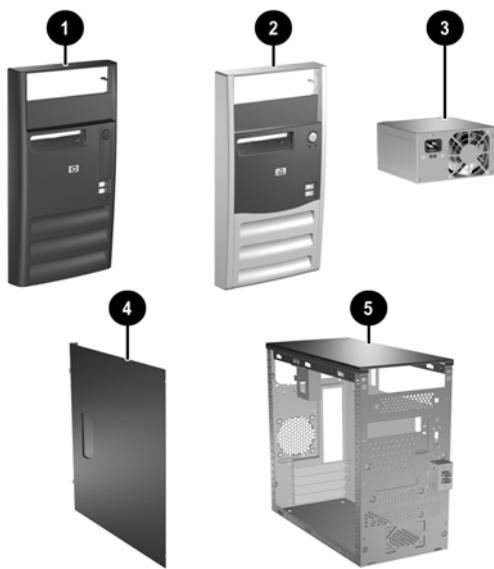# HP Compaq Business Desktop d220/d228/d230 Microtower Models

Illustrated Parts Map
Celeron and Pentium Processors

December 2003

Document Part Number 332825-003

Standard and Optional Boards

	Memory modules	
1	128 MB/266 MHz FSB	285648-001
*	256 MB/266 MHz FSB	285649-001
*	512 MB/266 MHz FSB	285650-001
*	128 MB/333 MHz FSB	314795-001
*	256 MB/333 MHz FSB	314793-001
*	512 MB/2333 MHz FSB	314796-001
	Intel Processors with alcohol pad and thermal grease	
2	Celeron 1.8 GHz processor	288692-001
*	Celeron 2.0 GHz processor	309578-001
*	Pentium 1.8 GHz processor	306779-001
*	Pentium 2.4 GHz processor	288689-001
*	Pentium 2.66 GHz processor	305579-001
*	Pentium 2.8 GHz processor	333487-001
*	Pentium 2.66 GHz processor, C1 (VID)	333486-001
*	Pentium 2.8 GHz processor, C1 stepping	305051-001
3	Front I/O PCA with cable	342725-001
	System board with alcohol pad and thermal grease	
*	System board with AGP socket	335187-001
4	System board without AGP socket	355186-001
	Other boards	
*	Lucent 56K PCI Win modem	239411-001

*Not shown
#Spared with alcohol wipe and thermal grease

System Unit

1	Front bezel (1 solid carbonite and 1 solid silver) with diskette drive bezel. (See Miscellaneous parts for kit contents) for d220 and d230 models	337555-001
2	Front bezel (carbonite and silver) with diskette drive bezel and 2- 5.25" bezel blanks for d228 models	356602-001
3	Power supply, PFC	335183-001
*	Power supply, non-PFC	335182-001
4	Access panel used on all models (left or right side) (See Miscellaneous parts for kit contents	337555-001
5	Chassis	not spared

*Not shown

Cables

1	Diskette drive cable	335190-001
2	Hard drive cable, primary ATA (2 devices)	335188-001
*	Optical drive cable, secondary ATA (2 devices)	335189-001
3	Audio cable	335191-001

*Not shown

Keyboards (not illustrated)

Keyboard, PS2		335192-xxx	
Brazil	-201	Latin American Spanish	-161
French Canadian	-121	Peoples Republic of China	-AA1
International	-B31	Taiwanese	-AB1
Japanese	-291	Thai	-281
Korean	-AD1	U.S.	-001

Mass Storage Devices

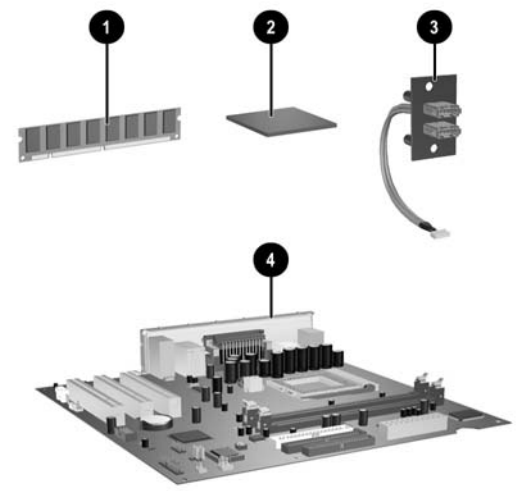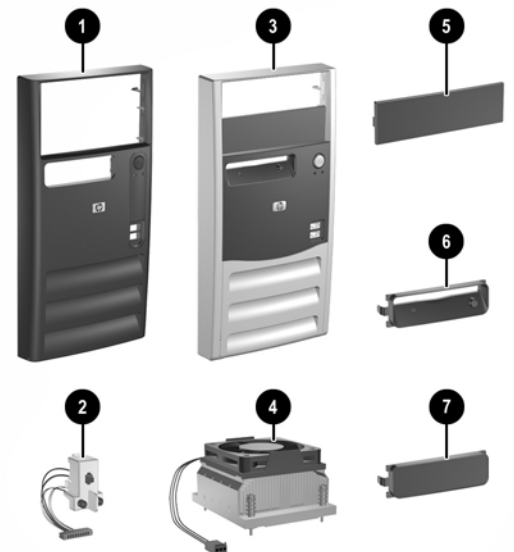|		
1	Diskette drive, 3.5-inch	336218-001
2	40-GB\5400 RPM hard drive	335176-001
*	40-GB\7200 RPM hard drive	335392-001
*	80-GB\5400 RPM hard drive	335177-001
*	80-GB\7200 RPM hard drive	337027-001
3	48X CD-ROM drive	335389-001
*	CD RW drive, 48X/24X	335391-001
*	16X DVD drive	335390-000
*	48X/24X/48X+16X CD-RW/DVD-ROM drive	336783-001

*Not shown

Miscellaneous Parts

|		
	Miscellaneous Parts kit, (1 solid carbonite and 1 solid silver) for d220, d228, and d230 models. Includes:	337555-001
1	Front bezel (1 solid carbonite and 1 solid silver) for use on d220 and d230 models only	
5	5.25" drive bezel blank with metal shield for d220, d228, and d230 models	
6	Diskette drive bezel for d220, d228, and d230 models	
7	3.5" drive bezel blank with metal shield for d220, d228, and d230 models	
*	Side access panel (see item ❹ in System unit) for d220, d228, and d230 models	
2	Power switch/LED with switch mounting bracket	342724-001
3	Front bezel (carbonite and silver) with diskette drive bezel and 2- 5.25" bezel blanks for d228 models	356602-001
4	Heatsink with alcohol pad and thermal grease	335184-001
*	Air baffle (2 piece) with mounting screws	337553-001
*	Rear I/O shield	337554-001
*	Mouse, PS2, scroll type	335181-001
*	Mouse, PS2, scroll type	323614-001
*	Mouse, optical	323617-001
*	Battery, real-time clock	153099-001
*	Internal speaker	180809-001
	Miscellaneous screw kit, includes:	337552-001
*	#6-32 x 0.25 lg pan head (262508-001) (6 ea)	
*	#6-32 x 0.187 lg hi top (262508-003) (6 ea)	
*	M3 x 5mm lg pan head (263585-001) (8 ea)	
*	M3 x 6.5mm lg pan head (263585-002) (8 ea)	

*Not shown
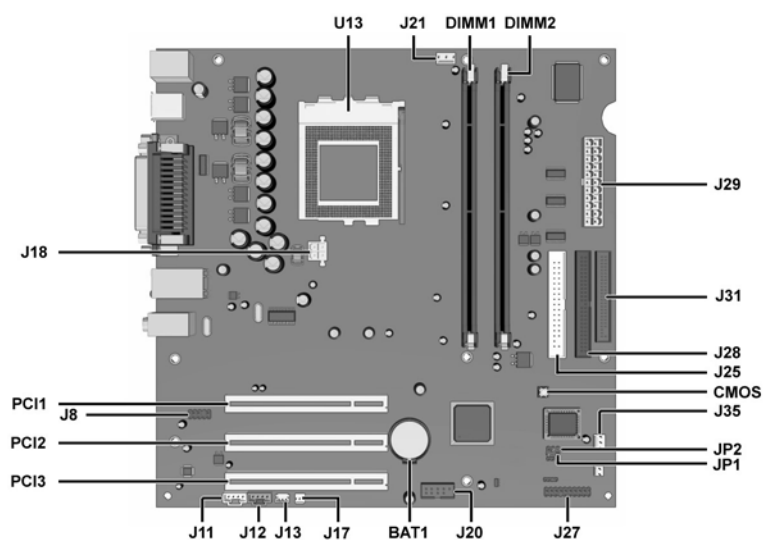
System Board Connectors and Jumpers (position of some untitled components may vary in location)

BAT1	Real-time-clock battery	J25	Secondary IDE connector
CMOS	CMOS Reset button	J27	Power/LED switch
DIMM1	Memory socket 1	J28	Primary IDE connector
DIMM2	Memory socket 2	J29	ATX Main power
J11	Aux in audio	J31	Diskette drive connector
J12	CD in audio	J35	Chassis fan
J13	Wake on LAN	JP1#	Processor safe mode
J17	System fan	JP2#	Boot Block
J20	Front side USB	U13	Processor socket
J21	CPU fan		

#See table below
AGP socket not shown in this drawing

JP1

Status	Jumper Setting	Notes
Normal	1-2	Default
Safe	2-3	
Recovery	Open	

JP2

Status	Jumper Setting	Notes
Lock	1-2	
Unlock	2-3	Default

System Hardware Interrupts

IRQ	System Function	IRQ	System Function
0	Timer Interrupt	8	Real-Time Clock
1	Keyboard	9	Unused
2	Interrupt Controller Cascade	10	Unused, available for PCI
3	Serial Port (COM B)	11	Unused, available for PCI
4	Serial Port (COM A)	12	Mouse
5	Unused, available for PCI	13	Coprocessor
6	Diskette Drive	14	Primary ATA (IDE) Controller
7	Parallel Port (LPT 1)	15	Secondary ATA (IDE) Controller

Establishing a Password

1. Turn on or restart the computer. If you are in Windows, click Start > Shut Down > Restart the computer.
2. When the F10 Setup message appears in the lower-right corner of the screen, press the F10 key. Press Enter to bypass the title screen, if necessary. If you do not press F10 when prompted, a restart will be necessary.
3. Select Password Option, then select Change Supervisor Password and follow the instructions on the screen. You may also want to establish the Password check at this time. This will allow you to specify when the password will be required.
4. Before exiting, click Save Settings and Exit.

Changing a Password

1. Turn on or restart the computer. If you are in Windows, click Start > Shut Down > Restart the Computer. To change the setup password, run Computer Setup.
2. When the key icon appears, type your current password, a slash (/) or alternate de-limiter character, your new password, another slash (/) or alternate delimiter character, and your new password again as shown:

   current password/new password/new password.

   NOTE: Type the new password carefully since the actual characters do not appear on the screen.
3. Press the enter key.
4. The new password will take effect the next time the computer is restarted.

Deleting a Password

1. Turn on or restart the computer. If you are in Windows, click Start > Shut Down > Restart the Computer. To delete the setup password, run Computer Setup (F10).
2. When the key icon appears, type your current password followed by a slash (/) or alternate delimiter character as shown. Example: currentpassword/
3. Press the Enter key.

Clearing CMOS*

The computer's configuration (CMOS) may occasionally be corrupted. If it is, it is necessary to clear the CMOS memory using by performing the following procedure:

⚠ **CAUTION:** The power cord must be disconnected from the power source before changing the jumper setting. (NOTE: All LEDs on the board should be OFF). Failure to do so may damage the system board

1. Turn off the computer and any external devices, then disconnect the power cord from the power outlet.
2. Remove the access panel.
3. Locate the switch CMOS and press the button, holding it down for 5 seconds.
4. Replace the access panel.
5. Connect the power cord to the power outlet.
6. Turn on the computer, allow it to start.

   NOTE: Clearing CMOS clears all passwords.

Diagnostic LEDs

LED	Color	LED Activity	State/Message
Power	Green	On	(S0) Computer on
Power	Green	1 blink every 2 seconds	(S1) Normal Suspend Mode
Power	Green	1 blink every 2 seconds	(S3) Suspend to RAM
Power	Clear	Off	(S4) Suspend to Disk (if applicable)
Power	Clear	Off	(S5) Computer off
Power	Red/Green	Red when flashing ROM; Green 1 blink every second when user can restart	Boot block recovery w/Embedded Video
Power	Red	1 blink every second for 2 seconds	CPU thermal shutdown
Power	Red	1 blink every second for 5 seconds, then 2 second pause. 5 beeps.	No memory installed
Power	Red	1 blink every second for 6 seconds, then 2 second pause. 6 beeps.	Graphics card error
Power	Red	1 blink every second for 7 seconds, then 2 second pause. 7 beeps.	System board failure
Hard Drive	Green	Blinking	Hard drive activity

Computer Setup (F10) Utility Features (not all features may be available)

System Information	System S/N Product Name System Chipset Type BIOS Version BIOS Release Date Processor Type Processor Speed	CPU ID L1 Cache Size L2 Cache Size Memory Bank 0 Memory Bank 1 Total Memory
Standard CMOS Setup	Set Time Set Date Set Floppy size and capacity Auto Detect Primary IDE Master drive	Auto Detect Primary IDE Slave drive Auto Detect Secondary IDE Master drive Auto Detect Secondary IDE Slave drive
Advanced CMOS Setup	Boot Device Priority Try Other Boot Device POST Delay Time (in seconds) System Keyboard	APIC ACPI SCI IRQ Hyper-Threading Technology Internal Graphics Mode Select
Power Management Setup	ACPI Standby State Reset on AC/Power Loss Resume on Ring	Resume on LAN Resume on PME
Peripheral Setup	OnBoard LAN OnBoard LAN Chip Boot ROM Init. Graphics Adapter Priority USB Controller	USB 1.1 Device Legacy Support OnBoard Serial Port OnBoard Parallel Port
Hardware Monitor	CPU Ratio Selection CPU Warning Temperature CPU Shutdown Temperature System Warning Temperature System Shutdown Temperature CPU Temperature System Temperature CPU FAN Speed	Chassis FAN Speed CPU VID Vccp +1.5V +2.5V +3.3V +5.0V +12.0V
Password Option	Change Supervisor Password Password Status Password Check	
Load Default Settings		
Save Settings and Exit		
Exit Without Saving		

Note: See Computer Setup (F10) Utility Guide on the Documentation Library CD.