registers
00A0 - 00A1	Programmable interrupt controller 2
00C0 - 00DE	DMA controller 2
00F0	Clear numeric data processor error
0170 - 0177	Secondary IDE controller
01F0 - 01F7	Primary IDE controller
0201	Audio/game port controller
0220-022F	Sound port (Sound Blaster compatible)
0228 - 022F	LPT3
0240 - 024F	Sound port (Sound Blaster compatible)
0278 - 027F	LPT2
0290 - 0297	Management extension hardware
02E8 - 02EF	COM4/Video (8514A)
02F8 - 02FF	COM2
0300 - 0301	MPU-401 (MIDI)
0330 - 0331	MPU-401 (MIDI)
0330 - 0333	MPU-401 (MIDI)
0334 - 0335	MPU-401 (MIDI)
0376	Secondary IDE controller command port

Address Range (hex)	Description
0377	Diskette drive channel 2 command port
0377 (bit 7)	Diskette drive change, channel 2
0377 (bits 6:0)	Secondary IDE controller status port
0378 - 037F	LPT1
0388 - 038D	AdLib (FM synthesizer)
03B4 - 03B5	Video (VGA)
03BA	Video (VGA)
03C0 - 03CA	Video (VGA)
03CC	Video (VGA)
03CE - 03CF	Video (VGA)
03D4 - 03D5	Video (VGA)
03DA	Video (VGA)
03E8 - 03EF	COM3
03F0 - 03F5	Standard diskette drive controller, channel 1
03F6	Primary IDE channel command port
03F7 (Write)	Standard diskette drive command, channel 1
03F7 (bit 7)	Standard diskette disk change, channel 1
03F7 (bits 6:0)	Primary IDE channel status port
03F8 - 03FF	COM1
04D0 - 04D1	Edge/level-triggered PIC
0530 - 0537	Windows sound system
0604 - 060B	Windows sound system
LPTn + 400h	ECP port, LPTn base address + 400h
0CF8 - 0CFB[*]	PCI configuration address register
0CF9[†]	Turbo and reset control register
0CFC - 0CFF	PCI configuration data register
0E80 - 0E87	Windows sound system
0F40 - 0F47	Windows sound system
0F86 - 0F87	Yamaha OPL3-SA configuration
FF00 - FF07	IDE bus master register
FFA0 - FFA7	Primary bus master IDE registers
FFA8 - FFAF	Secondary bus master IDE registers

* D word access only.
† Byte access only.

Memory Map

Address range	Default configuration
001000000 - 18000000	Extended memory
000FC000 - 000FFFFF	Boot block
000FA000 - 000FBFFF	ESCD (Plug and Play configuration and DMI)
000F9000 - 000F9FFF	Reserved for BIOS
000F8000 - 000F8FFF	OEM Logo or Scan User Flash
000E8000 - 000F7FFF	POST BIOS
000E0000 - 000E7FFF	POST BIOS (available in UMB)
000C8000 - 000DFFFF	Available high-DOS memory (ISA and PCI bus)
000A0000 - 000C7FFF	Video memory and BIOS
0009FC00 - 0009FFFF	Extended BIOS data (moveable by memory manager software)
00080000 - 0009FBFF	Extended conventional memory
00000000 - 0007FFFF	Conventional memory

✍ I/O addresses that may be used by add-in cards are not listed.

PCI Configuration Space Map

Bus Number (hex)	Device Number (hex)	Function Number (hex)	Description
00	00	00	Intel 82440LX (PAC)
00	01	00	Intel 82440LX (PAC) AGP bus
00	07	00	Intel 82371AB (PIIX4) PCI/ISA bridge
00	07	01	Intel 82371AB (PIIX4) IDE bus master
00	07	02	Intel 82371AB (PIIX4) USB
00	07	03	Intel 82371AB (PIIX4) power management
00	0D	00	PCI expansion slot 1
00	0E	00	PCI expansion slot 2
01			ATI Rage LT Pro video
00			Yamaha YMF724E audio
00			Ricoh RL5C475 cardbus
00			PCI fax/modem

Chapter 8 Specifications

This chapter describes the technical specifications for the Sony PCV-L400, PCV-L600, and PCV-L600S computers.

Processors

PCV-L400	400 MHz Intel Pentium® II processor (with 100 MHz FSB)
PCV-L600	500 MHz Intel Pentium® III processor (with 100 MHz FSB)
PCV-L600S	500 MHz Intel Pentium® III processor (with 100 MHz FSB)

Chipset

82440BX-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	PCV-L400: 64 Mbytes SDRAM PCV-L600/PCV-L600S: 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), 60 ns, unrestricted CAS latency 3, unbuffered, Intel 4-clock, 64 bits (non-ECC)

DIMM Configurations

DIMM1[*]	DIMM2[*]
0, 16, 32, 64, 128	0, 16, 32, 64, 128

* The PCV-L400 is shipped with 64 MB. The PCV-L600 and PCV-L600S are 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 AGP 64-bit PCI graphics accelerator including 1X and 2X modes with sidebands
Video memory	4 Mbytes
Resolution (displayed resolution depends on the graphics display you use)	
True color (32 bits)	Up to 1920 x 1080 at 70 Hz non-interlaced
True color (24 bits)	Up to 1920 x 1080 at 70 Hz non-interlaced
High color (16 bits)	Up to 1920 x 1200 at 70 Hz non-interlaced
256 colors (8 bits)	Up to 1920 x 1200 at 70 Hz non-interlaced

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

Audio

Sound chip	Yamaha YMF724F synthesizer 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

[*] Your modem is capable of downloading at 56 Kbps using K56flex technology/V.90 . Your phone service, online service, or Internet Service Provider may not support this technology or operate at this speed.

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 7.75 inches
IDE connectors	Primary and secondary

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[*]	PCV-L400: 6.4 GByte PCV-L600/PCV-L600S: 10.8 GByte
CD-ROM drive	CD-ROM disc: 24X (maximum performance)[†]

* Bus-mastering EIDE driver installed.

† Data on a CD-ROM disc is read at a variable transfer rate, ranging from 10X at the innermost track to 24X at the outermost track (the data transfer standard 1X rate is 150 kybtes/s). The average data transfer rate is 17X (2550 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

* Flash-ROM update utility is available from Sony's web site at http://www.sony.com/pcsupport.

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