

COMPAQ

Maintenance & Service Guide

Compaq Deskpro EP Series
of Personal Computers



COMPAQ

Guide to Features & Upgrades

Compaq Deskpro EP Series
of Personal Computers

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Maintenance & Service Guide

Compaq Deskpro EP Series of Personal Computers

Fourth Edition (June 2000)
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Compaq Computer Corporation

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chapter 2

SPARE PARTS

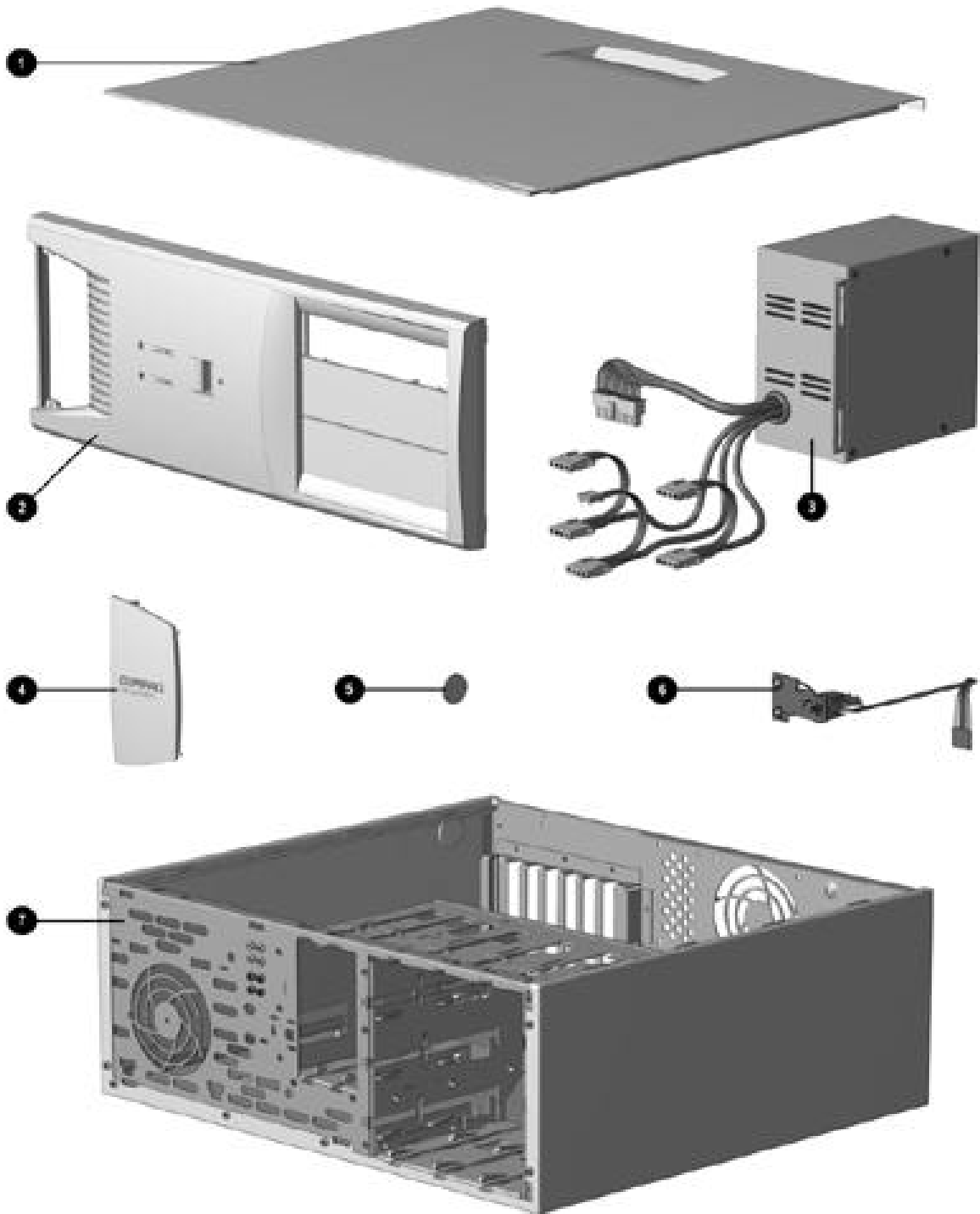


Compaq Deskpro EP Series of Personal Computers

- The Compaq Deskpro EP Series, Intel 440BX chipset models will be referred to in this MSG as 440BX.
The Compaq Deskpro EP Series, Intel 810 chipset models will be referred to in this MSG as 810 or Intel 810.
The Compaq Deskpro EP Series, Intel 810e chipset models will be referred to in this MSG as 810e or Intel 810e.

2.1 System Unit

2.1.1 System Unit - 440BX



System Unit Spare Parts - 440BX Model

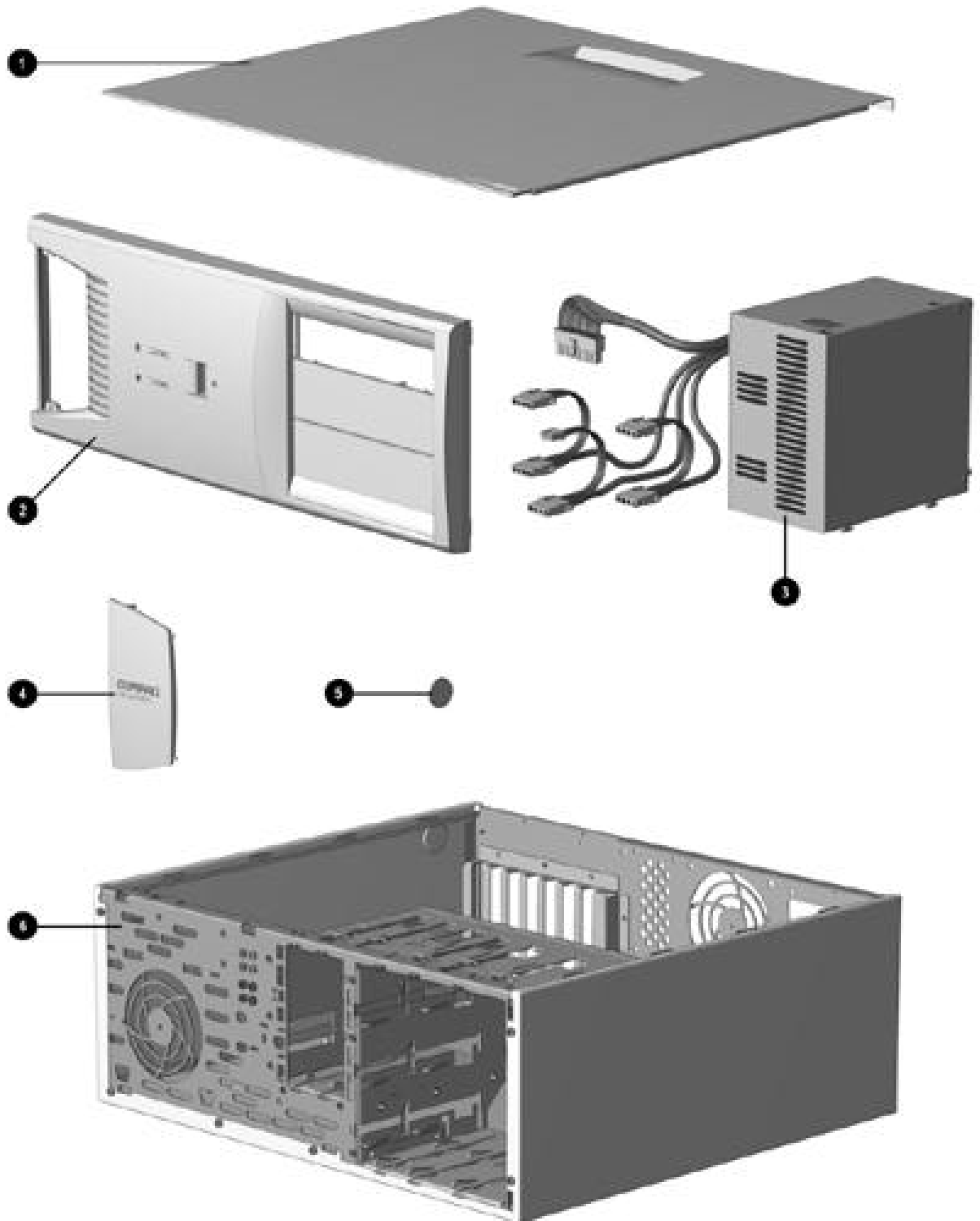
System Unit Spare Parts - 440BX

Description	Spare Part Number
1 Access panel	166867-001
2 Front bezel, complete with subpanel and bezel blanks	166868-001
3 Power supply, 200 Watt	166814-001
3 Power supply, 145 Watt	332863-001
4 Logo Kit, Deskpro EP (1 ea., DT and MT)	166924-001
5 Feet	Miscellaneous Plastics
6 Power switch with cable, LED and switch holder (3 ea.)	166925-001
7 Chassis/basepan (repair/exchange only)	166880-001

Major Differences Between 440BX and Intel 810/810e

System Board Assembly	Power Supply 145 Watt	Power Supply 200 Watt	Access Panel	Chassis Assembly	Diskette Drive Cable
440BX, PII, two-DIMM model, 332857-001 (PCA 008312-101)	332863-001	166814-001	166867-001	166880-001	166838-001
440BX, PII, three-DIMM model, 166813-001 (PCA 009635-101)	332863-001	166814-001	166867-001	166880-001	166838-001
440BX, PII/PIII, three-DIMM model 118053-001 (PCA 010233-101) Date code of X908XXXXXXXX or later	332863-001	166814-001	166867-001	166880-001	166838-001
440BX, PIII three-DIMM model 164483-001 (PCA 010582-101)	332863-001	166814-001	166867-001	166880-001	166838-001
Intel 810, Celeron 401963-001 (PCA 010174-101)	n/a	103748-001	137384-001	Not spared	143218-001
Intel 810e, Celeron 164122-001 (PCA 010546-101)	n/a	103748-001	137384-001	Not spared	143218-001
Intel 810e, Celeron 187672-001 (PCA 010697-101)	174871-001	n/a	137384-001	Not spared	143218-001

2.1.2 System Unit - Intel 810/810e



System Unit Spare Parts - Intel 810/810e Model

System Unit Spare Parts - Intel 810/810e

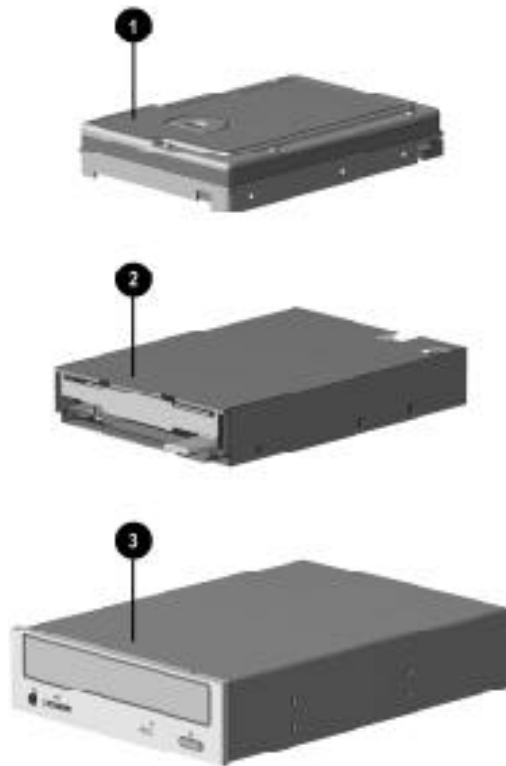
Description	Spare Part Number
1 Access panel (includes gasket)	137384-001
2 Front bezel, complete with subpanel and bezel blanks	166868-001
3 Power supply, 200W	103748-001
* Power supply, 145W (only used with PCA 010697-101)	174871-001
4 Logo Kit, Deskpro EP (1 ea., DT and MT)	166924-001
5 Feet	Miscellaneous Plastics
6 Chassis/basepan (repair/exchange only)	Not spared

*Not Shown

Major Differences Between 440BX and Intel 810/810e

System Board Assembly	Power Supply 145 Watt	Power Supply 200 Watt	Access Panel	Chassis Assembly	Diskette Drive Cable
440BX, PII, two-DIMM model, 332857-001 (PCA 008312-101)	332863-001	166814-001	166867-001	166880-001	166838-001
440BX, PII, three-DIMM model, 166813-001 (PCA 009635-101)	332863-001	166814-001	166867-001	166880-001	166838-001
440BX, PII/PIII, three-DIMM model 118053-001 (PCA 010233-101) Date code of X908XXXXXXXX or later	332863-001	166814-001	166867-001	166880-001	166838-001
440BX, PIII three-DIMM model 164483-001 (PCA 010582-101)	332863-001	166814-001	166867-001	166880-001	166838-001
Intel 810, Celeron 401963-001 (PCA 010174-101)	n/a	103748-001	137384-001	Not spared	143218-001
Intel 810e, Celeron 164122-001 (PCA 010546-101)	n/a	103748-001	137384-001	Not spared	143218-001
Intel 810e, Celeron 187672-001 (PCA 010697-101)	174871-001	n/a	137384-001	Not spared	143218-001

2.2 Mass Storage Devices



Mass Storage Devices

Mass Storage Devices

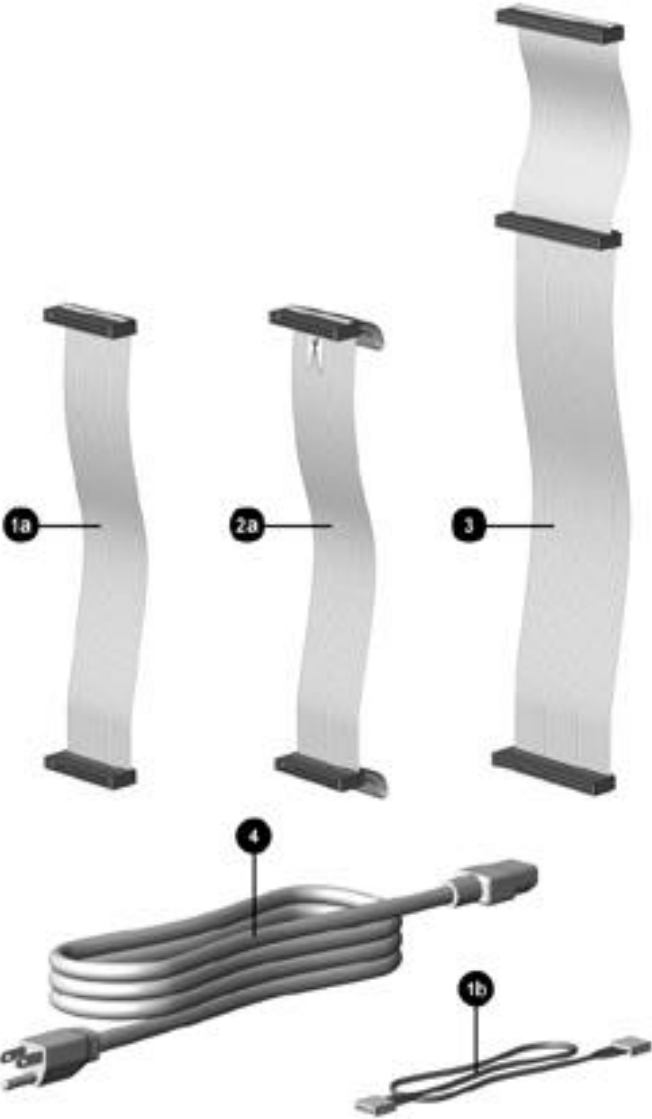
Description	Spare Part Number
1 2.1-GB Ultra ATA hard drive (33/5400)	332861-001
* 3.2-GB Ultra ATA hard drive (33/5400)	332866-001
* 4.3-GB Ultra ATA hard drive (33/5400)	327646-001
* 4.3-GB Ultra ATA hard drive (66/5400)	134197-001
* 5.1-GB Ultra ATA hard drive (33/5400)	166872-001
* 6.4-GB Ultra ATA hard drive (33/5400)	166973-001
* 6.4-GB Ultra ATA hard drive (66/5400)	134198-001
* 10.0-GB Ultra ATA hard drive (33/5400)	320662-001
* 10.0-GB Ultra ATA hard drive (66/7200)	135364-001
* 10.0-GB Ultra ATA hard drive (66/5400)	134193-001
* 13.5-GB Ultra ATA hard drive (66/7200)	140515-001
* 15.0-GB Ultra ATA hard drive (33/7200)	120419-001
* 20.0-GB Ultra ATA hard drive (33/7200)	120420-001
* 22.6-GB Ultra ATA hard drive (33/7200)	388511-001
2 Diskette drive, 3.5-inch (141087-705), 1.44-MB, 3-mode, 1/3-height, without bezel, includes drive bay adapter (179026-002)	179161-001
* Diskette drive adapter	180808-001
3 24X Max tray load IDE CD-ROM drive	166869-001
* 32X Max tray load IDE CD-ROM drive	327659-001
* 40X Max tray load IDE CD-ROM drive	400807-001
* 52X Max tray load IDE CD-ROM drive	120696-001
* 60X Max tray load IDE CD-ROM drive	134195-001
* 8X DVD Drive	134196-001

*Not shown
(nn/nnnn) = hard drive transfer rate (MBytes/sec)/RPM

- The increased speed of the Ultra ATA/66 drive is realized only on the Deskpro EP Intel 800 series.

Ultra ATA/66 hard drives are backwards compatible with Ultra ATA/33 devices; however, the data transfer rate is reduced to 33MB/sec.

2.3 Cables



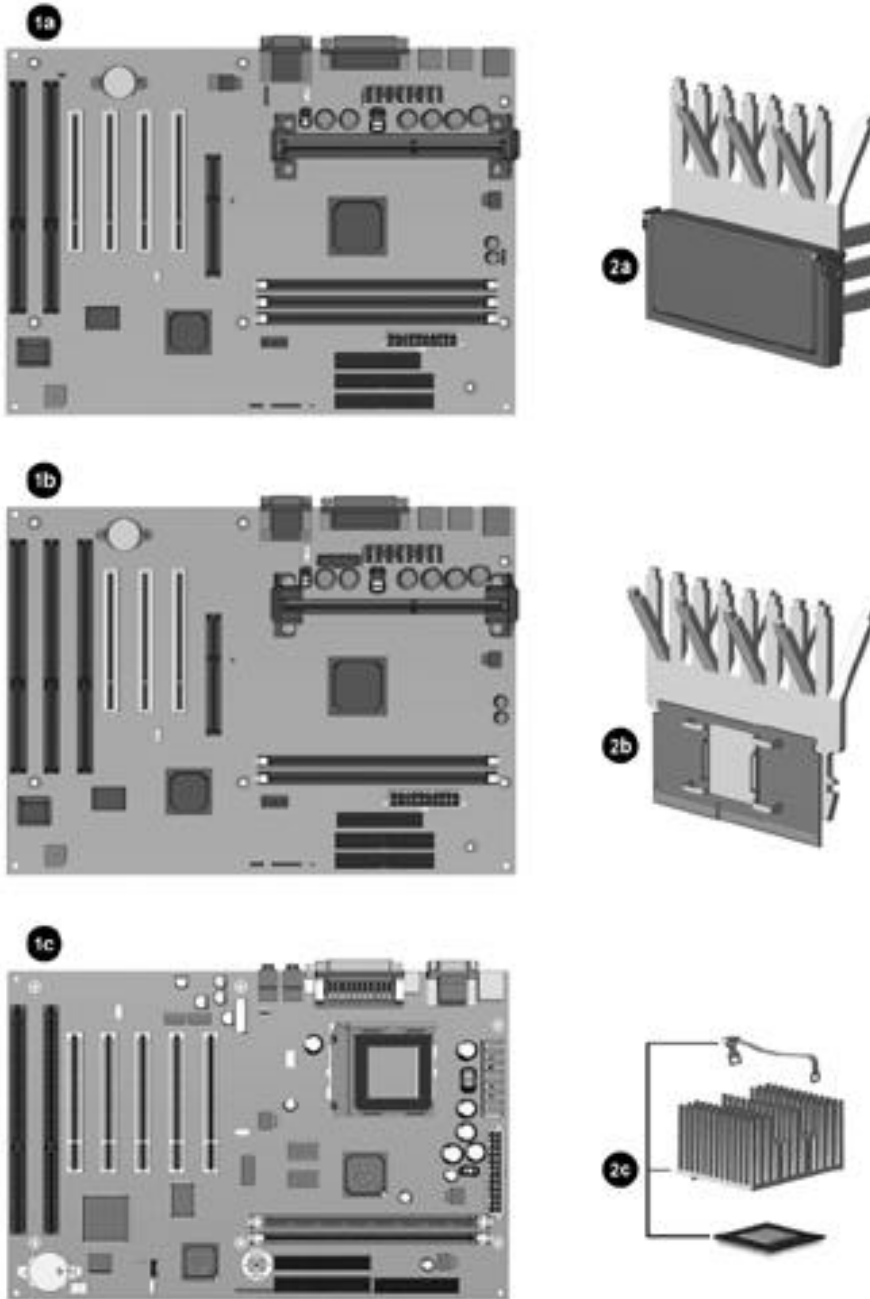
Cables

Cables

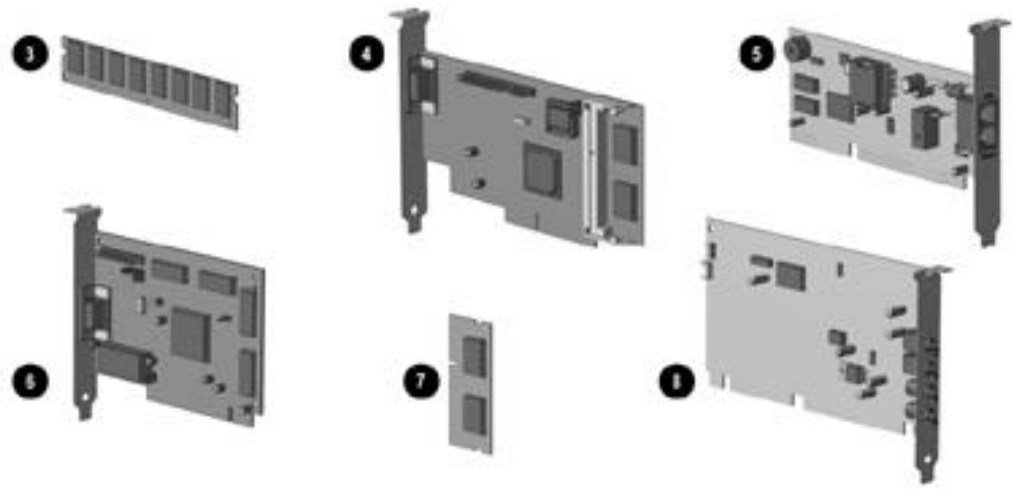
Description	Spare Part Number
Cable Kit includes: 166879-001	
1a Diskette drive cable <i>without</i> twist, 11" 440BX only, (166838-001)	
1b Audio cable, 21", (288489-002)	
* IDE hard drive cable, 7" 440BX only, (247116-001)	
* IDE hard drive/CD-ROM cable, 14" 440BX only, (242947-001)	
Cable Kit (use on Intel 800 series products) includes 166879-002	
2a Diskette drive cable <i>with</i> twist, 11", with pull tab, center polarization (143218-001)	
* IDE Ultra ATA hard drive/CD-ROM cable, 10", with pull tab, center polarization, (108950-007)	
* Switch mounting bracket (3 ea.), (166777-001)	
* Dual-LED power cable (1 ea.), (387727-001)	
* 40-position data cable, 12.5" (105876-001)	
* Diskette drive/tape cable, <i>with</i> twist, no key, 34" Opt. (356107-001)	
* RTF card for EP diskette drive cable (157354-001)	
* Diskette drive cable <i>with</i> twist, 11", without pull tab (387795-001)	
3 Cable, IDE CD-ROM/hard drive, 14-inch, 80-conductor	278296-001
4 Power cord, AC, black (US, LA, Asia/Pacific, Brazil)	142766-001
* NIC Remote Wakeup cable	166974-001
* Power switch with cable and switch mounting bracket (440BX and 810e PCA=010697-101 only) (3 ea.)	166925-001
* Audio cable, 25". Use with Creative Labs SoundBlaster PCI 128V Audio Board.	149806-001
* Video cable for P1610W color monitor	305717-001

*Not shown

2.4 Standard and Optional Boards



Standard and Optional Boards



Standard and Optional Boards, continued

Standard and Optional Boards Continued

Description	Spare Part Number
* Processor, PIII, 533/133, (137365-003), w/heatsink (401405-003), keyed heatsink clip (120891-001), spacer (168092-001), retention mechanism (350767-005). Use on 010546-101 system board.	164402-001
* Processor, PIII, 550/100 (352772-006), w/heatsink (401405-001), and thermal compound (243199-002). Use on 010233-101 system board.	133840-001
* Processor, PIII, 550/100 (158353-002), w/heatsink, clip, and thermal interface. Use on 010697-101 system board.	176743-001
* Processor, PIII, 600/133, (137365-001), w/heatsink (401405-003), keyed heatsink clip (120891-001), spacer (168092-001), retention mechanism (350767-005). Use on 010546-101 system board.	164403-001
* Processor, PIII, 600/133 (158807-002), w/heatsink, clip, and thermal interface. Use on 010697-101 system board.	176744-001
* Processor, PIII, 600/100, (352772-007), w/heatsink (135638-001). Use on 010233-101 system board.	155592-001
* Processor, PIII, 650/100 (157381-002), w/heatsink (401405-003), keyed heatsink clip (120891-001), spacer (168092-001), retention mechanism (350767-005). Use on 010582-101 system board.	164568-001
* Processor, PIII, 667/133, (137365-002), w/heatsink (401405-003), keyed heatsink clip (120891-001), spacer (168092-001), retention mechanism (350767-005). Use on 010546-101 system board.	161671-001
* Processor, PIII, 700/100 (157381-004), w/heatsink (401405-003), keyed heatsink clip (120891-001), spacer (168092-001), retention mechanism (350767-005). Use on 010582-101 system board.	164568-001
3 Memory Module, DIMM, 66 MHz	
16-MB	278066-001
* 32-MB	278067-001
* 64-MB	278095-001
* Memory Module, DIMM, 66 MHz with ECC	
16-MB	278097-001
32-MB	288440-001
64-MB	278098-001
128-MB	278099-001
* Memory Module, DIMM, 100 MHz	
16-MB	166969-001
32-MB	166890-001
64-MB	179190-001
128-MB	166966-001
* Memory Module, DIMM, 100 MHz with ECC	
16-MB	166964-001
32-MB	166968-001
64-MB	166967-001
128-MB	166965-001

Standard and Optional Boards Continued

Description	Spare Part Number
4 ATI RAGE PRO GRAPHICS 1X	166871-001
* ATI RAGE PRO GRAPHICS 2X	166970-001
* ATI RAGE PRO GRAPHICS IIC	332865-001
* Matrox MGA G100 AGP graphics board	328011-001
* Matrox Millenium G200-SD graphics card with 8-MB memory (shipped on all PII and PIII units after 2/23/99)	402125-001
* Matrox Millenium G200-SD graphics card with 8-MB memory	167033-001
* Matrox Millenium G400 graphics card with 16-MB memory	400437-001
5 33.6k Modem	294912-001
* 56k Modem	292269-003
6 NVIDIA Graphics	166982-001
7 ATI Graphics memory upgrade, 2-MB for use on 166871-001	166971-001
* ATI Graphics memory upgrade, 4-MB for use on 166970-001	166972-001
8 ESS 1869 ISA Audio Board (440BX). Use on speaker 166507-001	332859-001
* Creative Labs SoundBlaster PCI 128V Audio Board with Compaq <i>PREMIER·SOUND</i> (440BX) Shipped on 440BX units with Windows 98 or Windows NT 4.0 and <ul style="list-style-type: none">• PIII 650/100 and 700/100 starting 11/15/99• PIII 500-MHz and greater starting 11/17/99	167984-001
* Compaq 10/100 TX PCI Intel WOL UTP w/Remote Wakeup cable	323553-001
* 3-COM PCI, 10/100 WOL	179167-001
* Compaq <i>PREMIER·SOUND</i> board (for use with speaker 167029-001)	356081-001

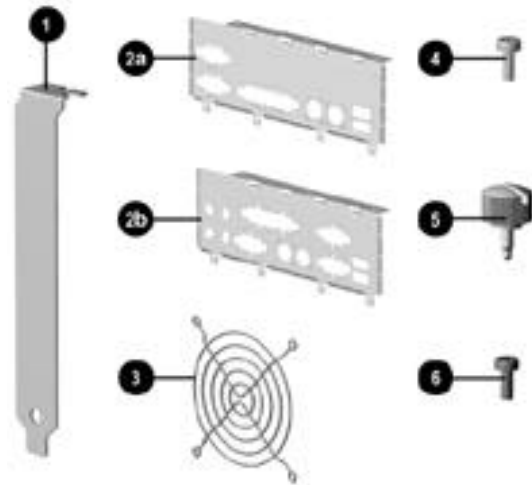
*Not shown

2.5 Keyboards

Keyboards	
Description	Spare Part Number
* Arabic	269513-171
* Belgian	269513-181
* Brazilian	269513-201
* BHCSY (Bosnia-Herzegovina, Croatia, Slovenia, and Yugoslavia)	269513-B41
* Czech	269513-221
* Danish	269513-081
* Finnish	269513-351
* French	269513-051
* French Canadian	269513-121
* German	269513-041
* Greek	269513-151
* Hungarian	269513-211
* Italian	269513-061
* Japanese	269513-191
* Korean (Hangul)	269513-AD1
* International	269513-B31
* Latin American Spanish	166984-161
* Norwegian	269513-091
* Polish	269513-241
* Portuguese	269513-131
* Russian	269513-251
* Slovakian	269513-231
* Spanish	269513-071
* Swedish	269513-101
* Swiss	269513-111
* Taiwanese	269513-AB1
* Thai	269513-281
* Turkish	269513-141
* UK	269513-031
* US	166984-001

*Not shown

2.6 Miscellaneous Hardware Kit



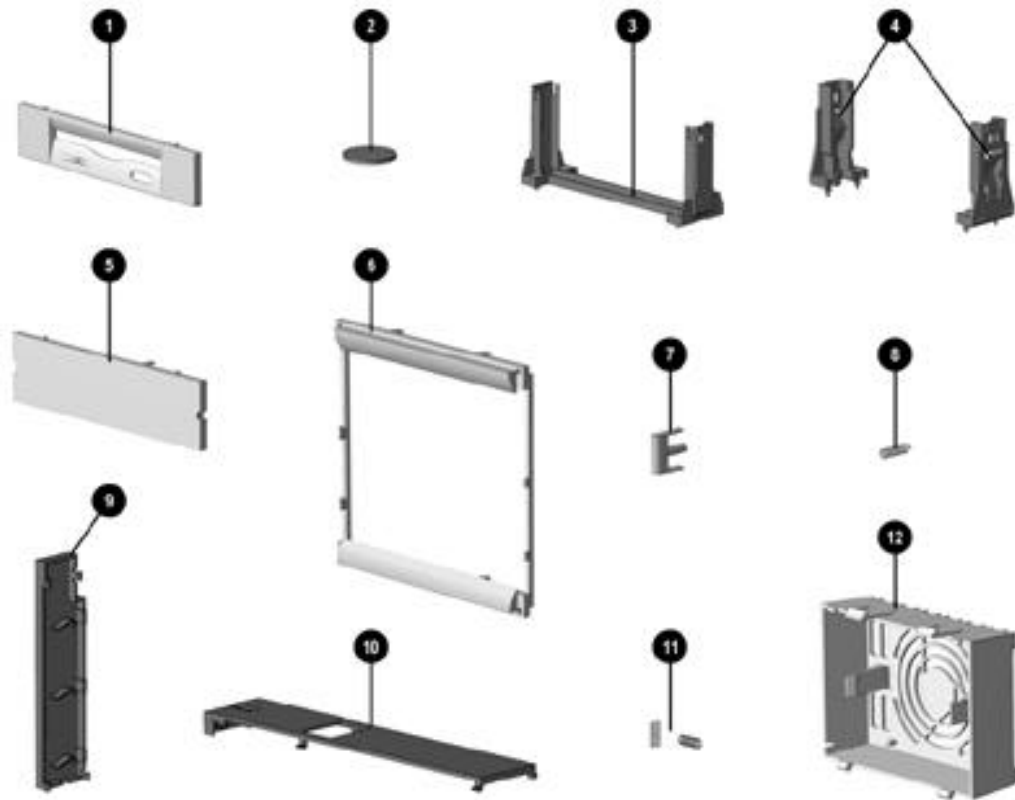
Miscellaneous Hardware Kit

Miscellaneous Hardware

Description	Spare Part Number
Miscellaneous hardware kit. Includes:	166877-001
1 Cover, slot (5 ea.) (101144-001)	
2a I/O Panel for 440BX (166802-002)	
2b I/O Panel for Intel 810/810e (123556-001)	
* I/O Panel for Intel 810e – PCA=010697-101 (166808-002)	
3 Fan guard (105427-003)	
4 Screw, 6/32 pan head x 1/4 inch (4 ea.) (192308-001)	
5 Thumbscrew (2 ea.) (440BX) (197436-001)	
* Thumbscrew (2 ea.) (Intel 810/810e) (124702-001)	
6 Screw, M3 x 0.25 inch (4 ea.) (247348-001)	
* Plastite flathead screw (4 ea.) (247481-001)	
* Plastic push lock fastener for fan assy (4 ea.) (118663-002)	
* Bracket (270886-002), blank, AGP	
* Gasket (247347-072) (for use on 101144-001 slot cover inserted in 7th slot)	
* Gasket (304477-037) (for use on Intel 810 access panel, 137384-001)	

*Not shown

2.7 Miscellaneous Plastics Kit



Miscellaneous Plastics Kit

Miscellaneous Plastics Kit, Desktop and Minitower

Description	Spare Part Number
Miscellaneous plastics kit includes:	166878-001
1 Diskette bezel (166776-001)	
2 Foot, rubber (4 ea.) (166939-002)	
3 Processor retainer with pins for PII processor (166889-002) (No longer included in kit)	
4 Processor retainers with pins for Celeron processor (2 ea.) (332816-001) (No longer included in kit)	
* Processor retainer for PII and Celeron processor (350767-001)	
5 Bezel, blank (2 ea.) (166775-001)	
6 Panel, sub (166835-001)	
7 Button, power (166774-001)	
8 Spring, power button (166837-001)	
9 Drivelock, DT (166779-001)	
10 Drivelock, MT (166780-001)	
11 Springs, drivelock (2 ea.) (166837-002)	
12 Board guide (166778-001)	

*Not shown

2.8 Miscellaneous Parts



Miscellaneous Parts

Miscellaneous Parts

1	Two-button mouse	166861-001
*	Compaq Intellimouse	317863-001
2	Cable lock bracket	199109-001
3	Battery (440BX)	234556-001
*	Battery (Intel 810) (for use on system board 401963-001)	153099-001
4	Fan assembly with four plastic pins (for use on Pentium II units 450/100 and above and all Pentium III units 450/100 and above)	166922-001
*	Chassis fan cover	166847-001
5a	Speaker with screws (50mm x 90mm, 5 watt) (440BX) (for use on audio board 356081-001)	167029-001
5b	Speaker with screws (2.5", 5 watt) (440BX) (for use on audio board 332859-001)	166507-001
*	Speaker (40mm x 70mm), (Intel 810) (356080-002)	158267-001
*	Speaker (40mm x 70mm), (Intel 810e) (174920-001)	180809-001
6	Power switch with cable and switch mounting bracket (440BX only), (3 ea.)	166925-001
7	3.5- to 5.25-Inch diskette drive mounting bracket with screws and brace for use in bay 3 only. (440BX only)	166923-001
*	3.5- to 5.25-Inch hard drive mounting bracket	243231-001
*	3.5- to 5.25-Inch 1/2height mounting bracket for use in bays 1 and 2 only	243230-002

*Not shown

2.9 Shipping Boxes

Shipping Boxes (not illustrated)	
Description	Spare Part Number
Return Kit with buns (U.S.)	166990-001
Return Kit (international)	166990-002

2.10 Documentation and Software

Documentation and Software (not illustrated)	
Description	Spare Part Number
Maintenance & Service Guide (desktop & minitower)	180999-001
Deskpro Service Reference Guide	152611-001
Windows 98 Country Kit	165534-001
Windows 95 Country Kit	165535-001
Windows NT Country Kit	165536-001

When installing additional drives, follow these guidelines:

- For optimal performance, connect hard drives to the primary controller. Connect expansion devices, such as CD-ROM, IDE tape, and diskette drives to the secondary controller.
- You may install either a third-height or a half-height drive into a half-height bay.
- You must install guide screws to ensure that the drive lines up correctly in the drive cage. Compaq has provided extra guide screws, which are installed in the front of the computer chassis, behind the front bezel. Some options require metric hardware. Compaq-supplied metric screws are black.

Using the Cable-Select Feature with Ultra ATA Devices

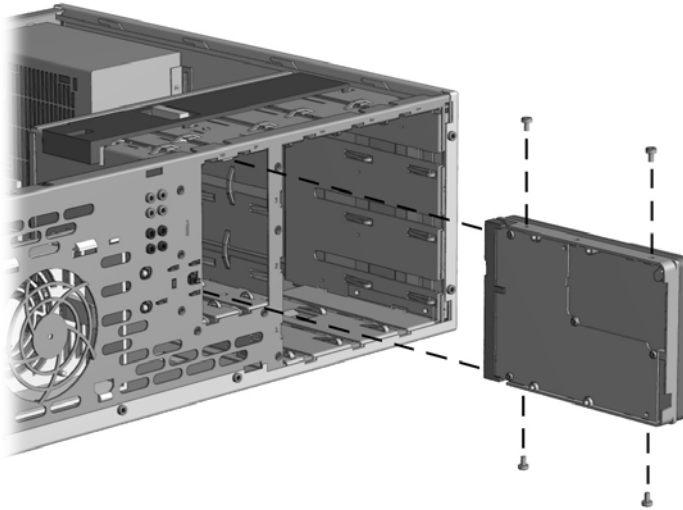
Optional drives are available from Compaq in kits that include a special drive cable. The configuration of the drives employs a cable-select feature that identifies the drives as device 0 (primary drive) or device 1 (secondary drive). The system board determines which drive is device 0 or device 1, based on the way the drives are connected to the special drive cable. The device 0 drive is the drive connected to the short segment of the drive cable (or that connector closest to the system board); the device 1 drive is the drive connected to the long segment of the drive cable.

Drive installation requires no jumper setting changes on the existing or optional drives. All Compaq drives have the jumpers preset for cable-select installation.



If installing a second device on the primary controller, you must use an 80-conductor Ultra ATA cable for optimal performance. This cable is available as a Compaq option.

7. While holding the drivelock in the unlocked position, remove the drive from the drive bay.



Removing an Internal 3.5-Inch Hard Drive

8. Remove the four guide screws from the drive.
9. Install two guide screws on each side of the replacement drive.



Metric screws (M3) have a black finish while U.S. screws have a silver finish.

Replace the 3.5-inch drive by reversing the above procedure.



CAUTION: When servicing the computer, ensure that cables are placed in their proper locations during the reassembly process. Improper cable placement can damage the computer.



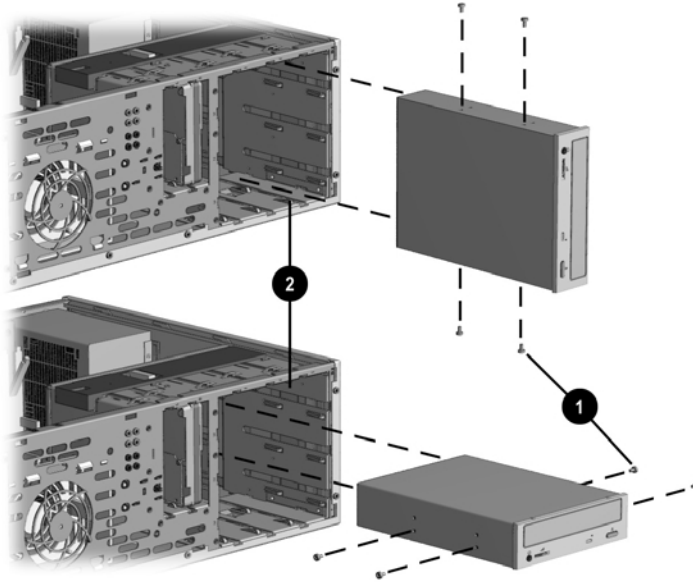
CAUTION: Use only 3/16-inch or 5-mm long screws as guide screws. Longer screws can damage the internal components of the drive.



When installing a second ATA hard drive on the primary controller, you must use an 80-conductor ATA cable for optimal performance.

The system automatically recognizes hard drives sold by Compaq (or any other plug and play hard drive) and will automatically reconfigure the computer. If you installed a third-party hard drive, or one that is not a plug and play device, you must run Computer Setup to reconfigure the computer.

6. While the drivelock is held in the unlatched position, remove the drive from the drivebay.
7. Remove the four guide screws from the drive ❶.



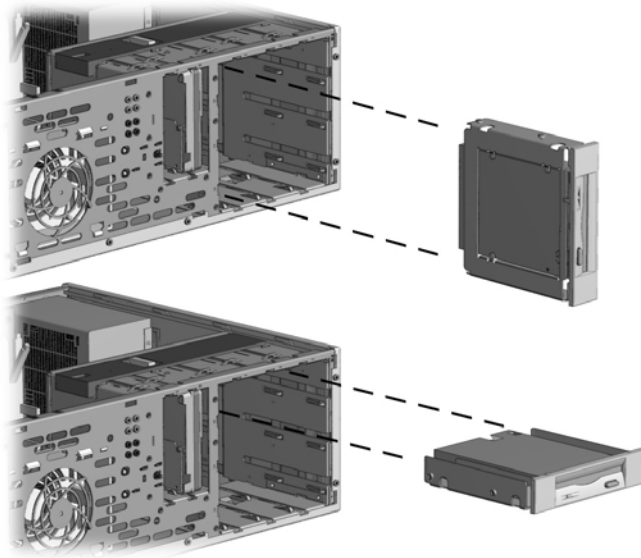
Removing an External 5.25-inch Drive

To install a new drive:

1. Install two guide screws on each side of the replacement drive ❶.
2. Ensure that the guide screws line up with the guide slots ❷, then slide the drive into the drive bay until it snaps into place.
3. Connect the power and signal cables to the back of the drive.
4. Remove the bezel blank from the subpanel, if necessary (Section 4.9).
5. Reinstall the subpanel and the front bezel.

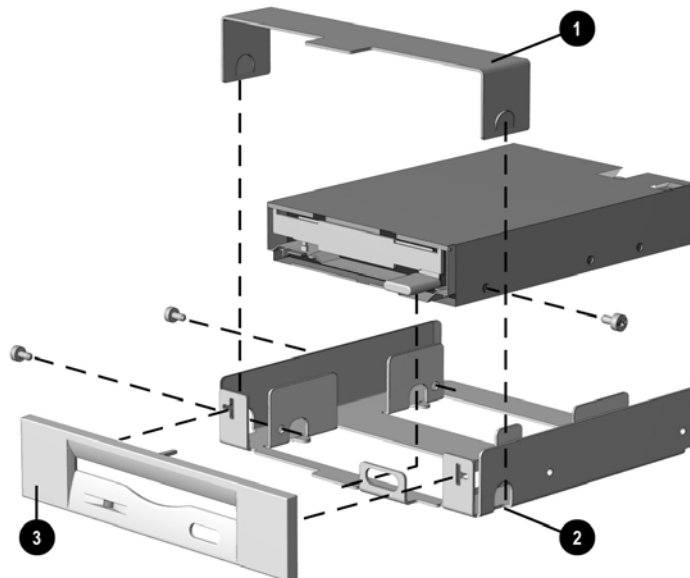
The system automatically recognizes hard drives sold by Compaq (or any other plug and play hard drive) and will automatically reconfigure the computer. If you installed a third-party hard drive, or one that is not a plug and play device, you must run Computer Setup to reconfigure the computer.

6. While the drivelock is held in the unlatched position, remove the drive from the drive bay.



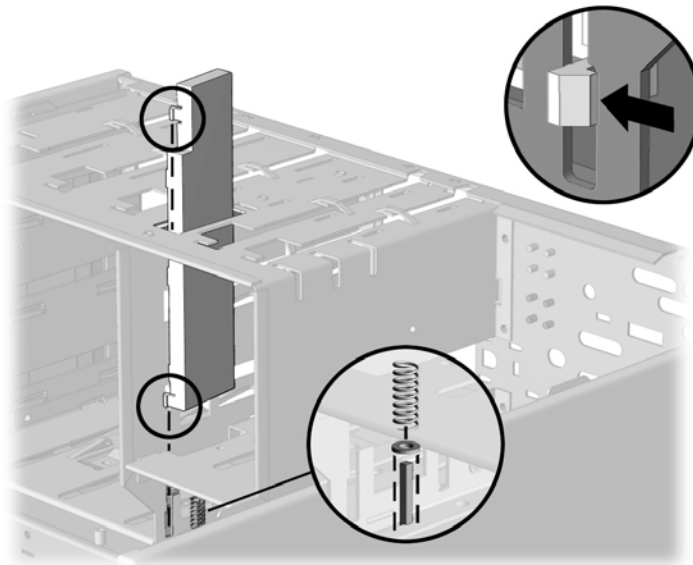
Removing a 3.5-inch Drive and Drive Adapter from a 5.25-inch External Drive Bay

7. Remove the bracket brace ❶ from the top of the drive adapter by squeezing inward on both sides ❷, then rotating the brace up and out.
8. Remove the drive bezel ❸.
9. Remove the two screws that secure the drive to the left side of the drive adapter.
10. Slide the drive to the rear of the drive adapter until the diskette drive eject button is free of the button protector, then lift the drive out of the drive adapter.
11. Remove the guide screw from the right side of the drive.



Removing a 3.5-inch Drive from the 5.25-inch Drive Adapter

10. Press in on the tabs to release the vertical drivelock from the chassis, then lift it up and out of the system while at the same time rotating the drivelock slightly to clear the travel slots at the bottom of the drivelock.
11. Remove the spring from the post (see inset).

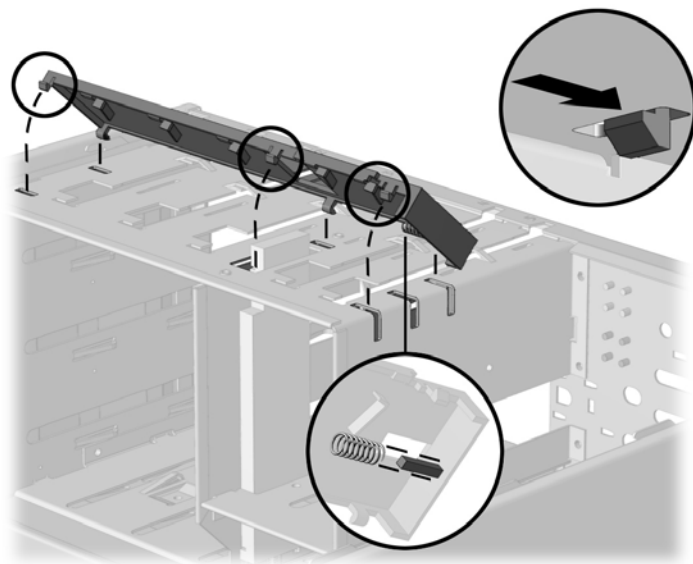


Removing the Vertical Drivelock

To reinstall the vertical drivelock, reverse the previous procedure.

To reinstall the horizontal drivelock:

1. Insert the left side of the drivelock (with the rounded tabs) into the slots on the drive cage.
2. Place the washer on the middle tab on the underside of the drivelock.
3. Compress the spring, then lower the drivelock onto the drive cage until it snaps into place.



Reinstalling the Drivelocks

To install a memory module, complete the following steps:

1. Prepare the computer for disassembly (Section 4.2).

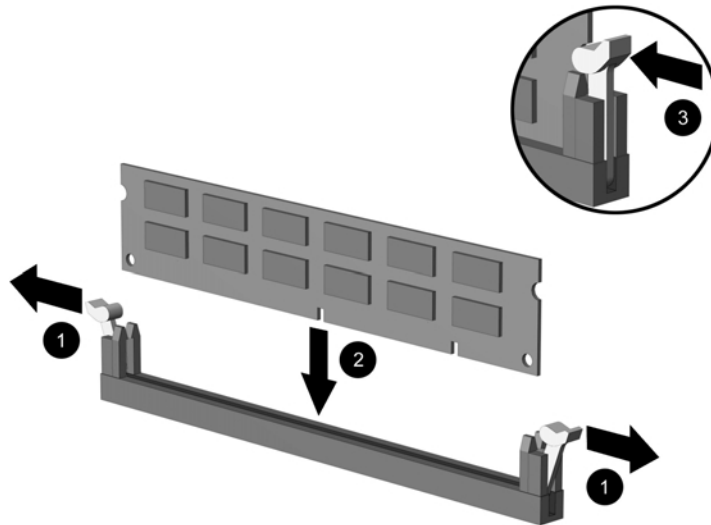


WARNING: Power is continuous to the system board and power supply even when the power switch is turned off. To prevent damage to the unit, disconnect the power cord from the power source or the unit before beginning disassembly procedures.

2. Lay the computer down on its large base for greater stability.
3. Remove the access panel (Section 4.6).
4. Press outward on both latches ❶ of the DIMM socket. The latches are used to secure the DIMM in position and also to eject them from the socket when pressed outward.

Begin by installing a module into the socket nearest the preinstalled module, and install the modules following the numerical order of the sockets.

Match the notch on the module with the tab on the memory socket. Push the module down into the socket ❷, ensuring that the module is fully inserted and properly seated ❸ with the latches pushed in.

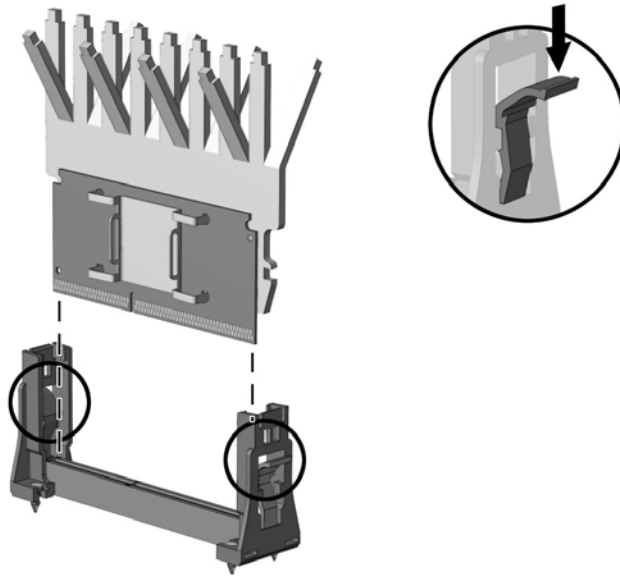


Installing a DIMM Module

5. Repeat step 4 for any additional modules that you want to install.
6. Reassemble the computer.
7. Turn on the computer.



When a memory module has been removed, moved, or added, Memory Change Alerts, a feature of Intelligent Manageability, alerts the system administrator and end user. The system automatically recognizes the added memory.

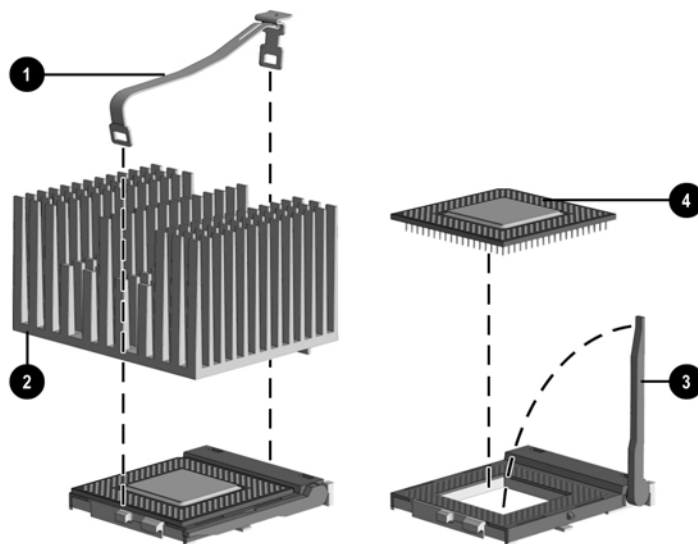


Removing the Celeron Processor from the System Board - 440BX

To install a new processor, reverse this procedure.

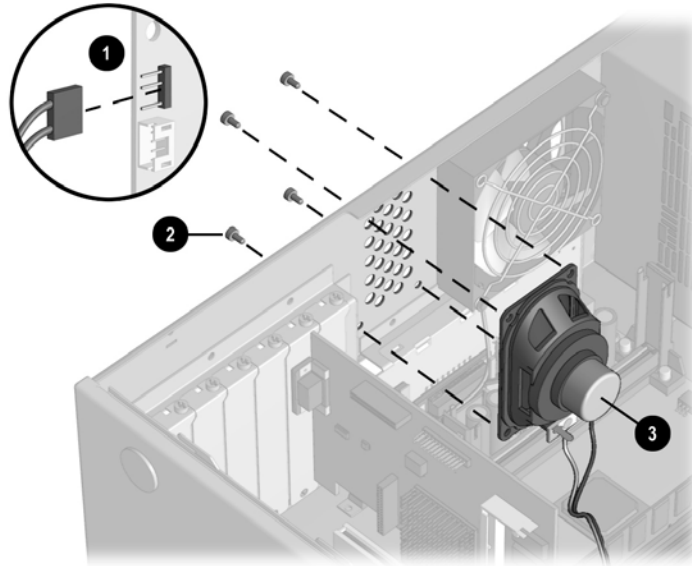
Before installing a Pentium II processor, make sure the release latches are in the locked position. This will cause the processor to make an audible sound when it is properly seated in the retaining clip.

6. For the Celeron processor on the Revised Configuration, remove the heatsink retaining clip ❶ by pressing down on the clip's extended tab until it releases from the safety catch.
7. Lift the heatsink ❷ off the processor.
8. Release the original processor from the socket by pulling the handle on the ZIF socket ❸ out and upward.
9. Lift the processor ❹ out of the socket.



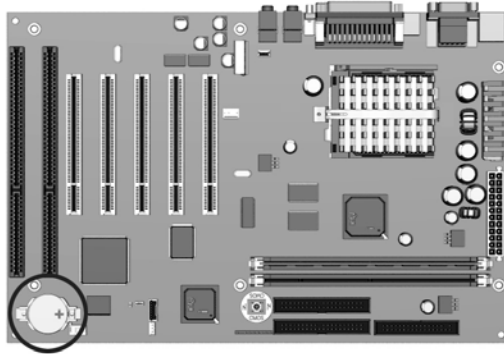
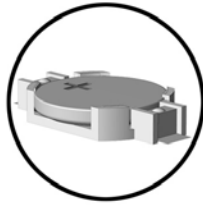
Removing the Celeron Processor from the System Board - Intel 810

6. If an oval speaker is used on the computer, remove the four screws ② that secure the speaker ③ to the rear of the chassis.

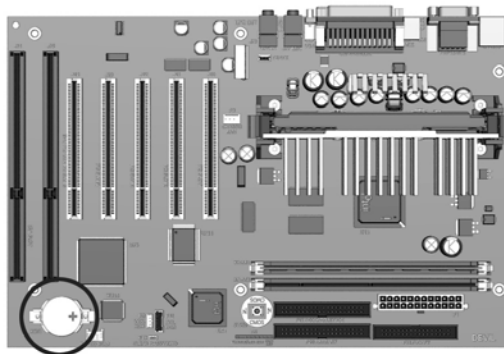
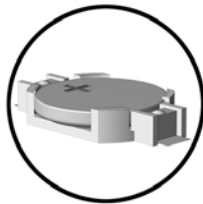


Removing the Speaker From the Rear of the Chassis

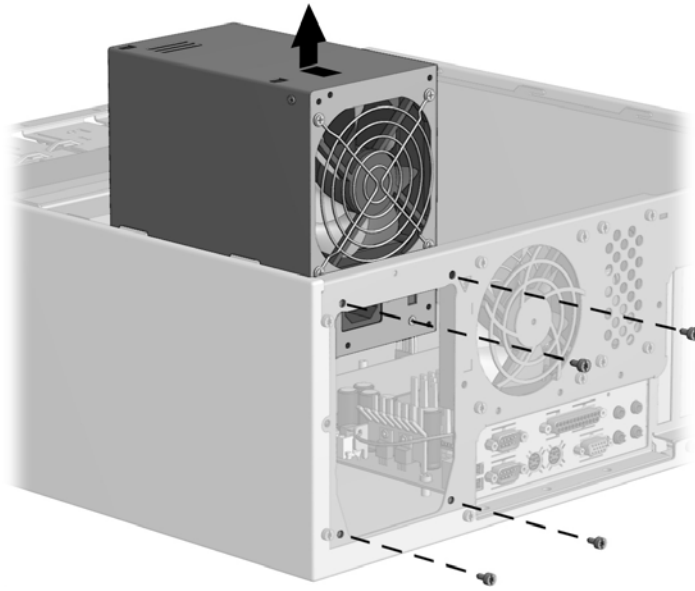
To install the new speaker, reverse the preceding steps.



Locating the Battery on the System Board - Intel 810



Locating the Battery on the System Board - Intel 810e



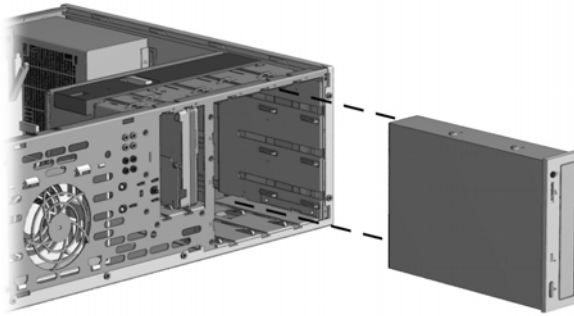
Removing the Power Supply - Intel 810/810e

To replace the power supply, reverse the above procedure.

6. Rotate the drives 90 degrees, then reinstall them into the drive bays.



The diskette drive should always be placed in bay number 3, the bay nearest the internal 3.5-inch drives, for proper placement within the chassis.



Installing a Drive in the Minitower Configuration

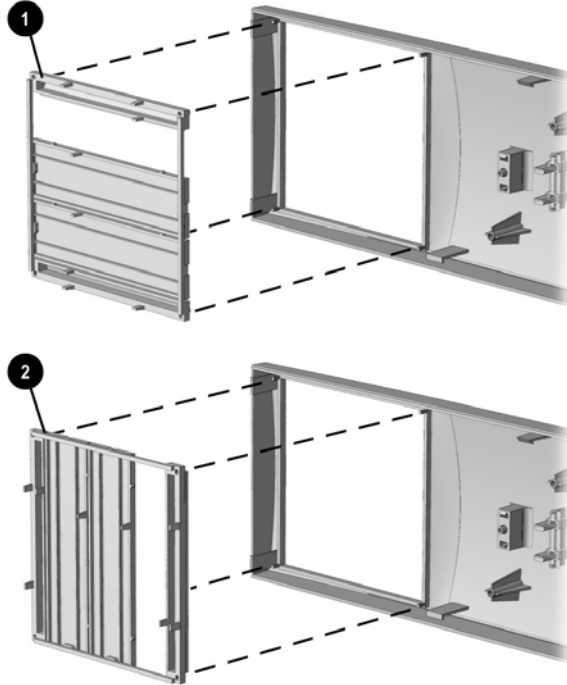


CAUTION: The use of unnecessary force may result in damage to the drives.

8. Reconnect the power, signal, and audio cables to the drives.
9. Remove the subpanel and rotate the bezel blanks 90 degrees (Section 4.9).



CAUTION: Hold the subpanel straight when you pull it away from the front bezel. Pulling the subpanel away at an angle could damage the pins that align it within the front bezel.

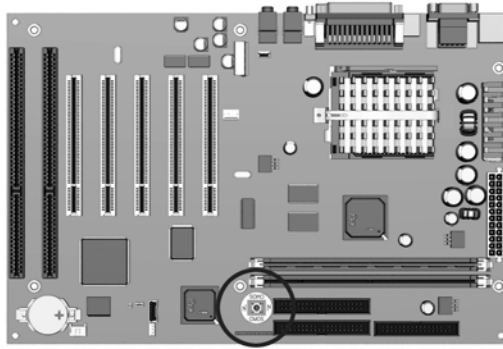
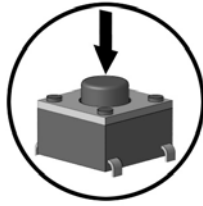


Converting a Minitower 2 to a Desktop 1

10. Replace the subpanel, front bezel, and the computer access panel.

Reassemble the computer.

Clearing Configuration Memory (CMOS) - Intel 810/810e



CMOS Button (SW50) Location

1. Turn off the computer and any external devices, and disconnect the power cord from the power outlet.
2. Disconnect the keyboard, monitor, and any other external equipment connected to the computer.



WARNING: To reduce the risk of personal injury from electrical shock and/or hot surfaces, be sure to disconnect the power cord from the wall outlet, and allow the internal system components to cool before touching.



CAUTION: When the computer is plugged in, the power supply always has voltage applied to the system board even when the unit is turned off. Failure to disconnect the power cord can result in damage to the system.



CAUTION: Static electricity can damage the electronic components of the computer or optional equipment. Before beginning these procedures, ensure that you are discharged of static electricity by briefly touching a grounded metal object. Refer to the *Safety & Regulatory Information* guide for more information.

-
3. Remove the computer cover or access panel.
 4. Locate and press the Clear CMOS button. Hold for five seconds.



CAUTION: Pushing the CMOS button will erase all information in CMOS including passwords, asset numbers, and special settings.

-
5. Replace the computer cover or access panel.
 6. Reconnect the external devices.
 7. Plug in the computer and turn on power.



You will need to reset your passwords and any special system setups. Refer to F10 Setup to establish new passwords.

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