

Dell™ OptiPlex™ GX1p

[Specifications](#)

[Jumpers](#)

[Controls and Indicators](#)

[Tech Notes](#)

[Graphics](#)

[Documentation](#)


Initial release: 21 Aug 1998

Last revised: 5 Apr 2000

Updated ATAPI: Dell™ OptiPlex™ GX1p


[Reinstalling the Microsoft® Windows NT® 4.0 Microsoft-Updated ATAPI Driver](#) | [Removing the Windows NT 4.0 Microsoft-Updated ATAPI Driver](#)

Dell has installed the Microsoft updated ATAPI driver for your operating system, and it is operative when you receive your computer. No further installation or configuration is needed.

 *NOTE: If Windows NT 4.0 is reinstalled, the Microsoft-updated ATAPI drivers must also be reinstalled.*


The driver for Windows NT 4.0 has also been copied to your hard-disk drive in diskette-image form. If you need to reinstall or remove this driver, you can do so as described in the following subsections.

Reinstalling the Microsoft Windows NT 4.0 Microsoft-Updated ATAPI Driver

 *NOTE: To install the Microsoft-updated ATAPI driver for Windows NT 4.0, you must have a mouse connected to the system and Windows NT 4.0 must already be installed on the hard-disk drive connected to the primary EIDE channel.*

To reinstall the Microsoft-updated ATAPI driver for Windows NT 4.0, perform the following steps:

1. If you have not already done so, use the Program Diskette Maker to make a diskette copy of the Dell Microsoft-updated ATAPI driver diskette image on your hard-disk drive.
The Program Diskette Maker is available through the **Dell Accessories** program folder. For more information, refer to the online help provided in the Program Diskette Maker.
2. Start the Windows NT operating system. If you are already running Windows NT, close any open documents or application programs.
3. Insert the Microsoft updated ATAPI driver diskette in drive A.
4. Click the **Start** button.
5. Click **Run**, type `a:\setup.bat` in the **Run** window, and then click **OK**.
A black screen will quickly appear and disappear, which indicates that the driver file has been loaded. Setup automatically saves the existing **atapi.sys** driver as **atapi.000** and loads the new driver into the **system32\drivers** subdirectory in the Windows NT directory.
6. Remove the diskette from drive A. Then restart the computer.

 *NOTE: To enable or disable direct memory access (DMA) while using the Microsoft-updated ATAPI driver, run **dmacheck.exe** from `\support\utils\i386` on the Microsoft Windows NT Service Pack 3 CD-ROM.*

Removing the Windows NT 4.0 Microsoft-Updated ATAPI Driver

To remove the Microsoft-updated ATAPI driver, follow these steps:

1. Start the Windows NT operating system. If you are already running Windows NT, close any open documents or application programs.
2. Use Explorer to open the **system32\drivers** subdirectory in the Windows NT directory.
3. Rename the existing **atapi.sys** file to **atapi.bak**.
4. Rename the **atapi.000** file to **atapi.sys**.
5. Restart the computer.

POST Beep Codes: Dell™ OptiPlex™ GX1p

If the monitor cannot display error messages during the POST, the system may emit a series of beeps that identifies the problem or that can help you identify a faulty component or assembly. The following table lists the beep codes that may be generated during the POST. Most beep codes indicate a fatal error that prevents the system from completing the boot routine until the indicated condition is corrected.

Beep Code	Error	Probable Causes
1-1-3	NVRAM write/read failure	Defective system board
1-1-4	BIOS checksum failure	Faulty BIOS or defective system board
1-2-1	Programmable interval-timer failure	Defective system board
1-2-2	DMA initialization failure	Defective system board
1-2-3	DMA page register write/read failure	Defective system board
1-3-1	Main-memory refresh verification failure	Faulty or improperly seated DIMM or defective system board
1-3-2	No memory installed	No memory installed, or faulty or improperly seated DIMM
1-3-3	Chip or data line failure in the first 64 KB of main memory	Faulty or improperly seated DIMM
1-3-4	Odd/even logic failure in the first 64 KB of main memory	Faulty or improperly seated DIMM
1-4-1	Address line failure in the first 64 KB of main memory	Faulty or improperly seated DIMM
1-4-2	Parity failure in the first 64 KB of main memory	Faulty or improperly seated DIMM or address line failure in the first 64 KB of RAM (System riser cards may cause this error. Remove the riser card and retest)
2-1-1 through 2-4-4	Bit failure in the first 64 KB of main memory	Faulty or improperly seated DIMM
3-1-1	Slave DMA-register failure	Defective system board
3-1-2	Master DMA-register failure	Defective system board
3-1-3	Master interrupt-mask register failure	Defective system board
3-1-4	Slave interrupt-mask register failure	Defective system board
3-2-4	Keyboard-controller test failure	Faulty keyboard controller (defective system board)
3-3-4	Screen initialization failure	Faulty video subsystem (defective system board)
3-4-1	Screen-retrace test failure	Faulty video subsystem (defective system board)
3-4-2	Search for video ROM failed	Faulty video subsystem (defective system board)
4-2-1	No timer tick	Defective system board
4-2-2	Shutdown failure	Defective system board
4-2-3	Gate A20 failure	Defective system board
4-2-4	Unexpected interrupt in protected mode	Defective system board
4-3-1	Memory failure above address 0FFFFh	Faulty or improperly seated DIMM
4-3-3	Timer-chip counter 2 failure	Defective system board
4-3-4	Time-of-day clock stopped	Bad battery or defective system board
4-4-1	Serial-port test failure	Faulty I/O chip (defective system board)
4-4-2	Parallel-port test failure	Faulty I/O chip (defective system board)
4-4-3	Math coprocessor failure	Faulty microprocessor chip or system board
4-4-4	Cache test failure	Defective microprocessor or system board

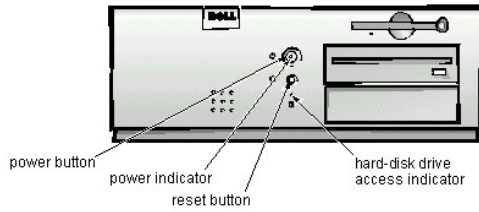
Bus-mastering : Dell™ OptiPlex™ GX1p

This system supports PCI bus-mastering on all slots.

Controls and Indicators: Dell™ OptiPlex™ GX1p

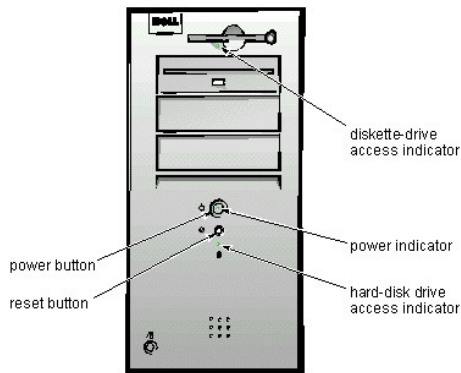
[Midsized Chassis](#) | [Mini Tower Chassis](#)

Midsized Chassis



Power button	Turns computer on and off.
Power indicator	Lights up when the computer is on.
Reset button	Initiates a hardware reset. To avoid possible data or file structure corruption, use the reset button only when the system cannot be rebooted with the <Ctrl><Alt> key combination, and close any open applications or files if possible.
Hard-disk drive access indicator	Lights up when the hard-disk drive is being accessed.
Diskette-drive access indicator	Lights up when the diskette drive is being accessed.

Mini Tower Chassis



Power button	Turns computer on and off.
Power indicator	Lights up when the computer is on.
Reset button	Initiates a hardware reset. To avoid possible data or file structure corruption, use the reset button only when the system cannot be rebooted with the <Ctrl><Alt> key combination, and close any open applications or files if possible.
Hard-disk drive access indicator	Lights up when the hard-disk drive is being accessed.
Diskette-drive access indicator	Lights up when the diskette drive is being accessed.


Dell Inspector Utility: Dell™ OptiPlex™ GX1p

The Dell Inspector utility uses Desktop Management Interface (DMI) support to display detailed information about the hardware and software configuration of the system. The Dell Inspector is in the Dell Accessories program group.

[Dell Inspector online help](#) (Production Note: This link is to another, separate OTI which is not part of this review.)

DMA Channel Assignments: Dell™ OptiPlex™ GX1p

DREQ Line	Used By/Available
DREQ0	Available
DREQ1	Available
DREQ2	Super I/O controller (to initiate DMA cycle for attached diskette drive)
DREQ3	Available
DREQ4	Bus controller chip (to activate second DMA controller)
DREQ5	Available
DREQ6	Available
DREQ7	Available

 NOTE: The onboard sound controller, NIC, and video controllers are assigned available DMA channels automatically during system start-up.

DMI Support/Dell OpenManage Client: Dell™ OptiPlex™ GX1p

Desktop Management Interface (DMI) support enables both the local and remote management of the computer system's software and hardware. DMI defines the software, interfaces, and data files that enable the system to determine and report information about its components. Dell provides the Dell OpenManage™ Client 4.2 on all systems that have Dell-installed Microsoft® Windows® operating systems.

Dell OpenManage Client 4.2 uses DMI support to display detailed information about the hardware and software configuration of the system. For information about Dell OpenManage Client 4.2, refer to the Dell OpenManage Client 4.2 online help located on your system in the **Dell OpenManage Client 4.2** program group, or on the web in the [Dell OpenManage Client/Client Administrator Help Dell Inspector Help and DMI Help](#) online technical information.

Documentation: Dell™ OptiPlex™ GX1p

[HTML Documents](#) | [WinHelp Documents](#) | [PDF Documents](#) |

HTML Documents

English

Brasil

français

Deutsch

Italiano

Español


简体中文

繁體中文

日本語

한국어

WinHelp Documents


 **NOTE:** Help files require **winhelp.exe**, which is part of the Microsoft® Windows® operating system (located in the **windows** directory). To view help files online, you may need to configure **winhelp.exe** to work with your browser as a helper application program. See the Help information associated with your browser for additional information.

Online [System User's Guide \(.hlp\)](#)

Documentation en español

Documentation en français

PDF Documents

 **You must right-click the link for a portable document format (PDF) file and save the file to your hard-disk drive. Attempting to link directly to large PDF files causes your system to freeze.**

To save PDF files (files with an extension of **.pdf**) to your hard-disk drive, right-click the document title, click **Save Target As** in Microsoft Internet Explorer or **Save Link As** in Netscape Navigator, and specify a location on your hard-disk drive.

Right-click only the following links:

[Dell OptiPlex GX1 and GX1p Midsize Managed PC Systems Reference and Installation Guide \(.pdf\)](#)

[Dell OptiPlex GX1 and GX1p Mini Tower Managed PC Systems Reference and Installation Guide \(.pdf\)](#)

[Dell OptiPlex GX1/GX1p Managed PC and OptiPlex NX1 Net PC Systems Service Manual \(.pdf\)](#)

To view a PDF file, launch Adobe™ Acrobat Reader. Click **File**→**Open** and select the PDF file.

 **NOTES:** PDF files require Acrobat Reader, which can be downloaded from the Adobe World Wide Web site at <http://www.adobe.com>.

Documentation en español

Drivers and Utilities: OptiPlex GX1p

See "Using Drivers and Utilities" in the online [System User's Guide](#).


Documentation: Dell™ OptiPlex™ GX1p

[Guide d'utilisation de Dell OptiPlex GX1p avec gestion améliorée Sommaire \(.hlp\)](#)

[Guide de référence et d'installation, taille moyenne \(.pdf\)](#)

[Guide de référence et d'installation, mini-tour \(.pdf\)](#)

[Guide des diagnostics et de dépannage \(.pdf\)](#)

 **REMARQUES:** Pour utiliser les fichiers **.pdf**, vous avez besoin d'Acrobat Reader, que vous pouvez télécharger du [site web d'Adobe™](#). Pour afficher les fichiers **.pdf** en ligne après le chargement et l'installation d'Acrobat Reader, vous devrez peut-être configurer Acrobat Reader pour qu'il fonctionne avec votre navigateur comme application d'aide ou module enfichable. Reportez-vous aux informations d'aide de votre navigateur pour plus de précisions.

Les fichiers **.hlp** ont besoin de **winhelp.exe**, qui fait partie du système d'exploitation Microsoft® Windows® (situé dans le répertoire **windows**). Pour afficher les fichiers **.hlp** en ligne, vous devrez peut-être configurer **winhelp.exe** pour qu'il fonctionne avec votre navigateur comme application d'aide. Reportez-vous aux informations d'aide de votre navigateur pour plus de précisions.

Si vous ne parvenez pas à trouver les informations dont vous avez besoin en ligne, consultez notre [Centre de communications](#) en ligne ou contactez un représentant Dell. Ayez à portée de main votre code de service express pour un service plus rapide.

Graphics: Dell™ OptiPlex™ GX1p

[System Board](#)

[Jumpers](#)

[Controls and Indicators](#)

[Internal View of the Midsize Computer](#)

[Internal View of the Mini Tower Computer](#)

[Riser Board for the Midsize Computer](#)

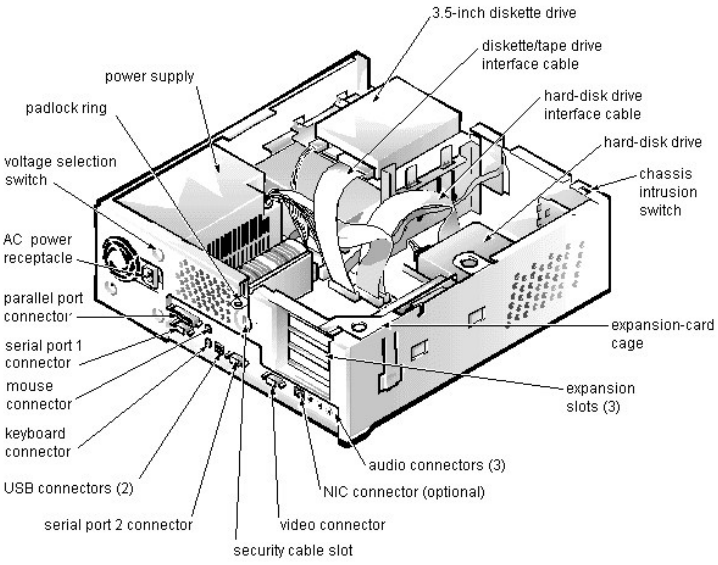
[Riser Board for the Mini Tower Computer](#)

[I/O Ports and Connectors](#)

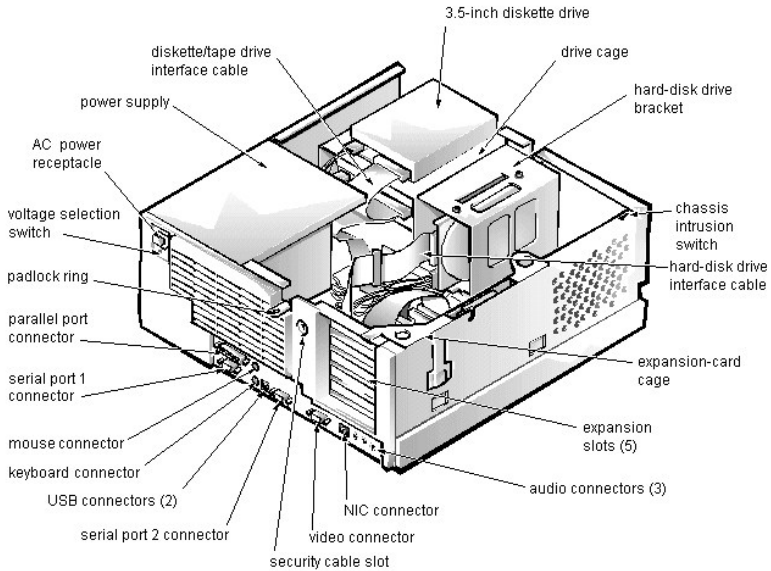
[System Setup](#)

Additional graphics can be found in [Removing and Replacing Parts](#).

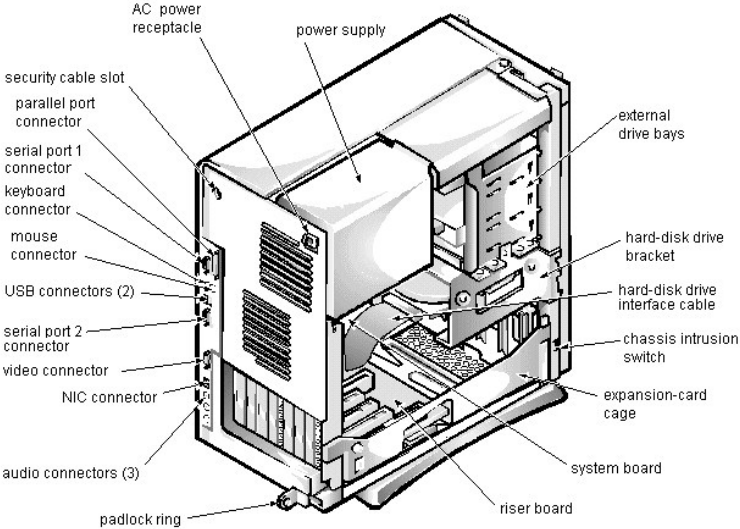
Internal View of the Low-Profile Computer: Dell™ OptiPlex™ GX1p



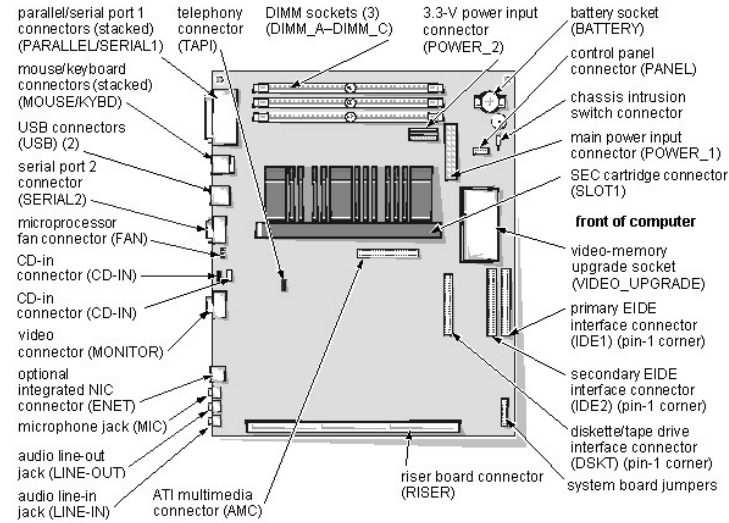
Internal View of the Midsize Computer: Dell™ OptiPlex™ GX1p



Internal View of the Mini Tower Computer: Dell™ OptiPlex™ GX1p



System Board: Dell™ OptiPlex™ GX1p



I/O Map: Dell™ OptiPlex™ GX1p

Address	Device
0000-000F	DMA controller #1
0020-003F	Interrupt controller #1
0040-0043	System timers
0044-005F	Reserved
0060-006F	Keyboard controller
0070-0071	RTC and NMI enable
0080-008F	DMA page registers
00A0-00BF	Interrupt controller #2
00C0-00DF	DMA controller #2
00F0	Coprocessor busy clear
00F1	Coprocessor busy reset
00F2-00FF	Available
278-27F	LPT2
2E8-2EF	COM4
2F8-2FF	COM2
378-37F	LPT1
3E8-3EF	COM3
3F8-3FF	COM1

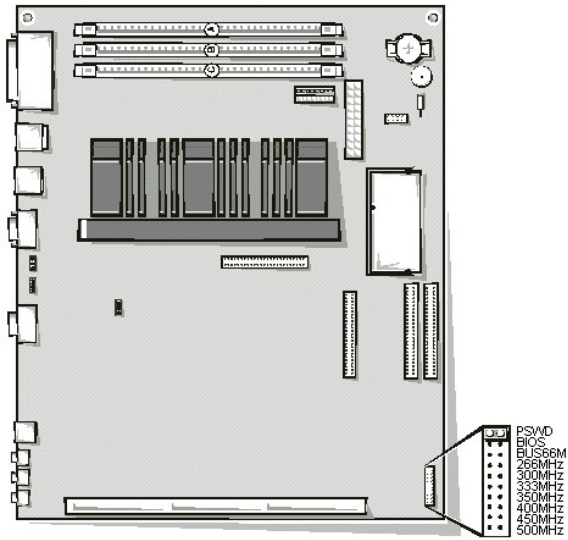
IRQ Assignments: Dell™ OptiPlex™ GX1p



IRQ Line	System Resource
IRQ0	System timer
IRQ1	Keyboard port
IRQ2	Enables IRQ8 through IRQ15
IRQ3 ¹	Available
IRQ4	Serial port
IRQ5	Audio controller
IRQ6	Diskette/tape drive controller
IRQ7	Parallel port
IRQ8	RTC
IRQ9	Available, except in ACP-enabled configurations while running Windows 98
IRQ10	Available
IRQ11 ²	NIC/default PCI IRQ
IRQ12	Mouse port
IRQ13	Math coprocessor
IRQ14	Primary EIDE channel
IRQ15	Secondary EIDE channel













¹ IRQ3 is available provided that no other device in the computer (such as a modem) is using COM2 or COM4.

² If an ISA expansion card is configured for IRQ11, the NIC or PCI IRQ is assigned to another available IRQ line.

Jumpers: Dell™ OptiPlex™ GX1p



 = jumpered
 = unjumpered

500MHZ		Reserved for future options.
450MHZ ¹		Jumpered when the microprocessor's internal speed is 450 MHz (see footnote 1).
400MHZ ¹		Jumpered when the microprocessor's internal speed is 400 MHz (see footnote 1).
350MHZ		Not supported on the GX1p.
333MHZ		Not supported on the GX1p.
300MHZ		Not supported on the GX1p.
266MHZ ²		Jumpered for 266 MHz (see footnote 2).
BUS66M		External system clock speed is 66 MHz when jumpered.
	 (default)	External system clock speed operates at 100 MHz when not jumpered.
BIOS	 (default)	Reserved. Do not change.
PSWD	 (default)	The password features are enabled.
		The password features are disabled.

¹ Either the 450 MHz or 400 MHz speed jumper pins must have a jumper plug installed.


² As of April 19, 1999, the processor speed jumper was set at 266 MHz on Dell OptiPlex system boards shipped from the factory.

Memory: Dell™ OptiPlex™ GX1p

[Installation Guidelines](#) | [Configuration Options](#) | [Memory Map](#)

Installation Guidelines

For information on installing DIMMs, refer to DIMM installation instructions for the OptiPlex [midsize chassis](#) or [mini tower chassis](#).

 **CAUTION: Do not use EDO DIMMs in this computer. This computer uses SDRAM DIMMs. EDO and SDRAM DIMMs have slightly different gap spacings and you may damage the DIMMs or sockets if you attempt to insert the wrong DIMM type in the computer.**

Configuration Options

Total	DIMM_A	DIMM_B	DIMM_C
128 MB	64 MB	64 MB	
128 MB	128 MB		
192 MB	128 MB	64 MB	
256 MB	128 MB	128 MB	
256 MB	256 MB		
320 MB	128 MB	128 MB	64 MB
384 MB	128 MB	128 MB	128 MB
512 MB	256 MB	256 MB	
768 MB	256 MB	256 MB	256 MB

Memory Map

Memory Range	Address Range	Size	Description
1024–131,072 KB	100000–8000000h	127 MB	Extended memory
960–1023 KB	F0000–FFFFFh	64 KB	System BIOS
800–959 KB	C8000–EFFFFh	160 KB	Available high memory
640–799 KB	A0000–C7FFFh	160 KB	Video memory and BIOS
639 KB	9FC00–9FFFFh	1 KB	Extended-BIOS data
0–638 KB	00000–9FBFFh	639 KB	Conventional memory

System Error Messages: Dell™ OptiPlex™ GX1p

This section lists (in alphabetical order) system error messages that can appear on the monitor screen. These messages can help you find the source of a problem. Some of these error messages indicate fatal errors. When a fatal error occurs, the system cannot usually be rebooted until an appropriate hardware change has been made.

Message	Definition	Probable Causes
Address mark not found	BIOS found faulty disk sector or could not find particular disk sector.	Faulty diskette/tape drive subsystem or hard-disk drive subsystem (defective system board).
Attachment failed to respond	Diskette drive or hard-disk drive controller cannot send data to associated drive.	Faulty interface cable or connector.
Bad command or file name	Command entered does not exist or is not in pathname specified.	Bad command.
Bad error-correction code(ECC) on disk read	Diskette drive or hard-disk drive controller detected uncorrectable read error. Indicates a fatal error.	Faulty diskette/tape drive subsystem or hard-disk drive subsystem (defective system board).
Controller has failed	Hard-disk drive or associated controller defective. Indicates a fatal error.	Faulty diskette/tape drive subsystem or hard-disk drive subsystem (defective system board).
Data error	System received unrecoverable data-read error from diskette or hard-disk drive. Indicates a fatal error.	Faulty diskette, diskette drive, or hard-disk drive.
Decreasing available memory	Read/write failure during POST prevents system from using available memory.	Faulty or improperly seated DIMM(s).
Diskette drive 0 seek failure Diskette drive 1 seek failure	Diskette/tape drive controller could not locate specific sector or track.	Faulty or improperly inserted diskette, incorrect configuration settings in System Setup program, loose diskette/tape drive interface cable, or loose power cable.
Diskette read failure	Failure occurred while system attempted to read diskette.	Faulty diskette, faulty or improperly connected diskette/tape drive interface cable, or loose power cable.
Diskette subsystem reset failed	System could not successfully issue reset command to diskette controller.	Faulty diskette/tape drive controller (defective system board).
Diskette write protected	Diskette write-protect feature activated.	Diskette write-protected.
Drive not ready	Diskette missing from or improperly inserted in diskette drive.	Defective, unformatted, or improperly inserted diskette.
Gate A20 failure	Gate A20 of the keyboard controller malfunctioned. Indicates a fatal error.	Faulty keyboard controller (defective system board).
General failure	Operating system cannot execute command.	Operating system corrupted or not installed properly.
Hard disk controller failure Hard disk drive read failure Hard disk failure	Hard-disk drive failed to initialize. Indicates a fatal error.	Incorrect configuration settings in System Setup program, improperly connected hard-disk drive cable, faulty hard-disk drive controller subsystem on the hard-disk drive, or loose power cable.
Invalid configuration information - please run SETUP program	System Setup program contains incorrect system configuration settings.	Incorrect configuration settings in System Setup program or faulty battery.
Keyboard clock line failure Keyboard failure	System cannot communicate with keyboard. Indicates a fatal error.	Loose or improperly connected keyboard cable connector, defective keyboard, or defective keyboard/mouse controller (defective system board).
Keyboard controller failure	Keyboard/mouse controller failed. Indicates a fatal error.	Defective keyboard/mouse controller (defective system board).
Keyboard data line failure Keyboard stuck key failure	System cannot communicate with keyboard. Indicates a fatal error.	Loose or improperly connected keyboard cable connector, defective keyboard, or defective keyboard/mouse

		controller (defective system board).
Memory address line failure at <i>address</i> , read value expecting value Memory data line failure at <i>address</i> , read value expecting value Memory double word logic failure at <i>address</i> , read value expecting value Memory odd/even logic failure at <i>address</i> , read value expecting value Memory write/read failure at <i>address</i> , read value expecting value	During memory test, <i>value</i> read at <i>address</i> was incorrect.	Faulty or improperly seated DIMMs or defective system board.
Memory allocation error	Software in use conflicts with operating system, application, or utility.	Faulty application or utility.
No boot device available	System does not recognize diskette drive or hard-disk drive from which it is trying to boot.	Faulty diskette, diskette/tape drive subsystem, hard-disk drive, hard-disk drive subsystem; or no boot disk in drive A.
No boot sector on hard-disk drive	Configuration settings in System Setup program incorrect, or operating system corrupted.	Incorrect configuration settings in System Setup program, or no operating system on hard-disk drive.
No timer tick interrupt	Timer on system board malfunctioning. Indicates a fatal error.	Defective system board.
Non-system disk or disk error	Diskette in drive A or hard-disk drive does not have bootable operating system installed on it.	Faulty diskette, diskette/tape drive subsystem, or hard-disk drive subsystem.
Not a boot diskette	No operating system on diskette.	No operating system on diskette.
Plug and Play Configuration Error	System encountered problem in trying to configure one or more expansion cards.	System resource conflict.
Read fault Requested sector not found	MS-DOS® cannot read from diskette or hard-disk drive. System could not find particular sector on disk, or requested sector defective.	Faulty diskette, or hard-disk drive.
Reset failed	Disk reset operation failed.	Improperly connected diskette/tape drive, hard-disk drive interface cable, or power cable.
Sector not found	MS-DOS unable to locate sector on diskette or hard-disk drive.	Defective sectors on diskette or hard-disk drive.
Seek error	MS-DOS unable to locate specific track on diskette or hard-disk drive.	Defective diskette or hard-disk drive.
Seek operation failed	System could not find particular address mark on disk.	Faulty diskette or hard-disk drive.
Shutdown failure	System board chip faulty. Indicates a fatal error.	Defective system board.
Time-of-day clock stopped	System battery low.	Defective battery or faulty chip (defective system board).
Time-of-day not set	Time or Date setting in System Setup program incorrect, or system battery bad.	Incorrect Time or Date settings, or defective system battery.
Timer chip counter 2 failed	Timer circuit on system board malfunctioning. Indicates a fatal error.	Defective system board.
Unexpected interrupt in	Keyboard/mouse controller	Improperly seated DIMMs or faulty

protected mode	malfunctioning, or one or more DIMMs improperly seated. Indicates a fatal error.	keyboard/mouse controller chip (defective system board).
Write fault Write fault on selected drive	MS-DOS cannot write to diskette or hard-disk drive.	Faulty diskette or hard-disk drive.

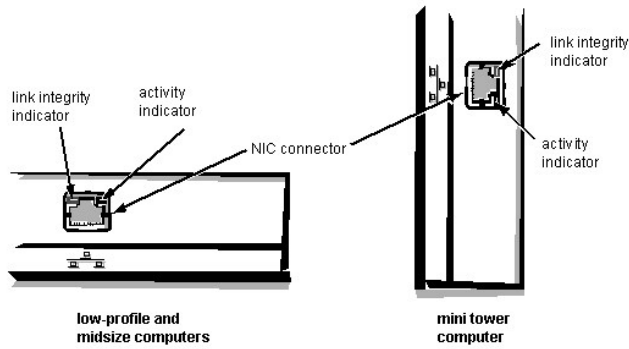
NIC: Dell™ OptiPlex™ GX1p

The OptiPlex GX1p system includes an onboard Ethernet NIC subsystem.

The integrated 10/100-Mbps 3Com® PCI 3C905B-TX Ethernet NIC subsystem supports the [Wakeup On LAN](#) feature and the 10BASE-T and 100BASE-T standards. The NIC subsystem connects to the Ethernet network through a single RJ45 connector on the back of the computer. The RJ45 connector and the NIC interface circuitry are mounted on the [system board](#).

The NIC connector on the computer's back panel has the following indicators:

- 1 A yellow activity indicator that flashes when the system is transmitting or receiving network data. (A high volume of network traffic may make this indicator appear to be in a steady "on" state.)
- 1 A green link integrity indicator that lights up when there is a good connection between the network and the NIC. When the green indicator is off, the system is not detecting a physical connection to the network.



See Chapter 4, "Using Integrated Devices," in the [Reference and Installation Guide](#) for information on configuring the NIC.

Tech Notes: Dell™ OptiPlex™ GX1p

[Video](#)

[Memory](#)

[Expansion Subsystem](#)

[Power](#)

[Hard-Disk Drive Options](#)

[I/O Map](#)

[POST Beep Codes](#)

[PCI-to-PCI Bridging](#)

[NIC](#)

[System Error Messages](#)

[IRQ Assignments](#)

[DMA Channel Assignments](#)

[System Setup](#)

[Drivers and Utilities](#)

[Removing and Replacing Parts](#)

[Wakeup On LAN](#)

[Bus-mastering](#)

[Updated ATAPI](#)

[DMI Support/Dell OpenManage Client](#)

PCI-to-PCI Bridging: OptiPlex GX1p


PCI-to-PCI bridging is supported in this system.

Power: Dell™ OptiPlex™ GX1p

[DC Voltage Ranges](#) | [DC Power Cables](#) | [DC Power Distribution \(Midsized Chassis\)](#) | [DC Power Distribution \(Mini Tower Chassis\)](#)

DC Voltage Ranges

Dell OptiPlex GX1p systems are equipped with a switch-selectable (115/230 VAC) universal power supply that can operate from standard AC power outlets in all countries. The system power supplies provide the DC operating voltages and currents listed in the following table.

 **NOTE:** Each power supply produces DC voltages only under its loaded condition. Therefore, when you measure these voltages, the DC power connectors must be connected to their corresponding power input connectors on the system board or drives.

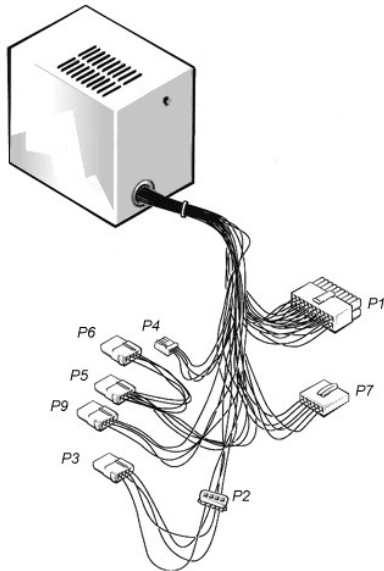
Voltage	Range	Maximum Output Current
+3.3 VDC	+3.15 to +3.45 VDC	14.0 A ¹
+5 VDC	+4.75 to +5.25 VDC	22.0 A ¹
+12 VDC	+11.40 to +12.60 VDC	6.0 A ²
-12 VDC	-10.80 to -13.20 VDC	0.3 A
-5 VDC	-4.50 to -5.50 VDC	0.3 A
+5 VFP ³	+4.75 to +5.25 VDC	10 mA


¹ The combined load on the +5-VDC and +3.3-VDC outputs shall not exceed 140 W on the midsized system.

² Withstands surges of up to 11.0 A to support disk start-up operations.

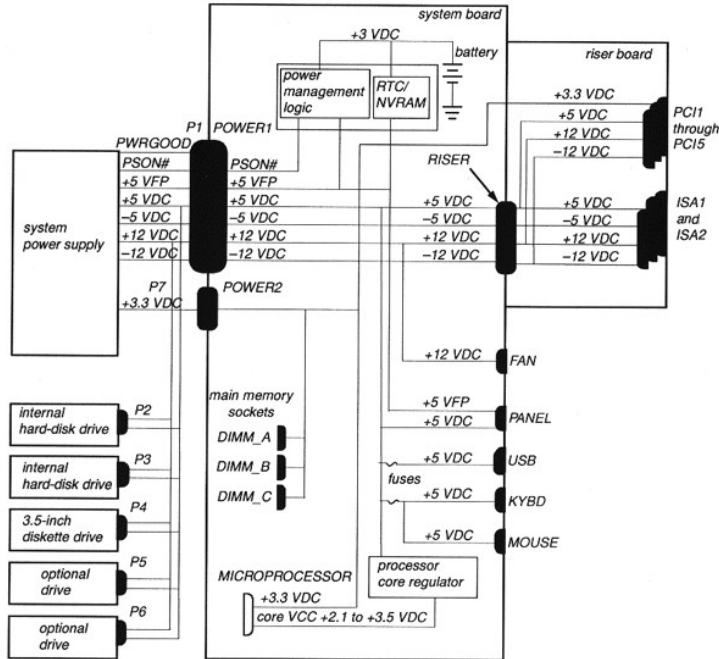
³ VFP (volts flea power) — sometimes called "standby power."

DC Power Cables

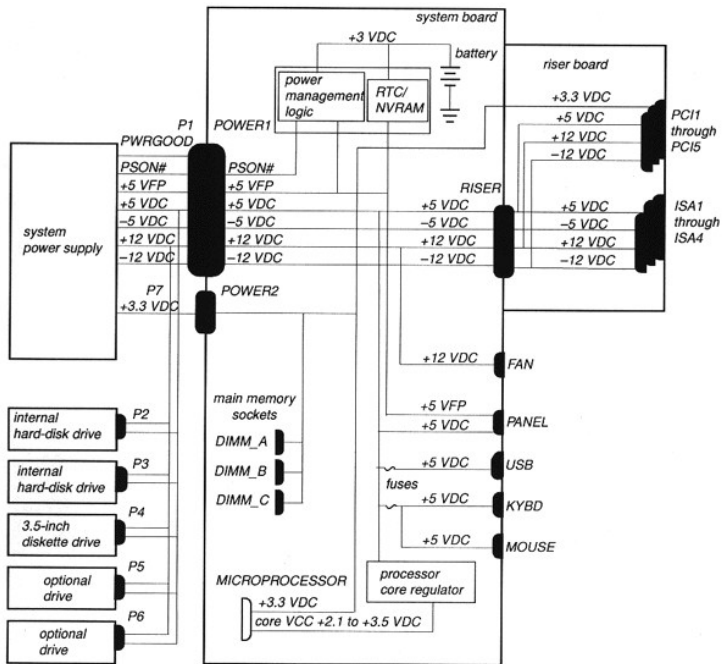


 **NOTE:** Connector P6 was not present in earlier midsized computers; in these computers, connector P9 was labeled "P6."

DC Power Distribution (Midsized Chassis)



DC Power Distribution (Mini Tower Chassis)




Removing and Replacing Parts: Dell™ OptiPlex™ GX1p

[Precautionary Measures](#) | [Procedures](#) | [Recommended Tools](#)

Precautionary Measures

Before you remove or replace parts in the system, read the following warning for your personal safety and to prevent damage to the system from ESD.


... **WARNING: For your personal safety and protection of the equipment, perform the following steps in the sequence listed before you start to work on the computer:**

1. Turn off the computer and any attached peripherals.
 2. Disconnect the computer and any attached peripherals from their power sources to reduce the potential for personal injury.
 3. Disconnect any telephone or telecommunication lines from the computer.
 4. Wear a wrist-grounding strap, and clip it to an unpainted metal surface, such as the padlock ring on the back of the chassis. If a wrist-grounding strap is not available, touch an unpainted metal surface on the back of the computer to discharge any static charge from your body.
-

Procedures

Unless otherwise noted, each procedure is based on the following assumptions:

- 1 You have the [recommended tools](#).
- 1 You have performed the steps in [Precautionary Measures](#).
- 1 You have removed the computer cover.
- 1 You can replace or reinstall a part by performing the removal procedure in reverse order unless additional information is provided.

... **CAUTION! The computer's power supply continues to supply "flea power" to the system board whenever the computer is turned off and plugged into an electrical outlet. Do not replace or install components on the system board without first unplugging the computer from the electrical outlet. Otherwise, damage may occur to the system board and to the components.**

Midsize Chassis

[Optional Stand Removal](#)
[Computer Cover Removal](#)
[Eject, Power, and Reset Button Removal](#)
[Front-Panel Insert Removal](#)
[Control Panel Removal](#)
[Drive Hardware Removal](#)
[System Power-Supply Removal](#)
[Expansion-Card Cage Removal](#)
[Expansion Card Removal](#)
[Riser Board Removal](#)
[DIMM Removal and Installation](#)
[Video Memory Removal](#)
[SEC Cartridge/Heat Sink Assembly Removal](#)
[System Battery Removal](#)
[System Board Removal](#)

Mini Tower Chassis

[Computer Cover Removal](#)
[Front Bezel Removal](#)
[Eject, Power, and Reset Button Removal](#)
[Front-Panel Insert Removal](#)
[Control Panel Removal](#)
[Drive Hardware Removal](#)
[System Power-Supply Removal](#)
[Expansion-Card Cage Removal](#)
[Expansion Card Removal](#)
[Riser Board Removal](#)
[DIMM Removal and Installation](#)
[Video Memory Removal](#)
[SEC Cartridge/Heat Sink Assembly Removal](#)
[System Battery Removal](#)
[System Board Removal](#)

Recommended Tools

- 1 Small flat-blade screwdriver
- 1 Wide flat-blade screwdriver
- 1 Number 1 and number 2 Phillips-head screwdrivers
- 1 1/4-inch nut driver
- 1 Tweezers or long-nose pliers
- 1 Chip removal tool
- 1 Wrist grounding strap


Expansion Subsystem: Dell™ OptiPlex™ GX1p

[ISA Configuration Utility](#) | [Low-Profile Chassis Riser Board](#) | [Midsize Chassis Riser Board](#) | [Mini-Tower Chassis Riser Board](#)

ISA Configuration Utility

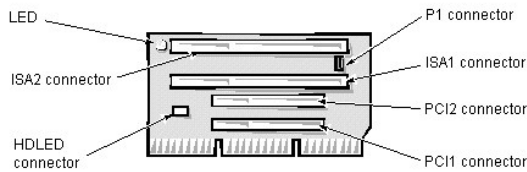
The GX1p systems offer an advanced expansion subsystem that can support a mixture of traditional ISA expansion cards (called *legacy* cards), Plug and Play ISA expansion cards, and PCI expansion cards. The ISA Configuration Utility (ICU) included with the computer provides a means of avoiding resource conflicts that might arise from such an arrangement.

After all legacy cards have been configured with the ICU, the computer automatically assigns any required memory space, IRQ lines, and DMA channels to any installed Plug and Play ISA expansion cards and PCI expansion cards the next time the computer is rebooted. "Configuring Expansion Cards" in the online [System User's Guide](#) describes the ICU and provides instructions for using it to configure the computer.

 **NOTES:** If the Microsoft® Windows NT® operating system is being used, set any Plug and Play expansion cards to legacy mode, using the card manufacturer's configuration utility, and enter the card's resources with this utility. Then run the ICU and add the card to the system's configuration.

The ICU is not required for the Microsoft Windows® 95 operating system because the same functions are provided by the Device Manager.

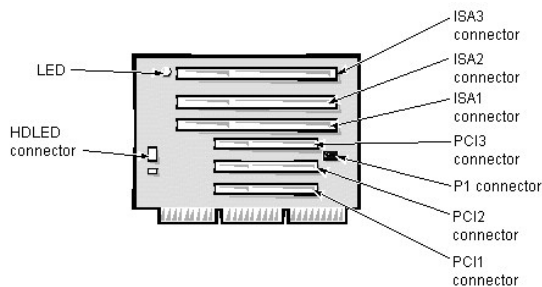
Low-Profile Chassis Riser Board



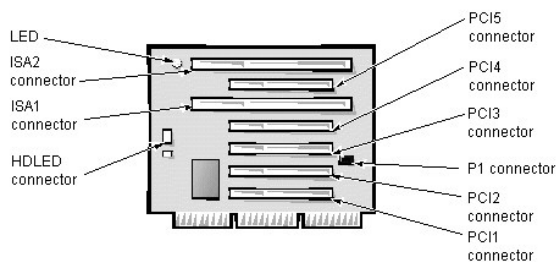
ISA1 and PCI2 share the same card-slot opening. The low-profile computers have a passive riser board, with no PCI-to-PCI bridge.

Midsize Chassis Riser Board

Option 1



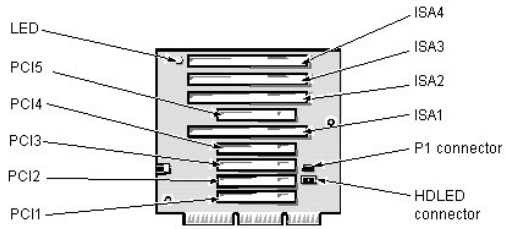
Option 2



The riser board is offered in two options:

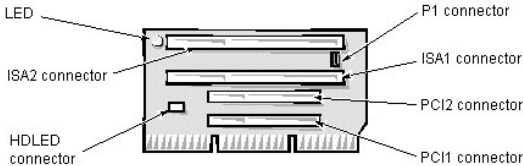
- 1 Option 1 is a passive riser board, with no PCI-to-PCI bridge. ISA1 and PCI3 share the same card-slot opening.
 - 1 Option 2 is an active riser board, with a PCI-to-PCI bridge. ISA1 shares its card-slot opening with PCI4, and ISA2 shares its card-slot opening with PCI5.
-

Mini-Tower Chassis Riser Board

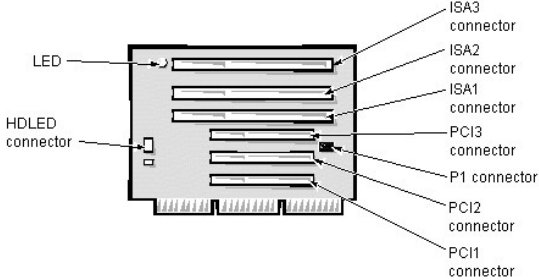


ISA1 shares its card-slot opening with PCI4, and ISA2 shares its card-slot opening with PCI5. The riser board is active, incorporating PCI-to-PCI bridging.

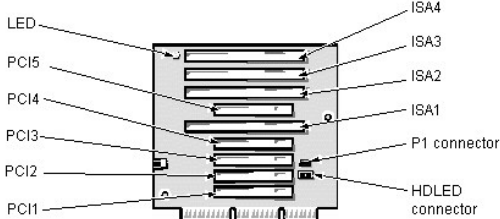
Riser Board for the Low-Profile Computer: Dell™ OptiPlex™ GX1p



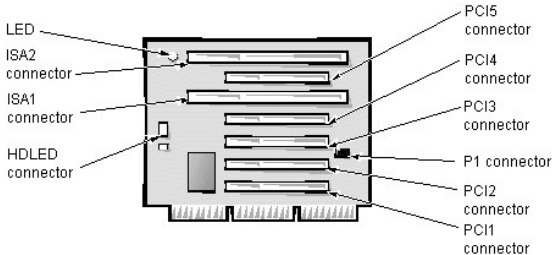
Riser Board for the Midsize Computer (Option 1): Dell™ OptiPlex™ GX1p



Riser Board for the Mini Tower Computer: Dell™ OptiPlex™ GX1p



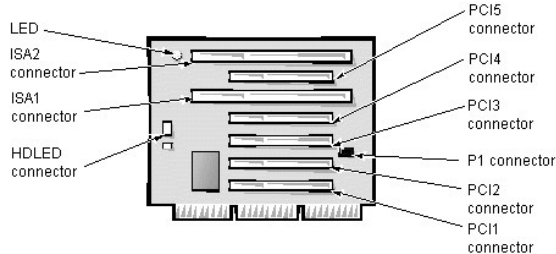
Riser Board for the Midsize Computer (Option 2): Dell™ OptiPlex™ GX1p



Expansion Subsystem: Dell™ OptiPlex™ GX1p

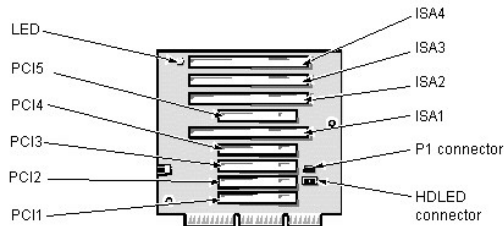
[Midsized Chassis Riser Board](#) | [Mini Tower Chassis Riser Board](#)

Midsized Chassis Riser Board



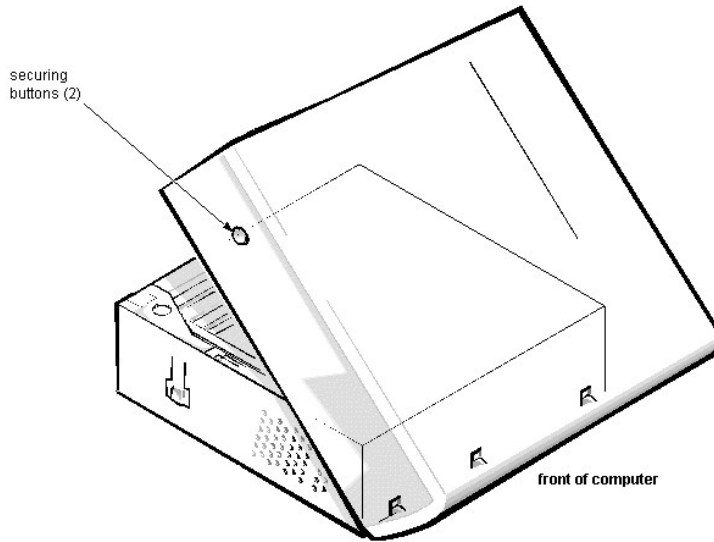
ISA1 shares its card-slot opening with PCI4, and ISA2 shares its card-slot opening with PCI5. The riser board is active, incorporating PCI-to-PCI bridging. The riser board includes the P1 connector (for connecting the NIC to the riser cable) and an LED. If the LED is on, the riser board is receiving power; if it is off, the riser board is not receiving power.

Mini Tower Chassis Riser Board



ISA1 shares its card-slot opening with PCI4, and ISA2 shares its card-slot opening with PCI5. The riser board is active, incorporating PCI-to-PCI bridging. The riser board includes the P1 connector (for connecting the NIC to the riser cable) and an LED. If the LED is on, the riser board is receiving power; if it is off, the riser board is not receiving power.

Computer Cover Removal (Low-Profile Chassis): Dell™ OptiPlex™ GX1p

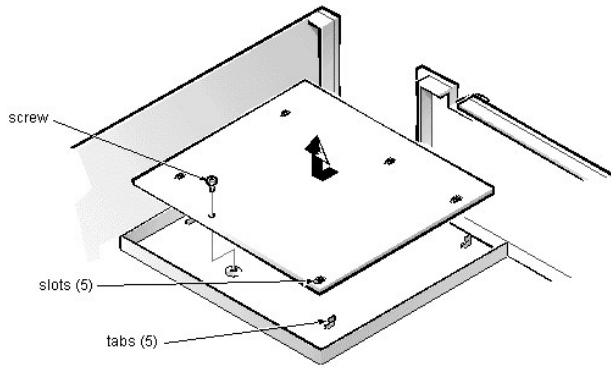


To remove the computer cover, follow these steps:

1. Turn off power to the computer and all peripherals, and disconnect the AC power cables from their AC outlets.
2. Remove the padlock if one is installed.
3. Press in on the 2 securing buttons until the cover is free to swing up.
4. Raise the back of the cover, and pivot it toward the front of the computer.
5. Lift the cover off of the hooks at the front of the chassis.
Three plastic hooks on the inside-front part of the cover secure it to the chassis.


Before you reinstall the cover, fold all cables out of the way so that they do not interfere with the cover or with proper airflow inside the computer.

System Board Removal (Low-Profile Chassis): Dell™ OptiPlex™ GX1p



To remove the system board, follow these steps:

1. Disconnect all cables from their connectors at the back of the computer.
2. [Remove the expansion-card cage.](#)
3. Disconnect all cables from the system board.
4. Remove the screw that secures the system board to the bottom of the chassis.
5. Slide the system board toward the front of the chassis until it stops.
6. Carefully lift the system board out of the chassis (be sure to lift evenly and not twist the system board).

 **NOTES:** If you are replacing the system board, remove all DIMMs, the video-memory upgrade module (if present), the single-edge contact (SEC) cartridge/heat sink assembly, and the guide bracket assembly from the old system board and install them on the replacement board. Also, set the jumpers on the new system board so that they are identical to those on the old board, unless a microprocessor upgrade is being installed.

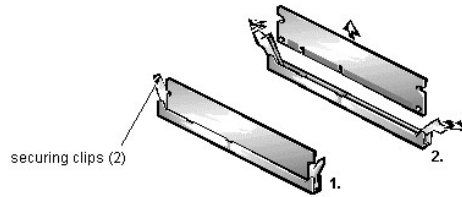
If the original system board has a NIC connector, ensure that the replacement board has a NIC connector.

When you reinstall the system board (before you slide the system board back to lock it in position), push down near each slot to engage the grounding clip onto its corresponding tab. Push evenly on both sides of the system board as you slide it into position (do not twist the system board).

DIMM Removal and Installation (Low-Profile Chassis): OptiPlex GX1p

[DIMM Removal](#) | [DIMM Installation](#)

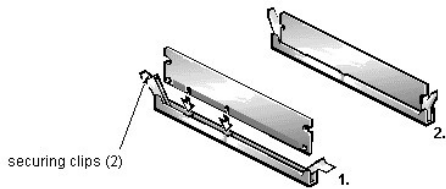
DIMM Removal



To remove a DIMM from 1 of the 3 DIMM sockets, follow these steps:

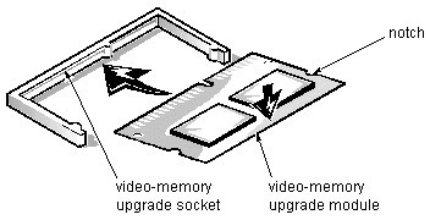
1. Remove the system power supply.
2. Locate the DIMM that you wish to remove.
3. Push outward on the DIMM socket's securing clips until the DIMM is released from its socket.
4. Lift the DIMM away from the socket.

DIMM Installation



1. Install the replacement DIMM by pressing the DIMM fully into the socket while closing the securing clips to lock the DIMM into the socket.
2. Replace all assemblies and cables previously removed.

Video Memory Removal (Low-Profile Chassis): Dell™ OptiPlex™ GX1p



You can upgrade video memory from 4 MB to 8 MB by installing a video-memory upgrade module in the video-memory upgrade socket on the system board. Adding video memory increases the system's video performance and provides additional modes for high-resolution/expanded color applications.

To install the video memory upgrade, follow these steps:

1. [Remove the expansion-card cage.](#)

CAUTION: To avoid possible damage to the video-memory upgrade socket and/or video-memory upgrade module, the module is keyed and must be correctly positioned before inserting it into the socket.

2. Orient the video-memory upgrade module as shown in the illustration. Then carefully align the module's edge connector pins with the socket, ensuring that the slot in the module mates with the socket key.
3. Press the video-memory upgrade module firmly into the socket, and pivot the module downward until the module clicks into place.

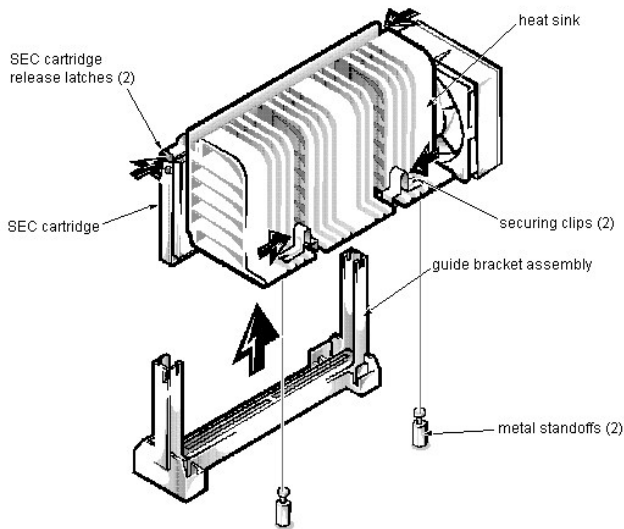
NOTE: If you do not hear a sharp click when installing the video-memory upgrade module, remove the module and repeat steps 2 and 3.

4. [Replace the expansion-card cage.](#)
5. [Replace the computer cover,](#) and reconnect the AC power cable to the AC outlet. Press the power button on the computer to reboot the system.

NOTE: As the system boots, it automatically detects the presence of the new video-memory upgrade module and changes the system configuration information in the System Setup program.

6. Enter the System Setup program, and confirm that 8 MB is shown for Video Memory. If the total memory is listed incorrectly, repeat steps 1 through 6 to reseat the video-memory upgrade module and verify that the computer acknowledges the module.
7. Run the system diagnostics (Video Test Group) to test the new video-memory upgrade module.

SEC Cartridge/Heat Sink Assembly Removal (Low-Profile Chassis): Dell™ OptiPlex™ GX1p



To remove the SEC cartridge/heat sink assembly, follow these steps:

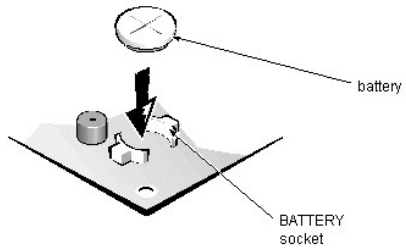
1. [Remove the system power supply.](#)

⚠... WARNING: The SEC cartridge/heat sink assembly can get extremely hot during system operations. Be sure that the assembly has had sufficient time to cool before touching it.

2. Locate the SEC cartridge/heat sink assembly.
3. Disconnect the microprocessor fan connector from the 3-pin connector (labeled "FAN") on the system board.
The connector is located between the SERIAL 2 connector and the MONITOR connector.
4. Release the 2 securing clips near the base of the heat sink from the metal standoffs.
5. Locate and press inward on the SEC cartridge release latches (located directly on top of the SEC cartridge adjacent to the heat sink assembly) until the latches click.
6. Lift the SEC cartridge/heat sink assembly out of its guide bracket assembly/connector on the system board.

🔧 NOTE: When installing the SEC cartridge/heat sink assembly, carefully orient the assembly and press firmly with up to 25 pounds of force to mate the SEC cartridge with its connector. Then slide the SEC cartridge release latches outward to lock the assembly onto the metal standoffs.

System Battery Removal (Low-Profile Chassis): Dell™ OptiPlex™ GX1p



To remove the system battery, follow these steps:

1. If possible, boot the system and enter the System Setup program. Then record important system configuration information.
2. Turn off power to the computer and all peripherals, and disconnect the AC power cables from their AC outlets.
3. [Remove the computer cover.](#)
4. [Remove the expansion-card cage,](#) and locate the battery in the front-right corner of the system board adjacent to the DIMM connectors.
5. Remove the battery by carefully prying it out of its socket with your fingers or with a blunt, nonconducting object, such as a plastic screwdriver.

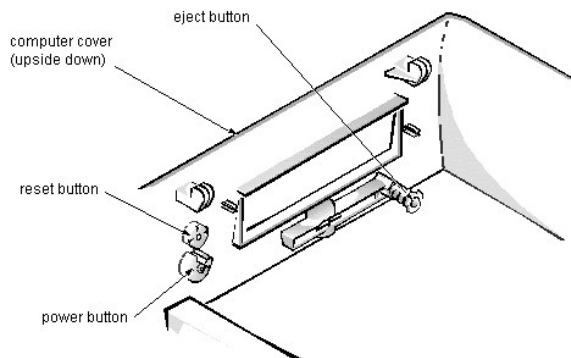
⚠... CAUTION: If you pry out the battery with a blunt object, be careful not to touch the system board with the object. Ensure that the object is inserted between the battery and the socket before attempting to pry out the battery. Otherwise, you may damage the system board by prying off the socket or by breaking traces on the system board.

6. Insert the battery into the socket (with the positive side labeled "+" facing upwards), and snap it into place.

⚠... WARNING: There is a danger of the new battery exploding if it is incorrectly installed. When you replace the system battery, orient the new battery with the "+" facing up. Replace the battery only with the same or equivalent type recommended by the manufacturer. Discard used batteries according to the manufacturer's instructions.

6. [Replace the expansion-card cage;](#) [replace the computer cover,](#) reconnect all cabling, and reboot the system.
7. Enter the System Setup program, and configure the system using the information you recorded in step 1.
8. Turn off the computer; wait 10 or more minutes, and then reenter the System Setup program to ensure that the date and time are still correct, indicating that the system battery is functioning correctly.

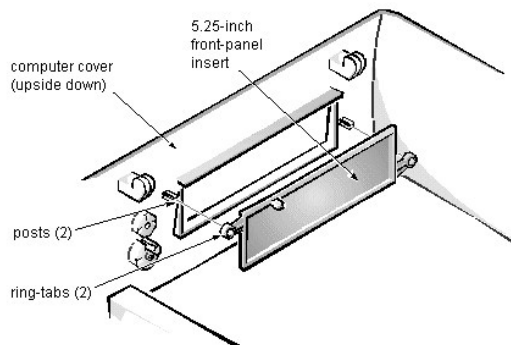
Eject-, Power-, and Reset-Button Removal (Low-Profile Chassis): Dell™ OptiPlex™ GX1p



To remove the eject, power, and reset buttons, follow these steps:

1. Lay the computer cover upside down on a flat work surface with the back of the cover facing you.
2. To remove the 3.5-inch diskette-drive eject button, pull gently on the plastic part of the button until it comes free.
3. To remove the power button or the reset button, use a small screwdriver and push in on the 2 or 3 plastic clips that hold the button to the computer cover. When these clips are released, the button comes free from the front panel of the cover.

Front-Panel Insert Removal (Low-Profile Chassis): Dell™ OptiPlex™ GX1p

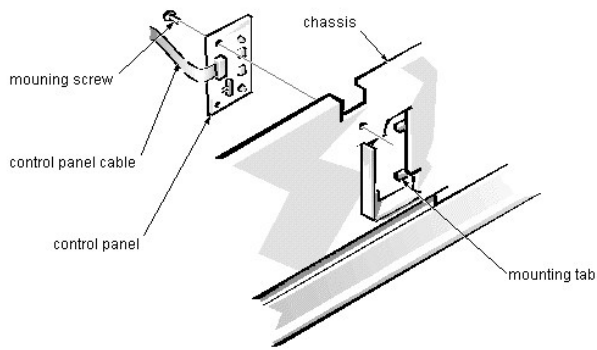


To remove a front-panel insert, follow these steps:

1. Lay the computer cover upside down on a flat work surface with the front of the cover facing you.
2. From the front of the cover, use your thumbs to push inward on the insert until it slides off the 2 posts.

To replace a 5.25-inch front-panel insert, position the 2 ring-tabs over the posts on the inside of the bay opening, and then press the ring-tabs over the posts. If necessary, use a 1/4-inch nut driver to help push on the ring-tabs.

Control Panel Removal (Low-Profile Chassis): Dell™ OptiPlex™ GX1p



To remove the control panel, follow these steps:

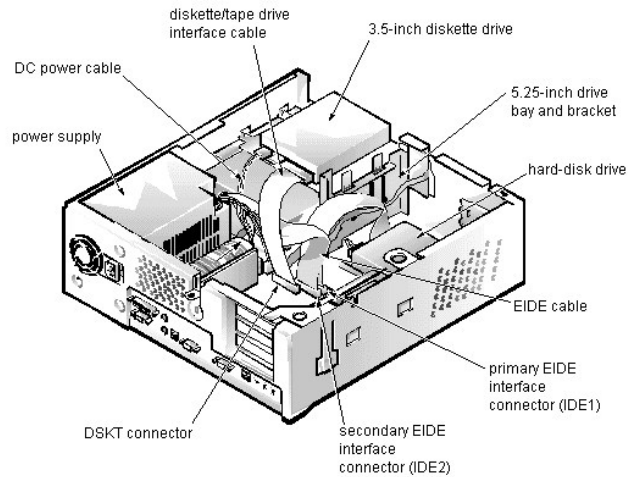
1. Disconnect the control panel cable from the PANEL connector on the system board.
2. From the inside of the chassis, remove the mounting screw holding the control panel to the chassis.
3. Remove the control panel from the chassis.

When you reinstall the control panel, be sure to put the right side of the control panel behind the mounting tab.

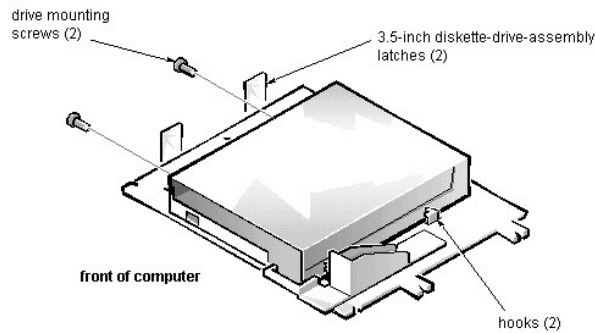
Drive Hardware Removal (Low-Profile Chassis): OptiPlex GX1p

[Drive Hardware](#) | [3.5-Inch Diskette-Drive Removal](#) | [5.25-Inch Drive Assembly Removal](#) | [Hard-Disk Drive Assembly Removal](#)

Drive Hardware



3.5-Inch Diskette-Drive Removal

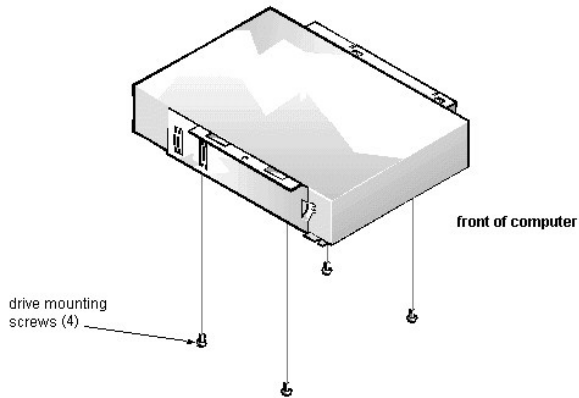


To remove the 3.5-inch diskette drive assembly, follow these steps:

1. Disconnect the DC power cable and the interface cable from the back of the diskette drive.
2. Press the (2) 3.5-inch diskette-drive-assembly latches to the left to release the assembly.
3. Rotate the left side of the assembly up, and lift the assembly out of the chassis.
4. Remove the 2 drive-mounting screws from the left side of the drive, and remove the drive from the bracket.

When you replace the 3.5-inch diskette drive, be sure that the mounting holes on the right side of the drive engage the 2 hooks on the bracket.

5.25-Inch Drive Assembly Removal



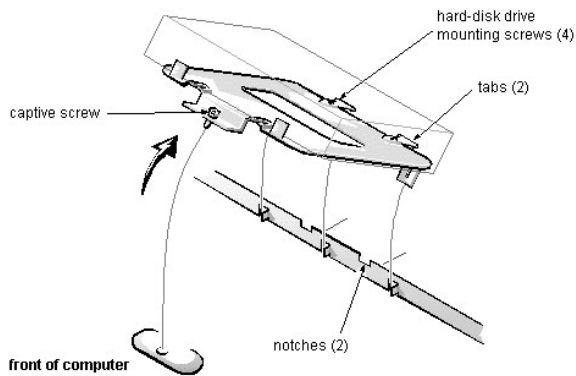
To remove a 5.25-inch drive assembly, follow these steps:

1. Remove the 3.5-inch diskette drive assembly.
2. Disconnect the DC power cable and the interface cable from the back of the 5.25-inch drive.
3. Lift the 5.25-inch drive assembly straight up and out of the chassis.
4. Lay the 5.25-inch drive assembly upside down; then remove the 4 screws attaching the drive to the bracket.

When you replace the 5.25-inch drive, place the front of the drive toward the front of the bracket; then install the 4 screws, but do not tighten them. Align the screws with the score marks on the bracket, and tighten the screws in the order stamped on the bottom of the bracket.

Check the alignment of the computer cover around the 5.25-inch drive bezel. Adjust the drive forward or backward on the bracket to align it.

Hard-Disk Drive Assembly Removal

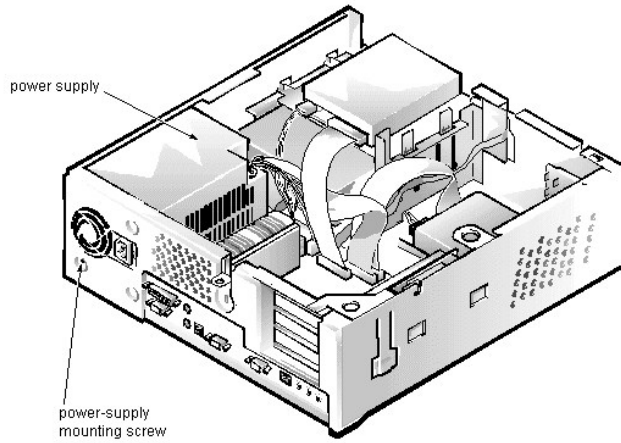


To remove the hard-disk drive, follow these steps:

1. Disconnect the DC power cable and the interface cable from the back of the drive.
2. Loosen the captive screw that secures the hard-disk drive bracket to the chassis.
3. Pivot the hard-disk drive assembly up and lift it out of the chassis.
4. Remove the 4 hard-disk drive mounting screws that attach the hard-disk drive to the hard-disk drive bracket.

When you reinstall the hard-disk drive assembly, be sure that the tabs on the back of the mounting plate fully engage the notches on the chassis before you rotate the assembly into place.

System Power-Supply Removal (Low-Profile Chassis): Dell™ OptiPlex™ GX1p



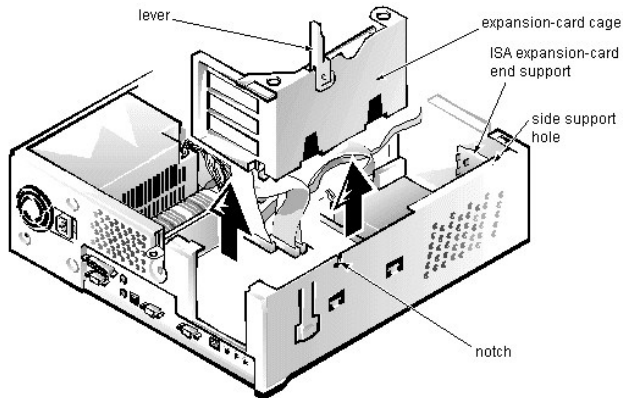
To remove the system power supply, follow these steps:

1. Disconnect the AC power cable from the back of the power supply.
2. Disconnect the DC power cables from the system board and the drives.
3. Remove the power-supply mounting screw at the back of the chassis.
4. Slide the system power supply forward until it stops; then lift it from the chassis.

When you replace the system power supply, place it down inside the chassis and against the right side of the chassis. Then slide it toward the back of the chassis, and hook the tabs into the right side of the power supply.

⚠... WARNING: The voltage selection switch, located on the back of the power supply assembly, must be set to the correct operating voltage (115 or 230 V) before the power cable is plugged into an AC outlet.

Expansion-Card Cage Removal (Low-Profile Chassis): Dell™ OptiPlex™ GX1p



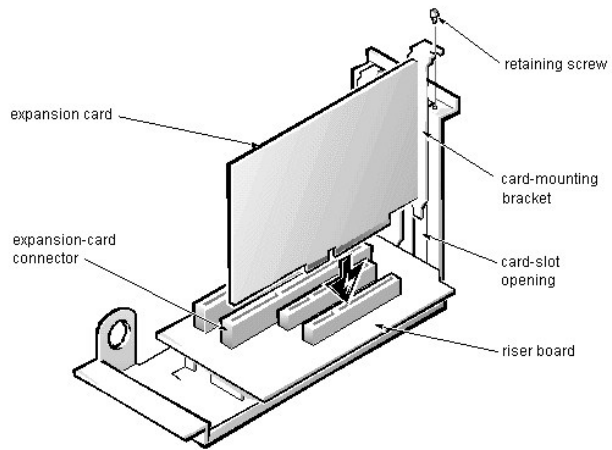
To remove an expansion-card cage, follow these steps:

1. Rotate the lever toward the back of the computer until it stops in the upright position.
2. Lift the expansion-card cage up and away from the computer.

To replace an expansion-card cage, keep it flush against the chassis to ensure that the lever engages the notch in the chassis when the lever is depressed.

If reinstalling an ISA expansion card into the expansion-card cage, be sure to slip the end of the ISA expansion card into the plastic ISA expansion-card end support. The ISA expansion-card end support should not be removed; however, if it is accidentally removed, reinstall it by first inserting its top tab into the side support hole and then sliding the bottom 2 tabs into the 2 support holes on the chassis floor.

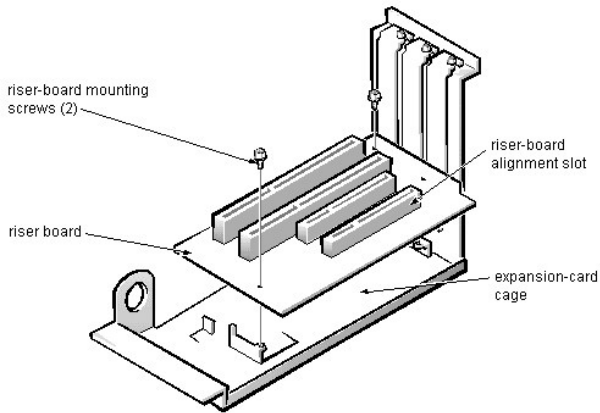
Expansion-Card Removal (Low-Profile Chassis): Dell™ OptiPlex™ GX1p



To remove an expansion card, follow these steps:

1. Disconnect any external cables from the expansion card being removed.
2. [Remove the expansion-card cage.](#)
3. Remove the retaining screw from the card-mounting bracket.
4. Grasp the expansion card by its corners, and carefully remove it from the expansion-card connector.

Riser Board Removal (Low-Profile Chassis): Dell™ OptiPlex™ GX1p

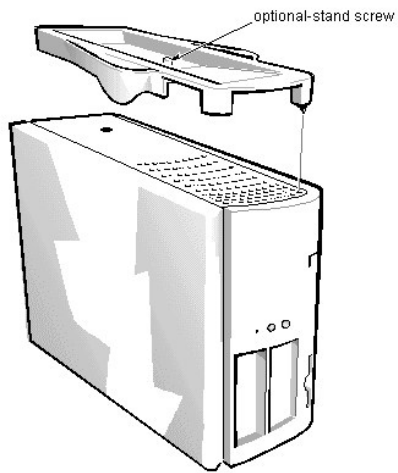


To remove the riser board, follow these steps:

1. Remove the expansion-card cage and remove all expansion cards.
2. Lay the expansion-card cage on a flat work surface with the riser board facing up.
3. Remove the 2 riser-board mounting screws.
4. Lift the riser board away from the expansion-card cage.

When you replace the riser board, be sure that the alignment feature on the expansion-card cage engages with the alignment slot.

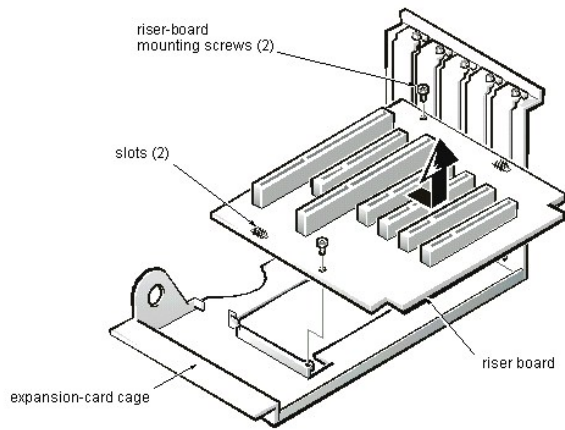
Optional Stand Removal (Midsize Chassis): Dell™ OptiPlex™ GX1p



To remove the optional stand, follow these steps:

1. Place the right side of the computer on a flat work surface.
2. Unscrew the optional-stand screw.
Use your fingers or a wide flat-blade screwdriver to unscrew the optional-stand screw.
3. Pull the stand away from the computer.
Disengage the 3 orientation nubs that position and help secure the stand to the computer.

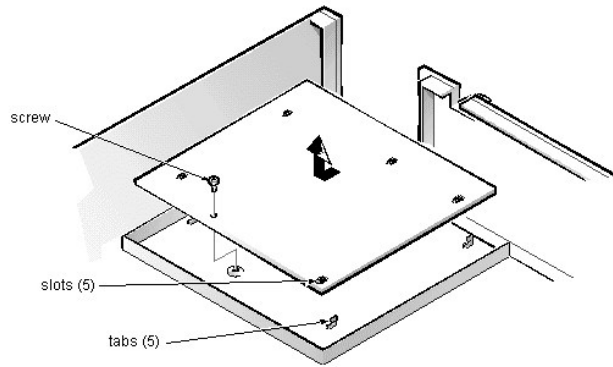
Riser Board Removal (Midsize Chassis): Dell™ OptiPlex™ GX1p



To remove the riser board, follow these steps:


1. [Remove the expansion-card cage](#) and [remove all expansion cards](#).
2. On a flat work surface, turn the expansion-card cage over so that the riser board faces up.
3. Remove the riser-board mounting screws.
4. Slide the riser board down until it stops; then lift the riser board away from the expansion-card cage.

System Board Removal (Midsize Chassis): Dell™ OptiPlex™ GX1p



To remove the system board, follow these steps:

1. Disconnect all cables from their connectors at the back of the computer.
2. [Remove the expansion-card cage.](#)
3. Disconnect all cables from the system board.
4. Remove the screw that secures the system board to the bottom of the chassis.
5. Slide the system board toward the front of the chassis until it stops.
6. Carefully lift the system board out of the chassis (be sure to lift evenly and not twist the system board).

 **NOTES:** If you are replacing the system board, remove all DIMMs, the video-memory upgrade module (if present), the single-edge contact (SEC) cartridge/heat sink assembly, and the guide bracket assembly from the old system board and install them on the replacement board. Also, set the jumpers on the new system board so that they are identical to those on the old board, unless a microprocessor upgrade is being installed.

If the original system board has a NIC connector, ensure that the replacement board has a NIC connector.

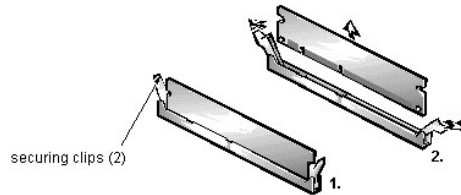
When you reinstall the system board (before you slide the system board back to lock it in position), push down near each slot to engage the grounding clip onto its corresponding tab. Push evenly on both sides of the system board as you slide it into position (do not twist the system board).

DIMM Removal and Installation (Midsized Chassis): OptiPlex GX1p

[DIMM Removal](#) | [DIMM Installation](#)

CAUTION: Do not use EDO DIMMs in this computer. This computer uses SDRAM DIMMs. EDO and SDRAM DIMMs have slightly different gap spacings and you may damage the DIMMs or sockets if you attempt to insert the wrong DIMM type in the computer.

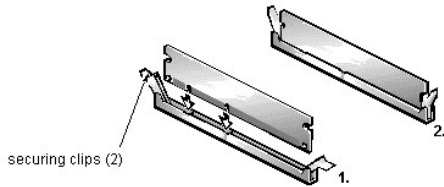
DIMM Removal



To remove a DIMM from one of the 3 DIMM sockets, follow these steps:

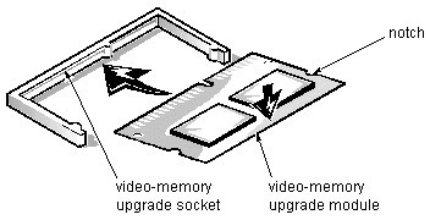
1. [Remove the system power supply.](#)
 2. Locate the DIMM you wish to remove.
 3. Push outward on the DIMM socket's securing clips until the DIMM is released from its socket.
 4. Lift the DIMM away from the socket.
-

DIMM Installation




1. Reinstall the replacement DIMM by pressing the DIMM fully into the socket while closing the securing clips to lock the DIMM into the socket.
2. Replace all assemblies and cables previously removed.


Video Memory Removal (Midsize Chassis): Dell™ OptiPlex™ GX1p




To replace the video-memory upgrade module, follow these steps:

1. [Remove the expansion-card cage.](#)


 **CAUTION:** To avoid possible damage to the video-memory upgrade socket and/or video-memory upgrade module, the module is keyed and must be correctly positioned before inserting it into the socket.

 **CAUTION:** To avoid possible damage to the video-memory upgrade module, disconnect the DC power cable and the interface cable from the back of each hard-disk drive installed in the hard-disk drive bracket.

2. Orient the video-memory upgrade module as shown in the illustration. Then carefully align the module's edge connector pins with the socket, ensuring that the slot in the module mates with the socket key.
3. Press the video-memory upgrade module firmly into the socket, and pivot the module downward until the module clicks into place.

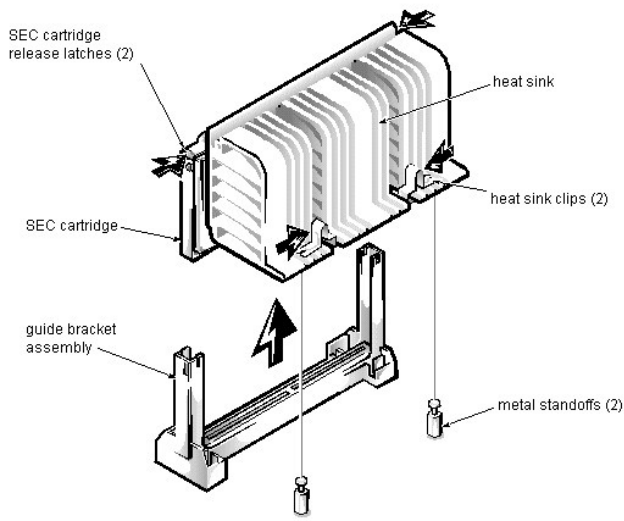
 **NOTE:** If you do not hear a sharp click when installing the video-memory upgrade module, remove the module and repeat steps 2 and 3.

4. [Replace the expansion-card cage.](#)
5. [Replace the computer cover,](#) and reconnect the AC power cable to the AC outlet. Press the power button on the computer to reboot the system.

 **NOTE:** As the system boots, it automatically detects the presence of the new video-memory upgrade module and changes the system configuration information in the System Setup program.

6. Enter the System Setup program, and confirm that 8 MB is shown for Video Memory. If the total memory is listed incorrectly, repeat steps 1 through 6 to reseat the video-memory upgrade module and verify that the computer acknowledges the module.
7. Run the system diagnostics (Video Test Group) to test the new video-memory upgrade module.

SEC Cartridge/Heat Sink Assembly Removal (Midsize Chassis): Dell™ OptiPlex™ GX1p



To remove the SEC cartridge/heat sink assembly, follow these steps:

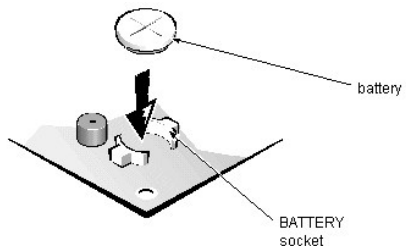
1. [Remove the system power supply.](#)

⚠... WARNING: The SEC cartridge/heat sink assembly can get extremely hot during system operations. Be sure that the assembly has had sufficient time to cool before touching it.

2. Locate the SEC cartridge/heat sink assembly.
3. Disconnect the microprocessor fan connector from the 3-pin connector (labeled "FAN") on the system board. The connector is located between the SERIAL 2 connector and the MONITOR connector.
4. Release the 2 securing clips near the base of the heat sink from the metal standoffs.
5. Locate and press inward on the SEC cartridge release latches (located directly on top of the SEC cartridge adjacent to the heat sink assembly) until the latches click.
6. Lift the SEC cartridge/heat sink assembly out of its guide bracket assembly/connector on the system board.

🔧 NOTE: When installing the SEC cartridge/heat sink assembly, press outward on the SEC cartridge release latches and then carefully orient the assembly and press firmly with up to 25 pounds of force to mate the SEC cartridge with its connector. The SEC cartridge release latches will click into the locked position as the assembly is seated.

System Battery Removal (Midsize Chassis): Dell™ OptiPlex™ GX1p



To remove the system battery, follow these steps:

1. If possible, boot the system and enter the System Setup program. Then record important system configuration information.
2. Turn off power to the computer and all peripherals, and disconnect the AC power cables from their electrical outlets.
3. [Remove the computer cover.](#)
4. [Remove the expansion-card cage,](#) and locate the battery in the front-right corner of the system board adjacent to the DIMM connectors.
5. Remove the battery by carefully prying it out of its socket with your fingers or with a blunt, nonconducting object, such as a plastic screwdriver.

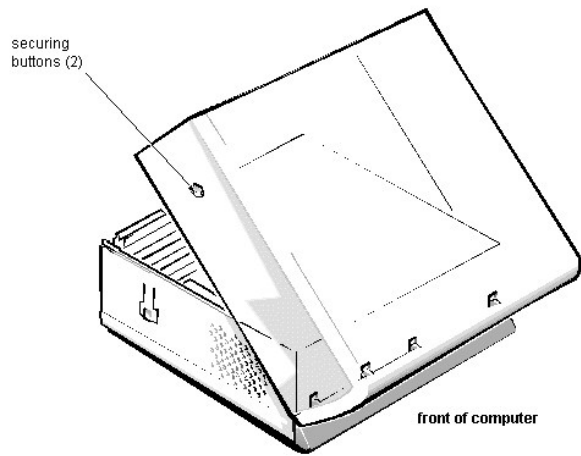
⚠... CAUTION: If you pry out the battery with a blunt object, be careful not to touch the system board with the object. Ensure that the object is inserted between the battery and the socket before attempting to pry out the battery. Otherwise, you may damage the system board by prying off the socket or by breaking traces on the system board.

6. Insert the battery into the socket (with the positive side labeled "+" facing upward), and snap it into place.

⚠... WARNING: There is a danger of the new battery exploding if it is incorrectly installed. When you replace the system battery, orient the new battery with the "+" facing up. Replace the battery only with the same or equivalent type recommended by the manufacturer. Discard used batteries according to the manufacturer's instructions.

7. [Replace the expansion-card cage;](#) [replace the computer cover,](#) reconnect all cabling, and reboot the system.
8. Enter the System Setup program, and configure the system using the information you recorded in step 1.
9. Turn off the computer; wait 10 or more minutes, and then reenter the System Setup program to ensure that the date and time are still correct, indicating that the system battery is functioning correctly.

Computer Cover Removal (Midsized Chassis): Dell™ OptiPlex™ GX1p

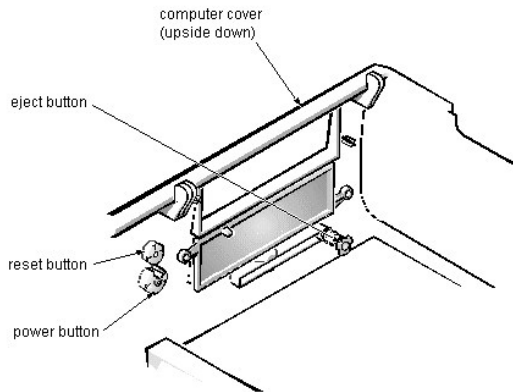


To remove the computer cover, follow these steps:

1. Turn off power to the computer and all peripherals, and disconnect the AC power cables from their electrical outlets.
2. Press in on the 2 securing buttons until the cover is free to swing up.
3. Raise the back of the cover, and pivot it toward the front of the computer.
4. Lift the cover off the hooks at the front of the chassis.
Four plastic hooks on the inside-front part of the cover secure it to the chassis.

Before you replace the cover, fold all cables out of the way so that they do not interfere with the cover or with proper airflow inside the computer.

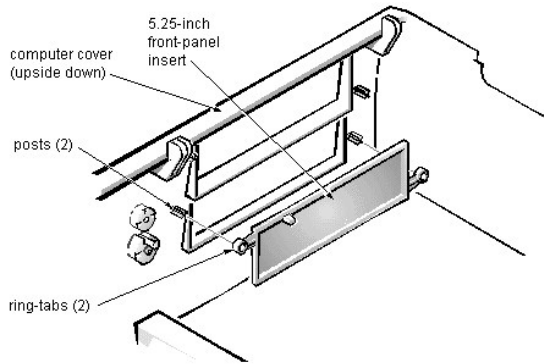
Eject, Power, and Reset Button Removal (Midsized Chassis): OptiPlex GX1p



To remove the eject, power, and reset buttons, follow these steps:

1. Lay the computer cover upside down on a flat work surface with the back of the cover facing you.
2. To remove the 3.5-inch diskette-drive eject button, pull gently on the plastic part of the button until it comes free.
3. To remove the power button or the reset button, use a small screwdriver and push in on the 2 or 3 plastic clips that secure the button to the computer cover. When these clips are released, the button comes free from the front panel of the cover.

Front-Panel Insert Removal (Midsized Chassis): OptiPlex GX1p

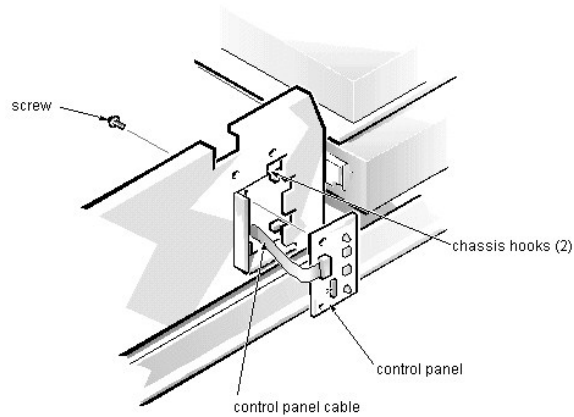


To remove a front-panel insert, follow these steps:

1. Lay the computer cover upside down on a flat work surface with the front of the cover facing you.
2. From the front of the cover, use your thumbs to push inward on the insert until it slides off the 2 posts.

To replace a 5.25-inch front-panel insert, position the 2 ring-tabs over the posts on the inside of the bay opening, and then press the ring-tabs over the posts. If necessary, use a 1/4-inch nut driver to help push on the ring-tabs.

Control Panel Removal (Midsize Chassis): Dell™ OptiPlex™ GX1p



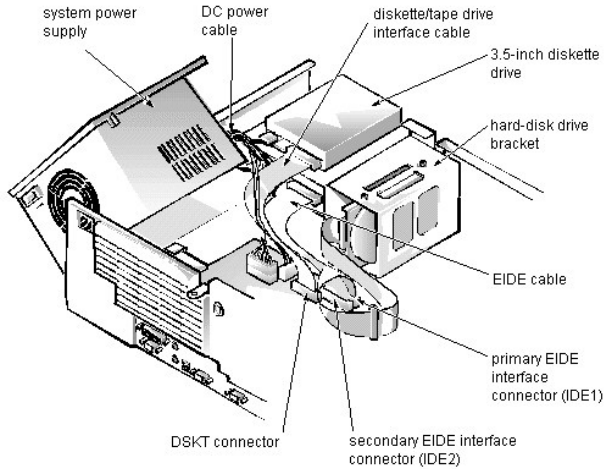
To remove the control panel, follow these steps:

1. Remove the hard-disk drive bracket.
2. Disconnect the control panel cable from the PANEL connector on the system board.
3. Remove the mounting screw holding the control panel to the chassis.
4. Slide the control panel out of the hooks holding it to the chassis.
5. Note the routing of the control panel cable as you remove it from the chassis.

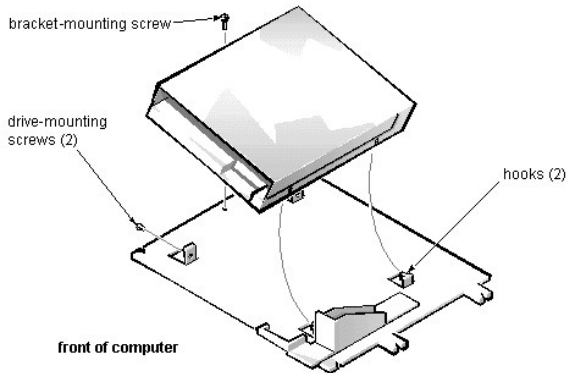
Drive Hardware Removal (Midsize Chassis): Dell™ OptiPlex™ GX1p

[Drive Hardware](#) | [3.5-Inch Diskette-Drive Removal](#) | [5.25-Inch Drive Assembly Removal](#) | [Hard-Disk Drive Bracket Removal](#) | [Hard-Disk Drive Assembly Removal](#)

Drive Hardware



3.5-Inch Diskette-Drive Removal

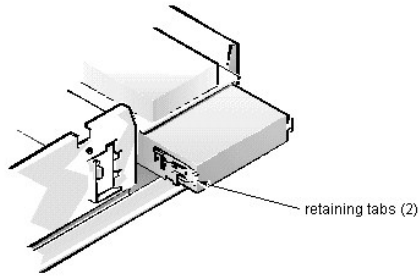


To remove the 3.5-inch diskette drive, follow these steps:

1. Disconnect the DC power cable and the interface cable from the back of the 3.5-inch diskette drive.
2. Remove the bracket-mounting screw.
3. Rotate the left side of the 3.5-inch diskette drive up, and lift the drive out of the chassis.
4. Remove the 2 drive-mounting screws from the left side of the drive, and remove the drive from the bracket.

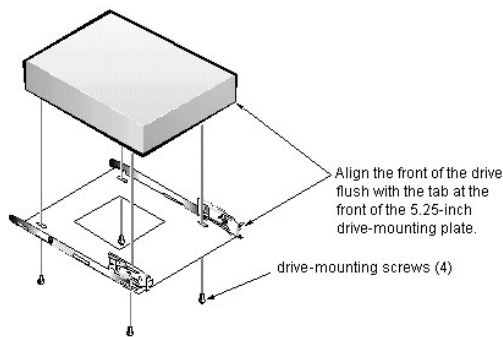
When you replace the 3.5-inch diskette drive, be sure that the 2 hooks on the right side of the bracket engage the mounting holes in the side of the 3.5-inch diskette drive.

5.25-Inch Drive Assembly Removal



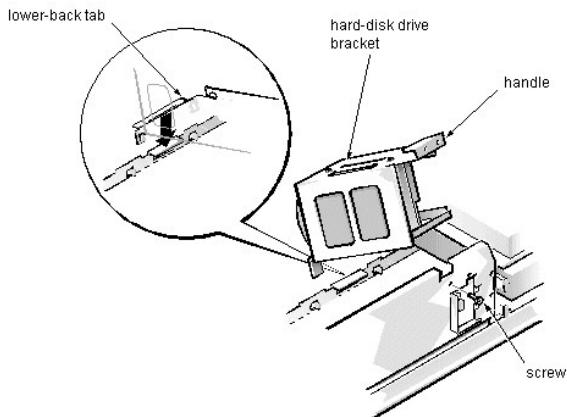
To remove a 5.25-inch drive assembly from the middle or lower drive bay, follow these steps:

1. Disconnect the DC power cable and the interface cable from the back of the drive.
2. Press in on the 2 retaining tabs (one on each side of the drive), and slide the drive assembly forward to remove it.
3. Remove the 4 screws attaching the 5.25-inch drive to the mounting plate, and lift the drive out of the mounting plate.



When you replace the 5.25-inch drive, align the front of the drive flush with the tab at the front of the mounting plate. Insert the 4 screws, and tighten them in the order stamped on the bottom of the 5.25-inch drive-mounting plate.

Hard-Disk Drive Bracket Removal



To remove the hard-disk drive bracket, follow these steps:

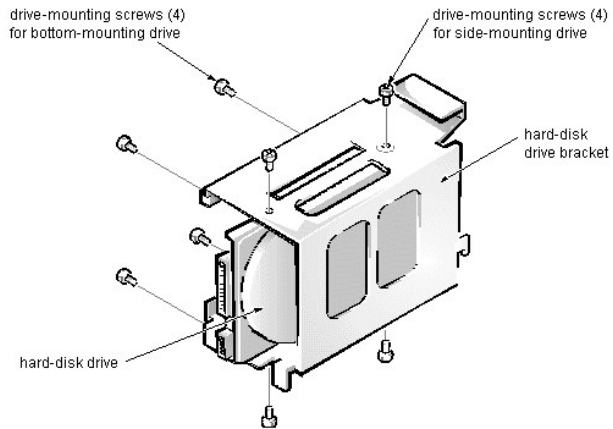
CAUTION: The video memory module can be damaged when the hard-disk drive bracket is removed if the hard-disk drive's DC power cable and the interface cable are not disconnected first.

1. Disconnect the DC power cable and the interface cable from the back of each hard-disk drive installed in the hard-disk drive bracket.

2. Remove the screw that secures the hard-disk drive bracket to the front of the chassis.
3. Grasp the handle on the front of the bracket, and rotate the front of the bracket up until the hooks are free from the chassis.
4. Lift the hard-disk drive bracket out of the computer.

When you reinstall the hard-disk drive bracket, place the lower-back tab of the hard-disk drive bracket into position (be sure that the opening in the lower-back tab is over the alignment tab on the chassis); then rotate the front of the bracket down into position.

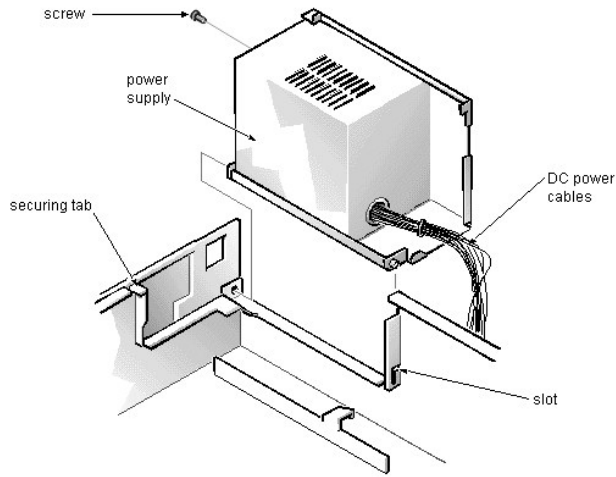
Hard-Disk Drive Assembly Removal



To remove the hard-disk drive, follow these steps:

1. Remove the hard-disk drive bracket.
2. Remove the 4 screws that attach the hard-disk drive to the hard-disk drive bracket.
One hard-disk drive attaches to the hard-disk drive bracket at the sides of the drive. The other hard-disk drive attaches to the hard-disk drive bracket at the bottom of the hard-disk drive.
3. Slide the drive out of the hard-disk drive bracket.

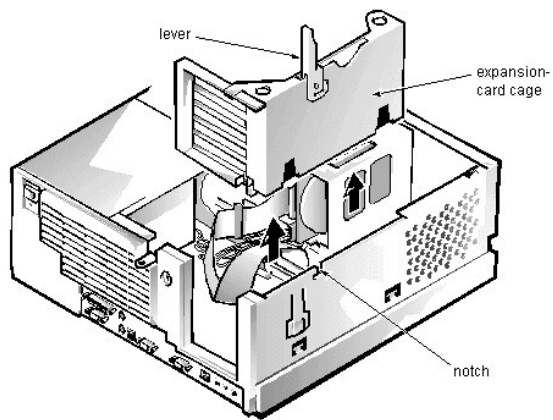
System Power-Supply Removal (Midsize Chassis): Dell™ OptiPlex™ GX1p



To remove the system power supply, follow these steps:

1. Disconnect the AC power cable from the back of the system power supply.
2. Free the system power supply from the securing tab labeled "RELEASE →," and rotate it upward until it locks.
Press the securing tab to release the power supply.
3. Remove the power-supply mounting screw at the back of the chassis.
4. Disconnect the DC power cables from the system board and the drives.
5. Facing the left side of the computer, move the front end of the system power supply toward you, and lift it up to disengage the power supply from the slot in the chassis.
6. Lift the system power supply from the computer.

Expansion-Card Cage Removal (Midsized Chassis): Dell™ OptiPlex™ GX1p

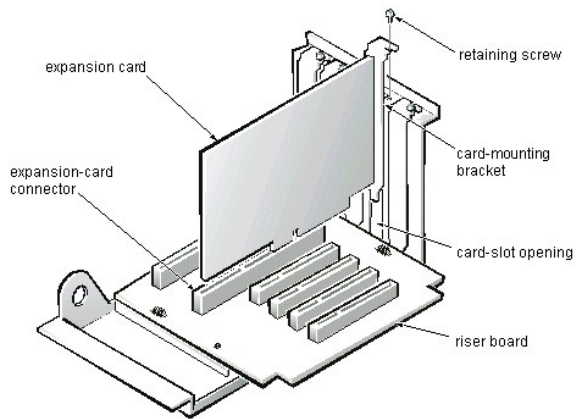


To remove an expansion-card cage, follow these steps:

1. Rotate the lever toward the back of the computer until it stops in the upright position.
2. Lift the expansion-card cage up and away from the computer.

To replace an expansion-card cage, keep it flush against the chassis to ensure that the lever engages the notch in the chassis when the lever is depressed.

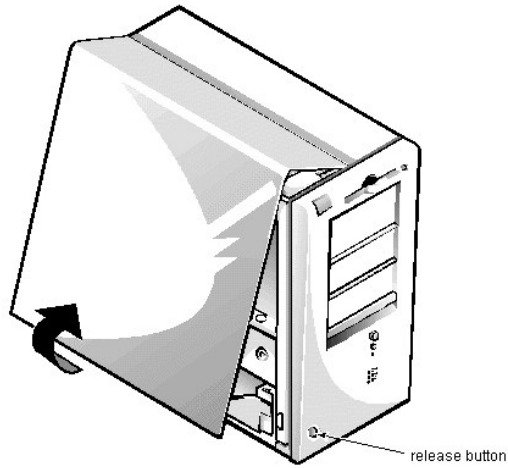
Expansion Card Removal (Midsize Chassis): Dell™ OptiPlex™ GX1p



To remove an expansion card, follow these steps:

1. Disconnect any external cables from the expansion card being removed.
2. [Remove the expansion-card cage.](#)
3. Remove the retaining screw from the card-mounting bracket.
4. Grasp the expansion card by its corners, and carefully remove it from the expansion-card connector.

Computer Cover Removal (Mini Tower Chassis): OptiPlex GX1p

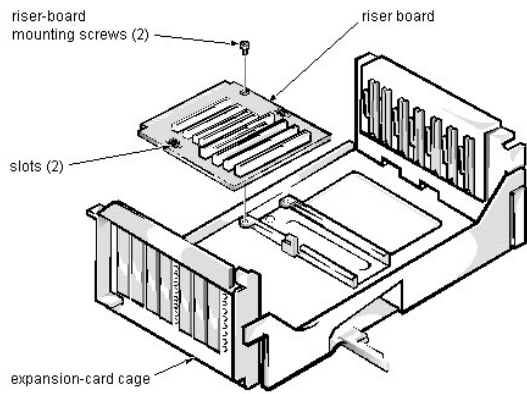


To remove the computer cover, follow these steps:

1. Turn off power to the computer and all peripherals, and disconnect the AC power cables from their electrical outlets.
2. Remove the padlock if one is installed.
3. Facing the left side of the computer, press the release button at the bottom-left corner of the front bezel.
4. Lift the bottom of the cover, allowing it to pivot up toward you.
5. Disengage the tabs that secure the cover to the top of the chassis, and lift the cover away.

Before you reinstall the cover, fold all cables out of the way so that they do not interfere with the cover or with proper airflow inside the computer.

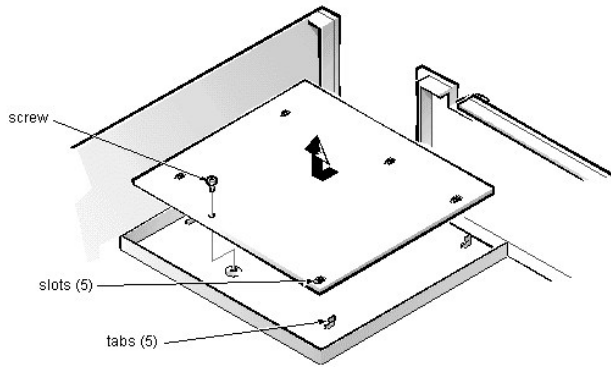
Riser Board Removal (Mini Tower Chassis): Dell™ OptiPlex™ GX1p



To remove the riser board, follow these steps:


1. Remove the expansion-card cage and remove all expansion cards.
2. Place the expansion-card cage on a flat work surface with the riser board facing up.
3. Remove the riser-board mounting screws.
4. Slide the riser board away from the release handle until it stops; then lift the riser board away from the expansion-card cage.

System Board Removal (Mini Tower Chassis): Dell™ OptiPlex™ GX1p



To remove the system board, follow these steps:

1. Disconnect all cables from their connectors at the back of the computer.
2. [Remove the expansion-card cage.](#)
3. Disconnect all cables from the system board.
4. Remove the screw that secures the system board to the bottom of the chassis.
5. Slide the system board toward the front of the chassis until it stops.
6. Carefully lift the system board out of the chassis (be sure to lift evenly and not twist the system board).

 **NOTES:** If you are replacing the system board, remove all DIMMs, the video-memory upgrade module (if present), the single-edge contact (SEC) cartridge/heat sink assembly, and the guide bracket assembly from the old system board and install them on the replacement board. Also, set the jumpers on the new system board so that they are identical to those on the old board, unless a microprocessor upgrade is being installed.

If the original system board has a NIC connector, ensure that the replacement board has a NIC connector.

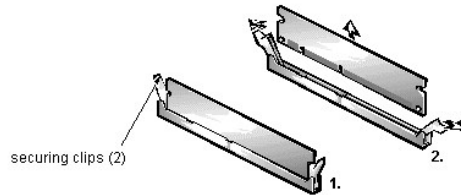
When you reinstall the system board (before you slide the system board back to lock it in position), push down near each slot to engage the grounding clip onto its corresponding tab. Push evenly on both sides of the system board as you slide it into position (do not twist the system board).

DIMM Removal and Installation (Mini Tower Chassis): OptiPlex GX1p

[DIMM Removal](#) | [DIMM Installation](#)

CAUTION: Do not use EDO DIMMs in this computer. This computer uses SDRAM DIMMs. EDO and SDRAM DIMMs have slightly different gap spacings and you may damage the DIMMs or sockets if you attempt to insert the wrong DIMM type in the computer.

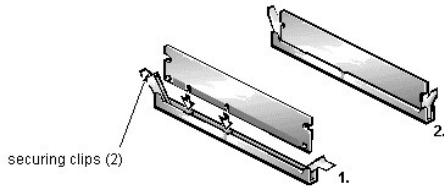
DIMM Removal



To remove a DIMM from 1 of the 3 DIMM sockets, follow these steps:

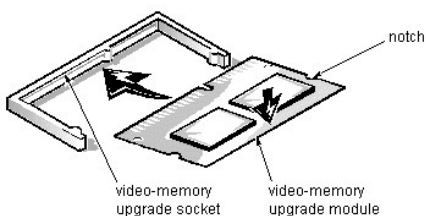
1. [Remove the system power supply.](#)
 2. Locate the DIMM you wish to remove.
 3. Push outward on the DIMM socket's securing clips until the DIMM is released from its socket.
 4. Lift the DIMM away from the socket.
-

DIMM Installation



1. Reinstall the replacement DIMM by pressing the DIMM fully into the socket while closing the securing clips to lock the DIMM into the socket.
2. Replace all assemblies and cables previously removed.

Video Memory Removal (Mini Tower Chassis): Dell™ OptiPlex™ GX1p



To replace the video-memory upgrade module, follow these steps:

1. [Remove the expansion-card cage.](#)

CAUTION: To avoid possible damage to the video-memory upgrade socket and/or video-memory upgrade module, the module is keyed and must be correctly positioned before inserting it into the socket.

2. Orient the video-memory upgrade module as shown in the illustration. Then carefully align the module's edge connector pins with the socket, ensuring that the slot in the module mates with the socket key.
3. Press the video-memory upgrade module firmly into the socket, and pivot the module downward until the module clicks into place.

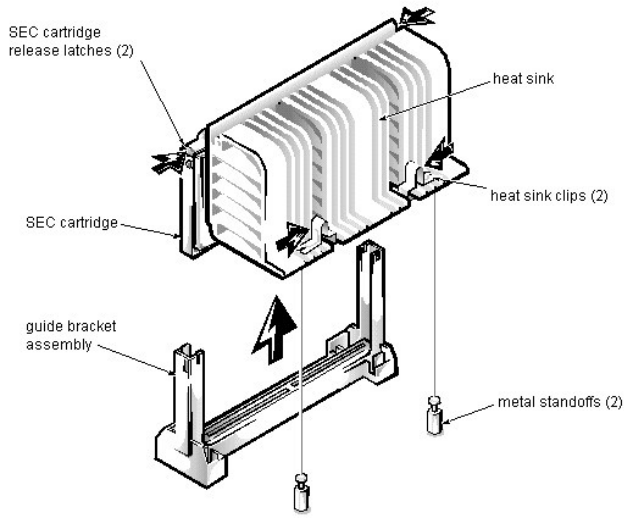
NOTE: If you do not hear a sharp click when installing the video-memory upgrade module, remove the module and repeat steps 2 and 3.

4. [Replace the expansion-card cage.](#)
5. [Replace the computer cover,](#) and reconnect the AC power cable to the electrical outlet. Press the power button on the computer to reboot the system.

NOTE: As the system boots, it automatically detects the presence of the new video-memory upgrade module and changes the system configuration information in the System Setup program.

6. Enter the System Setup program, and confirm that 8 MB is shown for Video Memory. If the total memory is listed incorrectly, repeat steps 1 through 6 to reseat the video-memory upgrade module and verify that the computer acknowledges the module.
7. Run the system diagnostics (Video Test Group) to test the new video-memory upgrade module.

SEC Cartridge/Heat Sink Assembly Removal (Mini Tower Chassis): Dell™ OptiPlex™ GX1p



To remove the SEC cartridge/heat sink assembly, follow these steps:

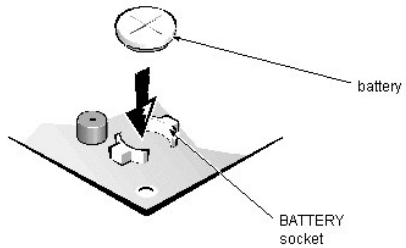
1. [Remove the system power supply.](#)

⚠... WARNING: The SEC cartridge/heat sink assembly can get extremely hot during system operations. Be sure that the assembly has had sufficient time to cool before touching it.

2. Locate the SEC cartridge/heat sink assembly.
3. Disconnect the [microprocessor fan connector](#) from the 3-pin connector (labeled "FAN") on the system board. The connector is located between the SERIAL 2 connector and the MONITOR connector.
4. Release the 2 securing clips near the base of the heat sink from the metal standoffs.
5. Locate and press inward on the SEC cartridge release latches (located directly on top of the SEC cartridge adjacent to the heat sink assembly) until the latches click.
6. Lift the SEC cartridge/heat sink assembly out of its guide bracket assembly/connector on the system board.

🔧 NOTE: When installing the SEC cartridge/heat sink assembly, press outward on the SEC cartridge release latches and then carefully orient the assembly and press firmly with up to 25 pounds of force to mate the SEC cartridge with its connector. The SEC cartridge release latches will click into the locked position as the assembly is seated.

System Battery Removal (Mini Tower Chassis): OptiPlex GX1p



To remove the system battery, follow these steps:

1. If possible, boot the system and enter the System Setup program. Then record important system configuration information.
2. Turn off power to the computer and all peripherals, and disconnect the AC power cables from their electrical outlets.
3. [Remove the computer cover.](#)
4. [Remove the expansion-card cage,](#) and locate the battery in the front-right corner of the system board adjacent to the DIMM connectors.

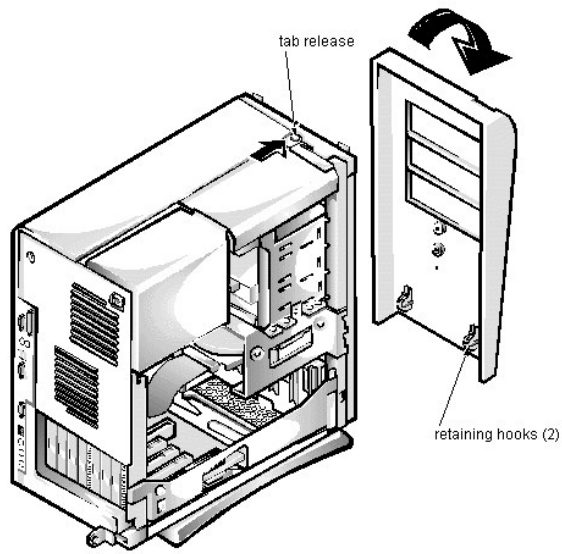
⚠... CAUTION: If you pry out the battery with a blunt object, be careful not to touch the system board with the object. Ensure that the object is inserted between the battery and the socket before attempting to pry out the battery. Otherwise, you may damage the system board by prying off the socket or by breaking traces on the system board.

5. Remove the battery by carefully prying it out of its socket with your fingers or with a blunt, nonconducting object, such as a plastic screwdriver.

⚠... WARNING: There is a danger of the new battery exploding if it is incorrectly installed. When you replace the system battery, orient the new battery with the "+" facing up. Replace the battery only with the same or equivalent type recommended by the manufacturer. Discard used batteries according to the manufacturer's instructions.

6. Insert the battery into the socket (with the positive side labeled "+" facing upwards), and snap it into place.
7. [Replace the expansion-card cage;](#) [replace the computer cover,](#) reconnect all cabling, and reboot the system.
8. Enter the System Setup program, and configure the system using the information you recorded in step 1.
9. Turn off the computer; wait 10 or more minutes, and then reenter the System Setup program to ensure that the date and time are still correct, indicating that the system battery is functioning correctly.

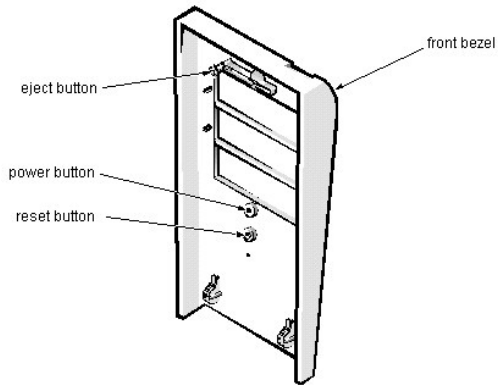
Front Bezel Removal (Mini Tower Chassis): Dell™ OptiPlex™ GX1p



To remove the front bezel, follow these steps:

1. Press the tab release marked with the icon.
2. Tilt the bezel away from the chassis.
3. Disengage the 2 retaining hooks at the bottom of the bezel, and pull the bezel away from the chassis.

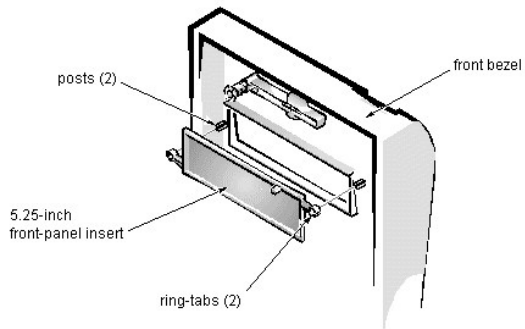
Eject, Power, and Reset Button Removal (Mini Tower Chassis): Dell™ OptiPlex™ GX1p



To remove the eject, power, and reset buttons, follow these steps:

1. Lay the front bezel on a flat work surface with the back of the bezel facing up.
2. To remove the 3.5-inch diskette-drive eject button, pull gently on the plastic part of the button until it comes free.
3. To remove the power button or the reset button, use a small screwdriver and push in on the 2 or 3 plastic clips that hold the button to the bezel.
When these clips are released, the button comes free from the bezel.

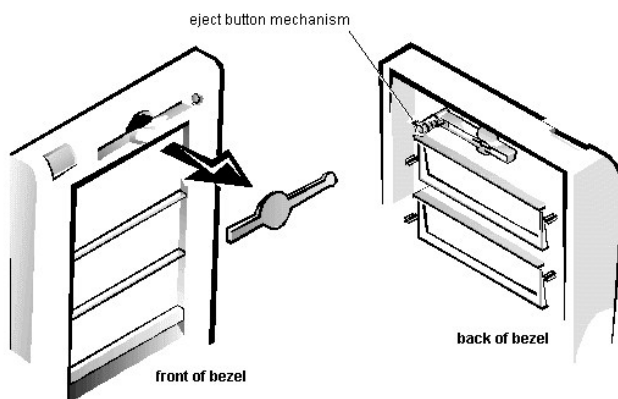
Front-Panel Insert Removal (Mini Tower Chassis): Dell™ OptiPlex™ GX1p



To remove a 5.25-inch front-panel insert, follow these steps:

1. Hold the bezel with the front facing you.
2. From the front of the bezel, use your thumbs to press inward on the insert until it slides off the 2 posts.

To replace a 5.25-inch front-panel insert, position the 2 ring-tabs over the posts on the inside of the bay opening, and then press the ring-tabs over the posts.

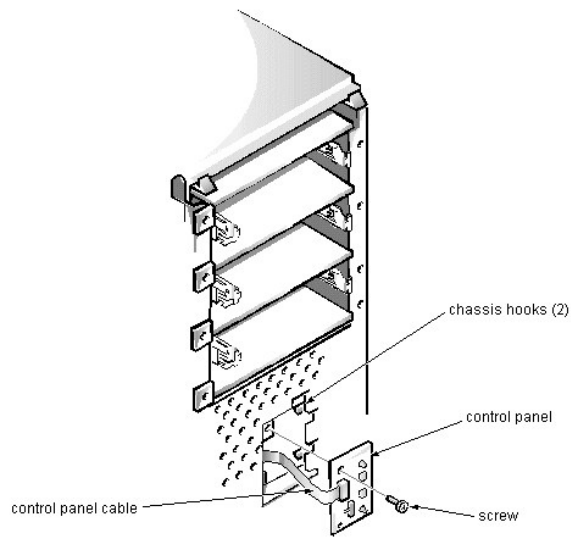


To remove a 3.5-inch front-panel insert, follow these steps:

1. Hold the bezel with the front facing you.
2. Inside the bezel, press the eject button mechanism toward the front panel to snap the plastic insert out of its opening.

To replace the 3.5-inch front-panel insert, work from outside the bezel. Place the insert in position, and press it into the opening.

Control Panel Removal (Mini Tower Chassis): Dell™ OptiPlex™ GX1p



To remove the control panel, follow these steps:

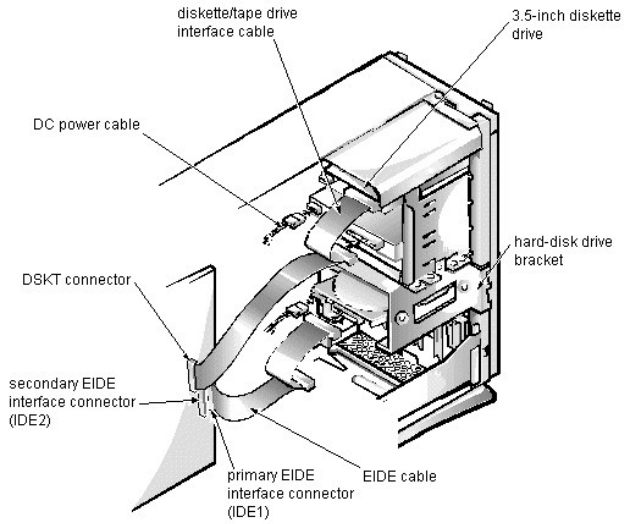
1. Remove the hard-disk drive bracket.
2. Disconnect the control panel cable from the [PANEL connector](#) on the system board.
3. Remove the mounting screw holding the control panel to the chassis.
4. Slide the control panel out of the hooks holding it to the chassis.

Note the routing of the control panel cable as you remove it from the chassis.

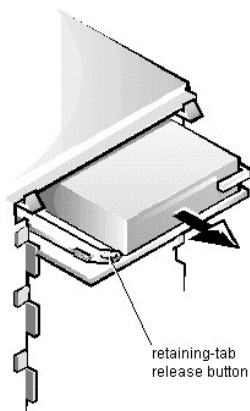
Drive Hardware Removal (Mini Tower Chassis): OptiPlex GX1p

[Drive Hardware](#) | [3.5-Inch Diskette-Drive Removal](#) | [5.25-Inch Drive Assembly Removal](#) | [Hard-Disk Drive Bracket Removal](#) | [Hard-Disk Drive Assembly Removal](#)

Drive Hardware

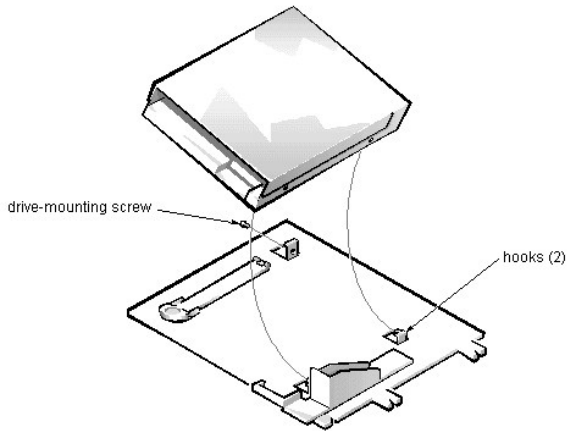


3.5-Inch Diskette-Drive Removal



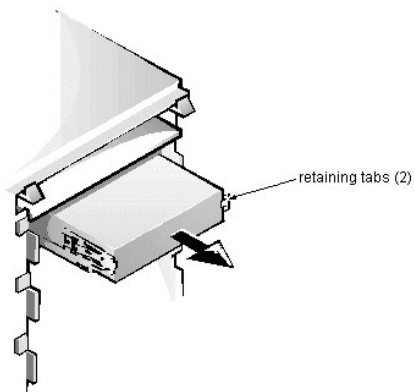
To remove a 3.5-inch diskette drive assembly, follow these steps:

1. Disconnect the DC power cable and the interface cable from the back of the 3.5-inch diskette drive.
2. Press the retaining-tab release button, and pull the drive assembly forward to remove it.
3. Remove the drive-mounting screw from the left side of the drive, and remove the drive from the bracket.



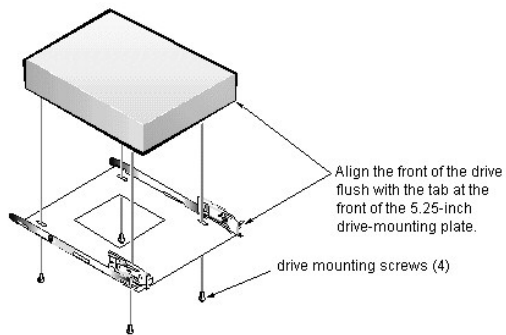
When you replace the 3.5-inch diskette drive, be sure that the 2 hooks on the right side of the bracket engage the mounting holes in the side of the drive.

5.25-Inch Drive Assembly Removal



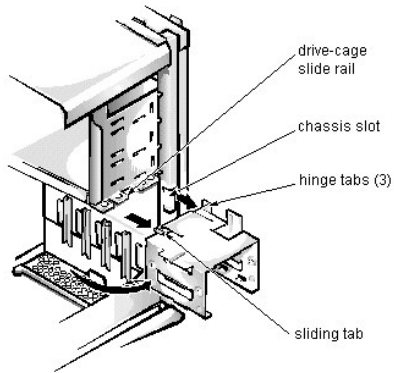
To remove a 5.25-inch drive assembly from the middle or lower drive bay, follow these steps:

1. Disconnect the DC power cable and the interface cable from the back of the drive.
2. Press in on the 2 retaining tabs (1 on each side of the drive), and slide the drive assembly forward to remove it.
3. Remove the 4 screws attaching the 5.25-inch drive to the mounting plate, and lift the drive out of the mounting plate.



When you replace the 5.25-inch drive, align the front of the drive flush with the tab at the front of the mounting plate. Insert the 4 screws, and tighten them in the order stamped on the bottom of the mounting plate.

Hard-Disk Drive Bracket Removal

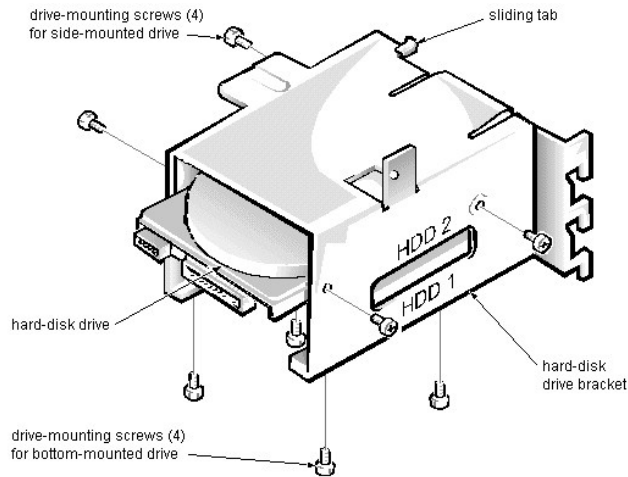


To remove the hard-disk drive bracket, follow these steps:

1. Disconnect the DC power cable and the interface cable from the back of each hard-disk drive installed in the hard-disk drive bracket.
2. Remove the screw that secures the hard-disk drive bracket to the drive cage in the chassis.
3. Grasp the bracket, and rotate it outward from the chassis until the sliding tab clears the slide rail on the drive cage.
4. Lift the hard-disk drive bracket up slightly to free the hinge tabs and remove it from the computer.

When you reinstall the hard-disk drive bracket, insert the bracket's hinge tabs into the chassis slot so that the tabs hook over the slot. Then rotate the bracket toward the drive cage, and fit the bracket's sliding tab on the drive-cage slide rail.

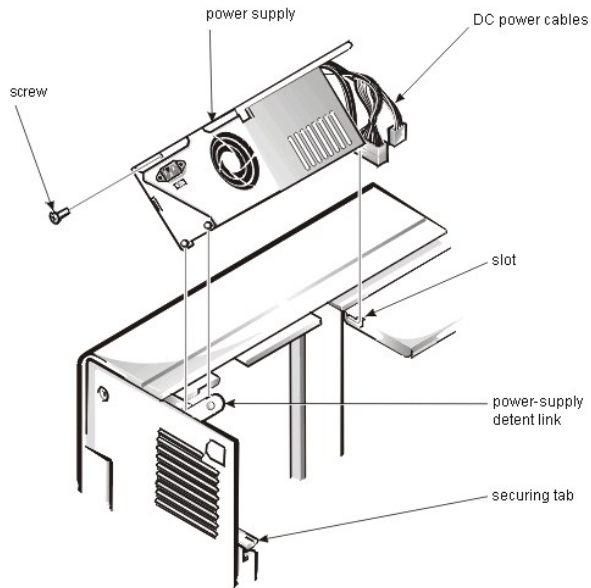
Hard-Disk Drive Assembly Removal



To remove the hard-disk drive assembly, follow these steps:

1. Remove the hard-disk drive bracket.
2. Remove the 4 screws that attach the hard-disk drive to the hard-disk drive bracket.
One hard-disk drive attaches to the hard-disk drive bracket at the sides of the drive. The other hard-disk drive attaches to the hard-disk drive bracket at the bottom of the hard-disk drive.
3. Slide the drive out of the hard-disk drive bracket.

System Power-Supply Removal (Mini Tower Chassis): Dell™ OptiPlex™ GX1p

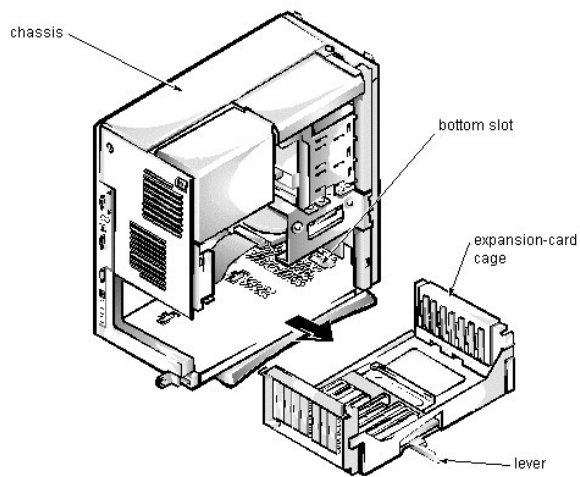


To remove the system power supply, follow these steps:

1. Disconnect the AC power cable from the back of the system power supply.
2. Free the system power supply from the securing tab labeled "RELEASE →," and rotate it upward until it locks.
Press the securing tab to release the power supply.
3. Remove the power-supply mounting screw at the back of the chassis.
4. Disconnect the DC power cables from the system board and the drives.
5. Facing the left side of the computer, move the front end of the system power supply toward you, and lift it up to disengage the power supply from the slot in the chassis.
6. Lift the system power supply from the computer.

When you reinstall the system power supply, place the power-supply detent link over the pin on the power supply as you position the power supply in the chassis opening.

Expansion-Card Cage Removal (Mini Tower Chassis): Dell™ OptiPlex™ GX1p

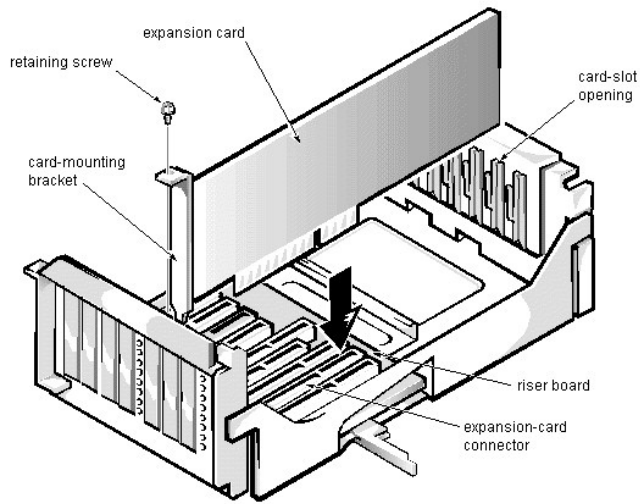


To remove the expansion-card cage, follow these steps:

1. Rotate the lever toward the back of the computer until it stops in the upright position.
2. Slide the expansion-card cage out of the computer.

To replace the expansion-card cage, align the tabs on the left and right sides of the expansion-card cage with the slots on the back and bottom of the chassis. With the securing lever in its extended position, slide the expansion-card cage into place.

Expansion Card Removal (Mini Tower Chassis): Dell™ OptiPlex™ GX1p



To remove an expansion card, follow these steps:

1. Disconnect any cables from the expansion card being removed.
2. [Remove the expansion-card cage.](#)
3. Remove the retaining screw from the card-mounting bracket.
4. Grasp the expansion card by its corners, and carefully remove it from the expansion-card connector.

Chassis Intrusion: Dell™ OptiPlex™ GX1p

If the **Chassis Intrusion** option is set to **Enabled** in the System Setup program and the system cover is removed, the following message is displayed during the boot routine at system start-up:


Alert! Cover was previously removed.

To clear this message and allow future intrusions to be detected, make sure that the computer cover is closed, and then enter the System Setup program during the system's POST, and press any key to reset the **Chassis Intrusion** from **Detected** to **Enabled**.

The option can also be set to **Disabled** to turn off the chassis intrusion feature, or **Enabled-Silent**, to prevent the alert message from being displayed at system start-up.

System Setup: Dell™ OptiPlex™ GX1p

For detailed information on System Setup options, see "Using the System Setup Program" in the online [System User's Guide](#).

 **NOTE:** The *Chassis Intrusion* option has been updated. See [Chassis Intrusion](#).

Dell Computer Corporation (www.dell.com)		BIOS Version: XXX
Page 1 of 2	System OptiPlex GX1p 500 Setup	
Time: 03:54:24	Date: Mon Jan 3, 2000	This category sets the time in 24-hour format (hours:minutes:seconds) for the internal clock calendar.
Diskette Drive A: 3.5 inch, 1.44 MB		
Diskette Drive B: Not Installed		To change the value in a field, enter a number or use the left- or right-arrow key.
Use Zip as A or B: Off		
Drives:		Changes take effect immediately.
Primary Type Cyls Hds Pre LZ Sec Size		
Drive 0: Auto EIDE 10239		
Drive 1: None		
Secondary		
Drive 0: Auto CD-ROM Device		
Drive 1: None		
Reserved memory: None		Pentium® III Processor - 500 MHz LEVEL 2 Cache: 512 KB Integrated System Memory: 128 MB ECC SDRAM Video Memory: 8 MB SGRAM Service Tag: XXXXX Asset Tag: XXXXX
CPU Speed: 500 Mhz		
NumLock: On		
Chassis Intrusion: Enabled		
DAC Snoop: Off		
ACPI: Off		

Tab,Shift-Tab change fields --,= change values Alt-P next Esc exit Alt-B reboot

Dell Computer Corporation (www.dell.com)		BIOS Version: XXX
Page 2 of 2	System OptiPlex GX1p 500 Setup	
Keyboard Errors: Report		This category sets whether keyboard-related error messages are reported at system startup.
System Password: Not Enabled		
Password Status: Unlocked		Pentium® III Processor - 500 MHz LEVEL 2 Cache: 512 KB Integrated System Memory: 128 MB ECC SDRAM Video Memory: 8 MB SGRAM Service Tag: XXXXX Asset Tag: XXXXX
Boot Sequence: Diskette First		
Setup Password: Not Enabled		
Auto Power On: Disabled 00:00		
Power Management: Disabled		
Wakeup on LAN: On		
Integrated Devices		
Sound: On		
NIC: On		
Mouse: On		
Serial Port 1: Auto		
Serial Port 2: Auto		
Parallel Port: 378h		
Parallel Mode: PS/2		
IDE Hard Disk: Auto		
Diskette: Auto		
Speaker: On		

Tab,Shift-Tab change fields --,= change values Alt-P next Esc exit Alt-B reboot

Dell Computer Corporation (www.dell.com)		BIOS Version: XXX
Device List	System OptiPlex GX1p 500 Setup	
Boot Device Priority:		The DEVICE LIST contains devices that may be bootable. The system attempts to boot from the devices in the list as ordered. If you ESC or ALT-B from this menu, the displayed order becomes the boot selection.
Diskette Drive A:		
LANDesk Service Agent for 3C090X		Ctrl-Ins moves items between "Boot Device Priority" and "Exclude from Device Priority" only.
Hard Drive C:		
CD-ROM Device		
Exclude from Boot Device Priority:		
Device Controller Priority:		Pentium® III Processor - 500 MHz LEVEL 2 Cache: 512 KB Integrated System Memory: 128 MB ECC SDRAM Video Memory: 8 MB SGRAM Service Tag: XXXXX Asset Tag: XXXXX
System BIOS boot devices		

Ctrl-Del original list Ctrl+, move item Ctrl-Return Ctrl-Ins move to other list

PgDn next 1 of 2 PgUp prev

System Setup: Dell™ OptiPlex™ GX1p

See "Using the System Setup Program" in the online [System User's Guide](#).


Documentation: Dell™ OptiPlex™ GX1p

[Sistema Dell OptiPlex GX1p con Capacidad de manipulación mejorada, Guía del usuario Índice \(.hlp\)](#)

[Guía de referencia e instalación, tamaño medio \(.pdf\)](#)

[Guía de referencia e instalación, minigabinete vertical \(.pdf\)](#)

[Guía de diagnósticos y solución de problemas \(.pdf\)](#)

 NOTAS: Los archivos **.pdf** requieren Acrobat Reader, el que puede ser descargado de [la página web de Adobe™](#). Para leer archivos **.pdf** en línea después de descargar e instalar Acrobat Reader, usted necesita configurar Acrobat Reader para que trabaje con su browser como una aplicación de ayuda o de tipo plug-in. Consulte la información en Ayuda asociada con su browser para obtener información adicional.

Los archivos **.hlp** requieren **winhelp.exe**, que es parte del sistema operativo Microsoft® Windows® (localizado en la carpeta **windows**). Para leer archivos **.hlp** en línea, usted debe configurar **winhelp.exe** para que trabaje con su browser como aplicación de ayudas. Consulte la información en Ayuda asociada con su browser para obtener información adicional.

Si no puede encontrar la información que necesita en línea y todavía necesita ayuda, visite nuestro [Centro de comunicaciones](#) en línea o comuníquese con un representante de servicio de Dell. Tenga a la mano su Código de servicio expreso para recibir un servicio más rápido.

Specifications: Dell™ OptiPlex™ GX1p

[General](#) | [System Information](#) | [Expansion Bus](#) | [System Clocks](#) | [Memory](#) | [Drives](#) | [Ports](#) | [Audio](#) | [Video](#) | [Supported Resolutions](#) | [Power](#) | [Physical](#) | [Environmental](#) | [Regulatory Notices](#)

General

Microprocessor type	Intel® Pentium® II microprocessor with MMX™ technology or Intel Pentium III microprocessor
Microprocessor speeds	400 or 450 MHz (Pentium II); 450, 500, 550, or 600 MHz (Pentium III)
Internal cache	32 KB (16-KB data cache, 16-KB instruction cache)
L2 cache memory	512-KB pipeline burst, 4-way set-associative, write-back SRAM
Math coprocessor	internal to the microprocessor
Microprocessor slot	slot 1

System Information

System chip set	Intel 440BX AGPSet
Data bus width	64 bits
Address bus width	32 bits
DMA channels	7
Timers	3
Interrupt levels	16
Flash EPROM (BIOS)	2 Mb
BIOS source	Dell
NIC controller chip	onboard 3Com® PCI 3C905B-TX Wakeup On LAN NIC, operating at 10 or 100 Mbps
I/O controller chip	National PC87309

Expansion Bus

Bus type	PCI (2.1-compliant) and ISA
PCI expansion-card connectors:	
Midsized chassis	5 (2 PCI connectors share expansion-card slots with ISA connectors)
Mini tower chassis	5 (2 PCI connectors share expansion-card slots with ISA connectors)
ISA expansion-card connectors:	
Midsized chassis	2 (both share expansion-card slots with ISA connectors)
Mini tower chassis	4 (2 ISA connectors share expansion-card slots with PCI connectors)
Bus speeds	PCI: 33 MHz ISA: 8.33 MHz
PCI data transfer rate	132 MB per second
Plug and Play revision	1.0A
PCI bus specification	complies with PCI specification 2.1
PCI-to-PCI bridging	supported
ISA connector data width	16 bits
PCI connector data width	32 bits (maximum)

System Clocks

Diskette/communications ports	48 MHz from system clock
System clock	66/100 MHz
Keyboard controller	48 MHz

Memory

Architecture	72-bit (ECC), noninterleaved
Wait states	near 0
DIMM sockets	3 (gold contacts)
DIMM capacities	64-, 128-, and 256-MB ECC SDRAM ("PC100" 100 MHz)
Minimum RAM	128 MB
Maximum RAM	768 MB
Memory access time	synchronized with system clock
BIOS address	F0000h

Drives

Externally accessible bays:

Midsize chassis	(2) 5.25-inch bays for diskette, tape, or CD-ROM drives; (1) 3.5-inch bay for a diskette drive
Mini tower chassis	(3) 5.25-inch bays for diskette, tape, or CD-ROM drives; (1) 3.5-inch bay for a diskette drive

Internally accessible bays:

Midsize chassis	(2) 3.5-inch bays: 1 for a 1-inch-high hard-disk drive and 1 for a 1.6-inch-high hard-disk drive*
Mini tower chassis	(2) 3.5-inch bays: 1 for a 1-inch-high hard-disk drive and 1 for a 1.6-inch-high hard-disk drive*

* See [Hard-Disk Drive Options](#) for information on options and restrictions .

Ports

Externally accessible:

Serial (DTE)	(2) 9-pin connectors (16550-compatible)
Parallel	25-hole connector (bidirectional)
Video	15-hole connector
NIC	RJ45 connector
PS/2-style keyboard	6-pin mini-DIN
PS/2-compatible mouse	6-pin mini-DIN
USB	2 USB host connectors
Audio line-in	miniature audio jack
Audio line-out (amplified source)	miniature audio jack
Microphone	miniature audio jack

Internally accessible:

Primary EIDE hard-disk drive	40-pin connector on PCI local bus
Secondary EIDE hard-disk drive	40-pin connector on PCI local bus
Diskette drive	34-pin connector
ATI Multimedia Channel (AMC)	40-pin connector
CD-in	4-pin connector

Audio

Model	Crystal Semiconductor
Chip set	CS4236
Jacks:	
Audio line-in	(1) miniature audio jack
Audio line-out	(1) miniature audio jack (amplified)
Microphone	(1) miniature audio jack

Video

Video type	onboard ATI RAGE PRO TURBO graphics
Video memory	8 MB SGRAM

Supported Resolutions

Video Resolution	Maximum Color Depth	Maximum Refresh Rate
640 x 480	True-color (32 bpp)	85 Hz
800 x 600	True-color (32 bpp)	85 Hz
1024 x 768	True-color (32 bpp)	85 Hz
1280 x 1024	True-color (32 bpp)	85 Hz
1600 x 1200	65,535 colors (16 bpp)	75 Hz

Power

DC power supply:

Wattage	200 W
Voltage	90 to 135 V at 60 Hz; 180 to 265 V at 50 Hz
Heat dissipation	913 BTU/hr (nominal)
Backup battery	3-V CR2032 coin cell

Physical

Midsized chassis:

Weight	12.7 kg (28 lb)
Height	16.5 cm (6.5 inches)
Width	41.9 cm (16.5 inches)
Depth	44.5 cm (17.5 inches)

Mini tower chassis:

Weight	14.9 kg (33.0 lb) or more, depending on options installed
Height	44.4 cm (17.5 inches)
Width	20.6 cm (8.1 inches)
Depth	43.7 cm (17.2 inches)

Environmental

Temperature:

Operating	10° to 35°C (50° to 95°F)
Storage	-40° to 65°C (-40° to 149°F)

Relative humidity 20% to 80% (noncondensing)

Maximum vibration:

Operating	0.25 G at 3 to 200 Hz at 1 octave/min
Storage	0.5 G at 3 to 200 Hz at 1 octave/min

Maximum shock:

Operating	left side (for mini tower orientation) and bottom (for midsized orientation) half-sine pulse with a change in velocity of 20 inches/sec (50.8 cm/sec)
Storage	27-G faired square wave with a velocity change of 200 inches/sec (508 cm/sec)

Altitude:

Operating	-16 to 3048 m* (-50 to 10,000 ft)
Storage	-16 to 10,600 m (-50 to 35,000 ft)

* The maximum operating temperature of 35°C (95°F) is for altitudes below 914.6 m (3000 ft). Above 914.6 m (3000 ft) the maximum operating temperature is reduced.

Regulatory Notices

FCC (U.S. only)	Class B (midsized chassis) Class A ¹ , Class B ² (mini tower chassis)
IC Notice (Canada only)	Class B
CE Notice	Class B
DMI 3.0-compliant	

APM 1.1-compliant

FCC ID

Class B

EN 55022 (Czech Republic only)

Category B

VCCI Notice (Japan only)

Class 1, Class 2

Korean Regulatory Notice

Class A, Class B

NOM 024 Information (Mexico only)

Polish Center for Testing and Certification


¹ For the mini tower chassis when networked

² For the mini tower chassis when in stand-alone mode

Hard-Disk Drive Options: Dell™ OptiPlex™ GX1p

The hard-disk drive assembly (consisting of the hard-disk drive and the hard-disk drive bracket) is located next to the externally accessible drive bays at the front of the computer. The hard-disk drive assembly can contain one of the following:

- 1 1 or (2) 1-inch-high EIDE hard-disk drives
- 1 (1) 1-inch-high EIDE and (1) 1.6 inch-high EIDE hard-disk drive
- 1 (1) 1-inch-high SCSI hard-disk drive
- 1 (1) 1.6-inch-high SCSI hard-disk drive

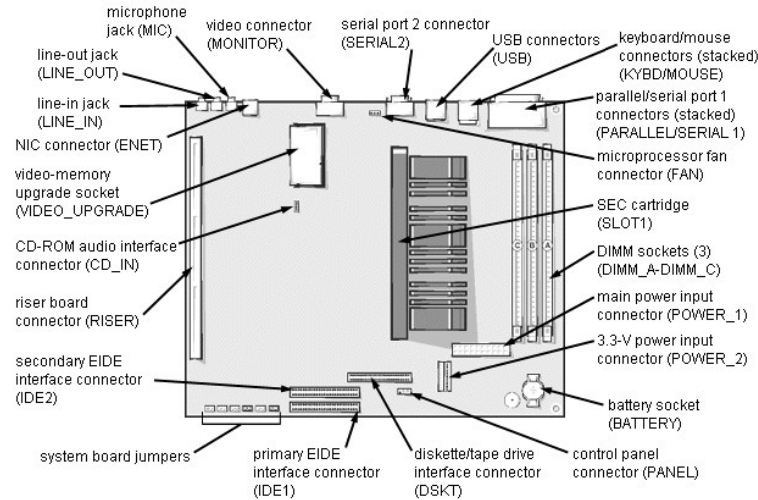
 *NOTE: Dell does not support using 2 SCSI hard-disk drives in the system because of thermal issues. You can use an IDE hard-disk drive and a SCSI hard-disk drive in the same system, but Dell does not offer this configuration as a factory build option.*

System Board: Dell™ OptiPlex™ GX1p

The [GX1p system board](#) supports a 500-MHz microprocessor.

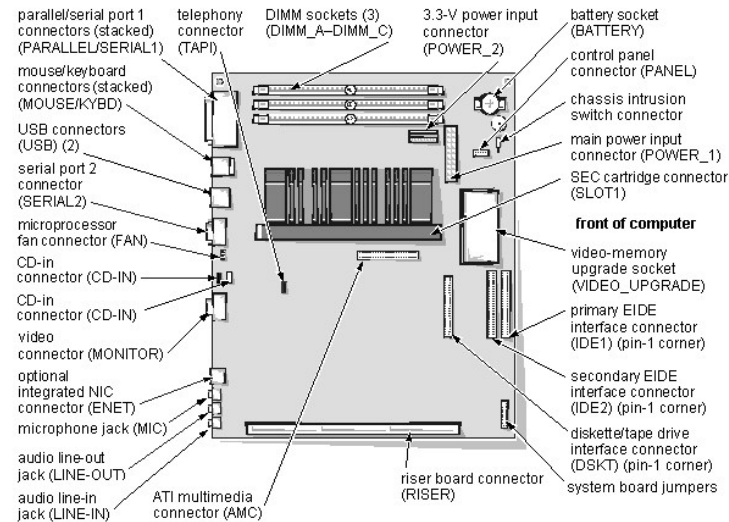
System Boards: Dell™ OptiPlex™ GX1p

First revision system board



System Board: Dell™ OptiPlex™ GX1 Systems

Second revision system board



[test](#)

[test](#)

Video: Dell™ OptiPlex™ GX1p

All systems include an onboard high-performance, 64-bit accelerated graphics port (AGP 2X) subsystem that drives an external SVGA monitor. The AGP contains a dedicated bus that bypasses the PCI bus and allows for interconnection of the video subsystem directly to the Pentium® II microprocessor's chip set for high performance required for 3D video subsystems. This architecture also off-loads video data from the PCI bus, providing greater performance for devices attached to the PCI bus.

The maximum supported resolution is 1600 x 1200 with 65,535 colors (16 bpp) at 75 Hz. Other supported resolutions are listed in [Specifications](#). The SVGA subsystem has the following major components:

- 1 ATI 3D RAGE PRO TURBO SVGA video controller
- 1 8-MB SGRAM video memory
- 1 15-pin monitor connector

Wakeup On LAN: Dell™ OptiPlex™ GX1p

The Dell OptiPlex GX1p is available with an integrated Wakeup On LAN-capable network option.

Production Notes

1. Find out what the Tapi connector is on the system board per David Weber's 8/6 message.

2. Question regarding EDO vs. SDRAM

David I want to make sure I understand this correctly. This system uses SDRAM, right? So is the message here: Do not use EDO DIMMS? thanks Daniel

Memory

I suggest you include a note to users that EDO and SDRAM DIMMs have slightly different gap spacings. This may cause customers to break DIMMs or sockets by inserting the wrong memory in a system.

3. Update DC Power Distribution (Midsized Chassis), power.htm, fig13.gif.

[Giving to GR on 8/13](#)

4. Per David Weber:

Mini-Tower Chassis -- Drive Hardware Removal

The hard drive enclosure on the mini-tower systems has changed. The new hard drive enclosures swing out about 60 degrees without actually disengaging from the frame, allowing insertion and removal of hard disk drives without removing the entire enclosure. Please update the diagram.

[Sent a message to Ken Welch and John Jeffries on 8/13.](#)

5. Edit graphic for internal view of MT (view.gif.) Remove optional from NIC connector and change interface cable to hard-disk drive interface cable.