Illustrated Parts & Service Map

HP Pro 3000 Business PC
Small Form Factor Chassis

Key Specifications

Processor Type	Intel® Core™ 2 Duo and Core™ 2 Quad, Intel Pentium®, Intel Celeron®
RAM Type	DDR3-SDRAM DIMMs, PC2-10600 (1333 MHz) non-ECC
Maximum RAM Supported	8 GB
Expansion Slots	• (2) PCI 2.3 • (1) PCIe-x1 • (1) PCIe-x16
Graphics Adapter	Intel Graphics Media Accelerator X4500HD with DX10 support
Chipset	Intel G45S Express
Drive Support	• (1) external 5.25-inch optical disk drives • (1) external 3.5-inch drive (for optional media reader or Pocket Media drive) • (1) internal 3.5-inch hard disk drives
I/O Interfaces	Front: (2) USB 2.0 ports, headphone output, microphone jack Rear: (6) USB 2.0 ports, serial port, PS/2 mouse and keyboard ports, RJ-45 network interface, DVI-D and VGA video interfaces, microphone jack, audio in/out jacks
Operating Systems	• Windows 7 • Windows Vista • Windows XP Professional • SuSE Linux Enterprise Desktop 11 • FreeDOS

Spare Parts
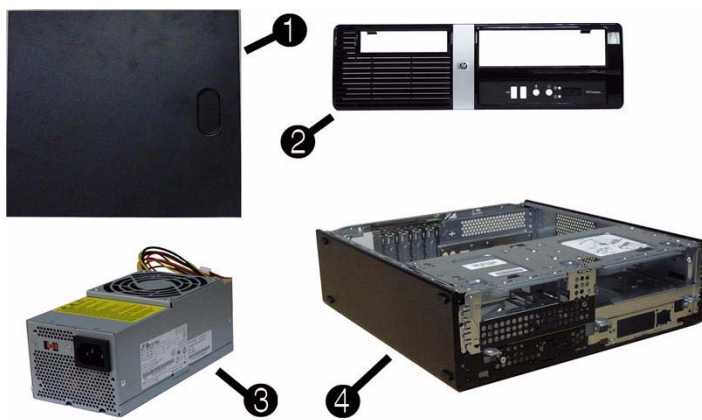
System Unit

1	Access panel	591602-001
2	Front bezel	592509-001
3	Power supply, 250W, PFC	447585-001
*	Power supply, high voltage	514230-001
4	Chassis	not spared
*	5.25-inch bezel blank	536306-001
*	3.5-inch bezel blank	583094-001
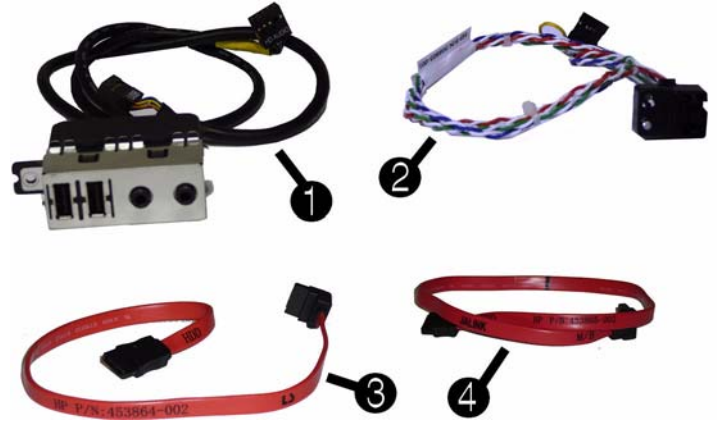
Cables

1	Front I/O assembly	487745-001
2	Power switch/LED assembly	534482-001
3	SATA cable - hard drive	591604-001
4	SATA cable - Optical drive	591605-001
*	SATA power dongle, 4 inch	449283-001
*	DMS-59 to dual VGA cable	463023-001
*	DMS-59 to dual DVI cable	463024-001
*	RJ-11 modem cable	198220-005

Not shown

Keyboards (not illustrated)

PS/2, Basic		**537745-xxx**	
USB, Standard		**537746-xxx**	
USB SmartCard		**537747-xxx**	
USB, Mini[e]		**535873-xxx**	
USB, low cost		**537924-xxx**	
Washable[f]		**577495-xxx**	
Adriatic[a][c][d]	-BL1	Japanese[a]	-291
Arabic[b][c][d]	-171	LA Spanish[a]	-161
Belgian[d]	-181	Korean[a]	-KD1
BHCSY[b][d]	-B41	Norwegian[d]	-091
Czech[d]	-221	Portuguese[d]	-131
Danish[d]	-081	Romanian[b][d]	-271
Finnish[d]	-351	Russian[d]	-251
French[d]	-051	S. Chinese[a]	-AA1
French Arabic[d]	-DE1	Slovakian[d]	-231
French Canadian[a][e][f]	-121	Spanish[d]	-071
German[d]	-041	Swedish[d]	-101
Greek[d]	-151	Swiss[d]	-111
Hebrew[b][d]	-BB1	Taiwanese[a]	-AB1
Hong Kong[a][b][c]	-AC1	Thailand[a]	-281
Hungarian[d]	-211	Turkish[d]	-141
Iceland[a][d]	-DD1	U.K.[d]	-031
International English	-L31	United States[a][e][f]	-001
Italian[d]	-061		

[a] not for 537924-xxx　　　*[d] not for 537745-xxx*
[b] not for 537924-xxx　　　*[e] 535873-xxx only for -001, -121*
[c] not for 537746-xxx　　　*[f] 577495-xxx only for -001, -121*

Mass Storage Devices (not illustrated)

Blu-ray Disc ROM with SuperMulti DVD±R/RW DL Drive	581601-001
DVD±RW and CD-RW SuperMulti DL Combo Drive with LightScribe	581600-001
DVD-ROM drive	581599-001
500-GB SATA hard drive,	586720-001
320-GB hard drive	586969-001
250-GB SATA hard drive	586719-001
320-GB external USB hard drive	591387-001
160-GB SATA hard drive	586718-001
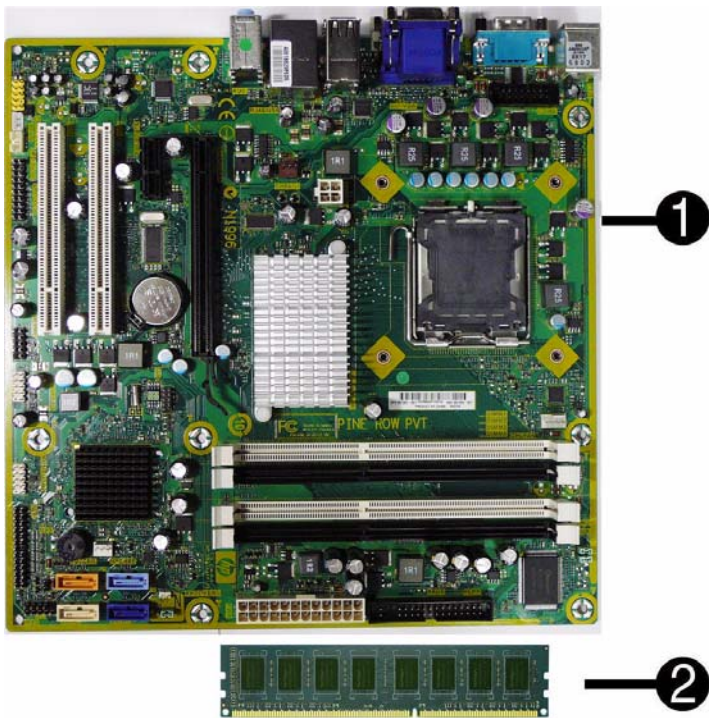
Miscellaneous Parts

1	Heatsink with alcohol pad and factory-applied thermal grease	514231-001
2	Media card reader	480032-001
3	Speaker	505611-001
*	Hood sensor	534484-001
*	USB powered speakers	571536-001
*	Printer port	497727-001
*	Backplate, heat sink	486446-001
*	Foot kit	534483-001
*	Serial port	392414-001
*	Mouse, USB	537749-001
*	Mouse, optical	537748-001
*	Mouse, laser	570580-001
*	Antenna, 802.11	583345-001
*	Rear I/O cover	592507-001

Not shown

System Board

System Board Connectors and Jumpers (component location may vary)

PCI1	PCI slot 1	PSWD	Password header
PCI2	PCI slot 2	FLPY	Floppy drive connector
X1PCEXP1	PCIe X1, slot 1	PWR	Main power connector
X16PCIEXP	PCIe X16 connector	RCV1	Recovery header
AUD	Double stack audio connector	CMOS	CMOS header
RJ45/USB	Stacked RJ-45/USB connectors	SATA1	Primary SATA hard drive
DVI/VGA	Stacked DVI/VGA connector	SATA2	1st SATA optical drive
USB	USB connector	SATA3	2nd SATA optical drive
SER	Serial port	SATA4	2nd SATA hard drive
PS2	PS/2 connectors	JFP1	Power switch connector
COMB	2nd media reader connector	JRST1	Reset header
CHFAN1	System fan connector	PAR	Parallel port connector
PWRCPU	CPU power connector	FRNT_USB2	2nd USB connector
PROCESSOR	Processor slot	FRNT_USB1	1st USB connector
CPUFAN	CPU/heat sink fan connector	MEDIA	Media card reader connector
DIMM1	Memory socket 1	SPDIF OUT	Digital line-in/line-out audio connector
DIMM2	Memory socket 2	SPKR	Speaker connector
DIMM3	Memory socket 3	FRNT_AUD	Front panel connector
DIMM4	Memory socket 4		

Standard and Optional Boards

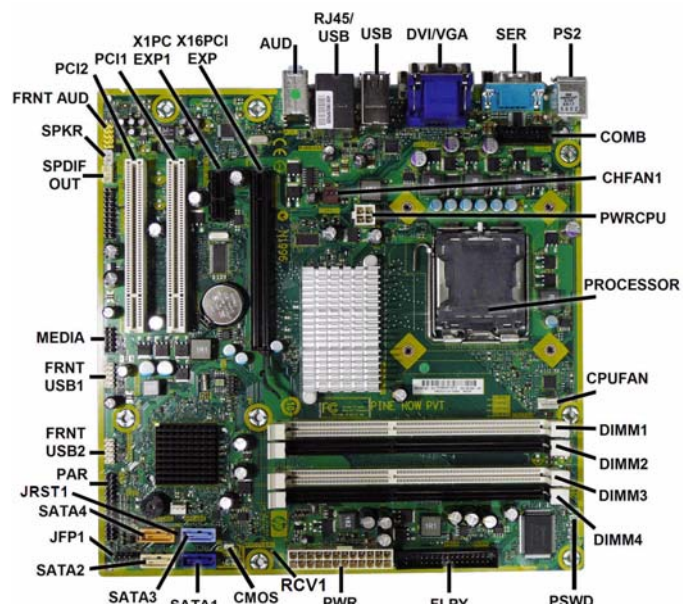|		
System boards with thermal grease, alcohol pad, and CPU socket cover		
1	System board	587302-001
Memory modules (PC3-10600, CL9)		
2	1 GB	576109-001
*	2 GB	576110-001
*	4 GB (4 x 1-GB DIMM)	576109-001
Other boards		
*	Agere International 56K LSI v92 modem, includes bracket	490689-001
*	ATI Radeon HD4350 PCIe x16 graphics card, 512 MB	586750-001
*	ATI Radeon HD4550 (RV710) PCIe x16 graphics card, 256 MB	538051-001
*	ATI Radeon HD4650 (RV730) PCIe x16 graphics card, 1 GB, 15 month warranty, EMEA only	578174-001
*	GeForce GT230 1.5-GB PCIe graphics card	586381-001
*	GeForce GT210 512-MB PCIe graphics card (for use in MT)	591180-001
*	802.11b/g/n WLAN PCIe adapter	538048-001
*	Intel Gigabit NIC, includes bracket	490367-001
*	HP FireWire IEEE 1394 PCI card, FH	585468-001
Intel Celeron Processors with alcohol pad and thermal grease:		
E3300, 1-MB cache, 2.50 GHz		585886-001
E3200, 1-MB cache, 2.40 GHz		585885-001
E1500, 512-KB cache, 2.20 GHz		516899-001
450, 512-KB cache, 2.00 GHz		508256-001
440, 512-KB cache, 2.00 GHz		449166-001
Intel Core2 Quad Processors with alcohol pad and thermal grease:		
Q9650, 12-MB cache, 3.00 GHz		497734-001
Q9550, 12-MB cache, 2.83 GHz		465758-001
Q9400, 6-MB cache, 2.66 GHz		497733-001
Q8400, 4-MB cache, 2.66 GHz		573955-001
Q8300, 4-MB cache, 2.5 GHz		583005-001 516901-001
Intel Core2 Duo Processors with alcohol pad and thermal grease:		
E8600, 6-MB cache, 3.33 GHz		497732-001
E8500, 6-MB cache, 3.16 GHz		466170-001
E8400, 6-MB cache, 3.00 GHz		466169-001
E7600, 3-MB cache, 3.06 GHz		573954-001
E7500, 3-MB cache, 2.93 GHz		583006-001 531988-001
E6500, 2-MB cache, 2.93 GHz		586748-001
E6300, 2-MB cache, 2.80 GHz		580748-001
E5400, 2-MB cache, 2.70 GHz		586743-001
E5300, 2-MB cache, 2.60 GHz		586747-001

Not shown

System Setup and Boot

Basic system information regarding system information, setup, power management, hardware, and passwords is maintained in the Setup Utility held in the system ROM. The Setup Utility is accessed by pressing the F10 key when prompted (on screen) to do so during the boot sequence. If the screen prompt opportunity is missed, a restart will be necessary...

Computer Setup Menu

Heading	Option / Description	
Main	System Time	Allows you to set system time.
	System Date	Allows you to set system date.
	Language	Allows you to select the language.
	Floppy Diskette A	Allows you to set to Disabled, 1.44 MB 3.5", Not Installed.
	1st Drive 2nd Drive 3rd Drive* 4th Drive*	Allow you to: Enable/disable port configuration, view capacity, transfer mode. Also allows you to run HDD self-test for selected channel: SMART status check, SMART short self test, SMART extended self test.
	System Information	Allows you to view installed memory, memory banks 1-4, BIOS revision, core version, model number, product number, serial number, asset tag (press **Enter** to change)
Advanced	CPU Type	View only.
	CPU Speed	View only.
	Cache RAM	View only.
	Primary Video Adapter	Allows you to select boot display device when more than 2 video options are offered by system: Integrated (Onboard), PCI, PCI-Ex16, PCI-Ex1, Onboard.
	Security Option	Checks password while invoking Setup or while invoking Setup as well as on each System boot. Set to: Setup, System.
	Supervisor Password	Allows you to view the supervisor password.
	User Password	Allows you to view the user password.
	USB Ports	Allows you to disable/enable individual USB ports (USB Port 1 through USB Port 12).
	Onboard Video Memory Size	Allows you to set onboard video memory size to: 128MB, 256MB, 512MB.
	SATA Controller	Allows you to disable/enable the SATA controller.
	SATA Controller Mode	If SATA1 Controller is enabled, allows you to set the mode to: IDE, AHCI
	Onboard Audio	Allows you to set the onboard audio to: Enabled, Disabled, Auto.
	Onboard LAN	Disable/enable onboard LAN controller.
	Onboard LAN Boot ROM	Disable/enable the boot ROM of the onboard LAN chip.
	Change Supervisor Password	Allows you to change the supervisor password.
Power	After AC Power Failure	Allows you to select system restart behavior after power loss: Stay off, Power on, Auto.
	XD (Execute Disable)	Disable/enables the processors XD feature.
Boot	Boot-time Diagnostic Screen	Disable/enable POST diagnostic messages display.
	Esc: Boot Menu	Disables/enables POST Esc: Boot Menu message display,
	F9: Diagnostics	Disables/enables POST F9: Diagnostics message display,
	F10: Setup	Disables/enables POST F10: Setup message display,
	F11: Recovery	Disables/enables POST F11: Recovery message display,
	F12: Boot from LAN	Disables/enables POST F12: Boot From LAN message display,
	(Boot Device Priority) 1st Boot Device, 2nd Boot Device, 3rd Boot Device, 4th Boot Device	Allows you to specify which device groups will boot first, second, third, and fourth or to disable any of the four: CD-ROM group, Hard drive group, Floppy group, Network boot group. MS-DOS drive lettering assignments maybe apply after a non-MS-DOS operating system has started.
	Floppy Group Boot Priority	Specifies boot device priority within removable devices.
	CD-ROM Boot Priority	Specifies boot device priority within CD/DVD drives.
	HDD Boot Priority	Specifies boot device priority within hard drives.
	Network Group Boot Priority	Specifies boot device priority within bootable network devices.
Exit	Exit Saving Changes	Press **Enter** to exit saving changes.
	Exit Discarding Changes	Press **Enter** to exit discarding changes.
	Load Setup Defaults	Press **Enter** to load setup defaults.
	Discard Changes	Press **Enter** to discard changes.
	Save Changes	Press **Enter** to save changes.

POST Audible Codes

Beeps	Meaning	Recommended Action
1 short beep and 1 long beep followed by a three second pause	Bad memory or memory configuration error.	Check that the memory modules have been installed correctly and that proper modules are used.
2 short beeps and 1 long beep followed by a three second pause	No graphics card installed or graphics card initialization failed.	For systems with a graphics card: 1. Reseat the graphics card. Power on the system. 2. Replace the graphics card. 3. Replace the system board. For systems with integrated graphics, replace the system board.
3 short beeps and 1 long beep followed by a three second pause	CPU configuration error or invalid CPU detected before graphics card initialized.	1. Upgrade the BIOS to proper version. 2. Change the processor.
1 short beep followed by a one second pause	No optical drive found.	1. Check cable connections. 2. Run the Computer Setup utility and ensure the device port is enabled.
2 short beeps followed by a three second pause	No CD found.	1. Check the type of drive that you are using and use the correct media type. 2. Replace the CD with a new one.
3 short beeps followed by a three second pause	Flashing not ready (missing utility or BIOS image file, etc.)	Upgrade the BIOS to proper version.
4 short beeps followed by a three second pause	Flashing operation has failed (checksum error, corrupted image, etc.)	1. Verify the correct ROM. 2. Flash the ROM if needed. 3. If an expansion board was recently added, remove it to see if the problem remains. 4. Clear CMOS. 5. If the message disappears, there may be a problem with the expansion card. 6. Replace the system board.
5 short beeps followed by a three second pause	BIOS recovery was successful	No action required.

Password Security

Resetting the password jumper

1. Shut down the operating system properly, then turn off the computer and any external devices, and disconnect the power cord from the power outlet.
2. With the power cord disconnected, press the power button again to drain the system of any residual power.
3. Remove the access panel.
4. Locate the header and jumper labeled **PSWD**.
5. Remove the jumper.
6. Plug in the computer and turn on power.
7. When you see the HP logo screen, turn off the computer. This clears the current passwords.
8. Replace the jumper to its original position.
9. Replace the access panel.
10. reconnect external equipment.
11. Plug in the computer and turn on power. Allow the operating system to start.

Resetting the CMOS jumper

1. Turn off the computer and any external devices, and disconnect the power cord from the power outlet. The power must be disconnected from the system to clear CMOS.
2. Disconnect the keyboard, monitor, and any other external equipment connected to the computer.
3. Remove the access panel.
4. Locate the header and jumper labeled **CMOS**.
5. Remove the CMOS jumper from pins 1 and 2 and put the jumper on pins 2 and 3. This clears CMOS.
6. Put the jumper back on pins 1 and 2.
7. Replace the access panel.
8. Reconnect the external equipment.
9. Plug in the computer and turn on power.

NOTE: Use Computer Setup to reset any special system setups along with the date and time.