Illustrated Parts & Service Map

HP Pro 3130 Business PC
Minitower Chassis

Key Specifications

Processor Type	Intel® Celeron, Pentium, Core™ 2 Duo, Core 2 Quad
RAM Type	DDR3-SDRAM DIMMs, PC2-10600 (1333 MHz) non-ECC
Maximum RAM Supported	8 GB
Expansion Slots	• (3) PCIe x1 • (1) PCIe x16
Graphics Adapter	Integrated Intel Graphics Media Accelerator X4500HD
Chipset	Intel G43 Express
Drive Support	• (2) external 5.25-inch • (1) external 3.5-inch • (2) internal 3.5-inch
I/O Interfaces	Front: (2) USB 2.0 ports, microphone, headphone Rear: (4) USB, (1) VGA, (1) DVI, (1) RJ-45 Ethernet, (1) SPDIF Out, (1) audio in, (1) audio out, (1) microphone, (1) surround rear, (1) surround side, (1) surround center/sub
Operating Systems	• Windows 7 • Windows XP Professional • FreeDOS

Spare Parts
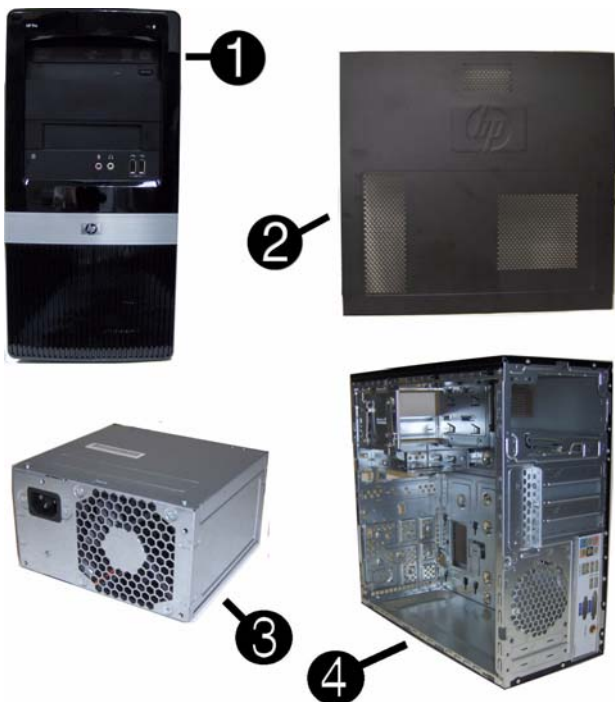
System Unit

1	Front bezel	614499-001
2	Access panel	586372-001
3	Power supply, 300W	463318-001
*	Power supply, 300W, 85% efficient	575437-001
*	Power supply, 300W, PFC	592502-001
*	Power supply, 250W, non-PFC	453035-001
4	Chassis	not spared

Cables

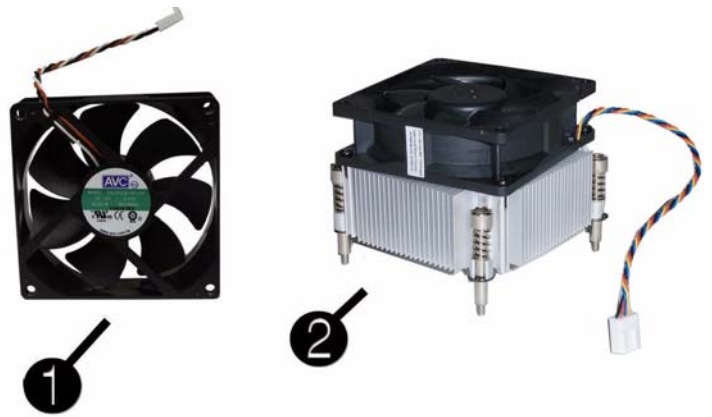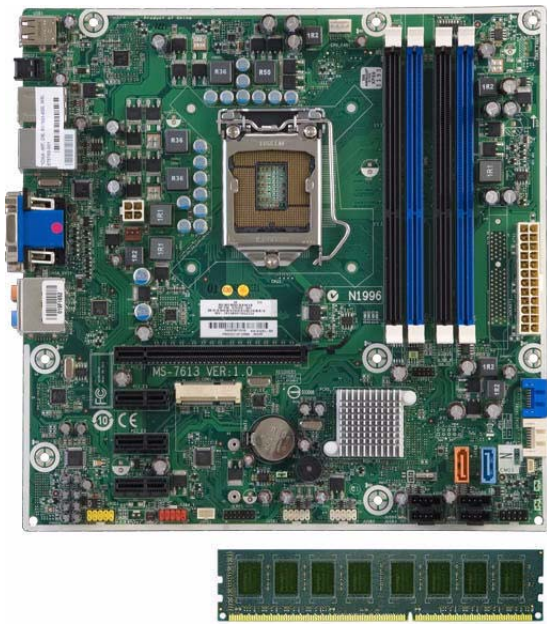|		
1	Front I/O assembly	508463-001
2	Power switch/LED assembly	614496-001
*	SATA optical drive cable with latch, 9.5 inch (240 mm)	614498-001
*	SATA hard drive cable with latch, 6.5 inch (165 mm)	448670-001

Not shown

Keyboards (not illustrated)

PS/2	**537745-xxx**
USB, standard	**537746-xxx**
USB, SmartCard	**537747-xxx**
PS/2 washable[b]	**577495-xxx**
USB, mini[a]	**535873-xxx**

Brazilian[e]	-201	Russian[c][e]	-251
People's Republic of China	-AA1	South Korea	-KD1
French Canadian[e]	-121	Taiwan[d]	-AB1
International English	-L31	Thailand	-281
Japan	-291	United States[e]	-001
Latin America[e]	-161		

[a] only for -001, -121, -161, -201
[b] only for -001, -121
[c] only for 537746
[d] not for 537746
[e] not for 537745

Mass Storage Devices (not illustrated)

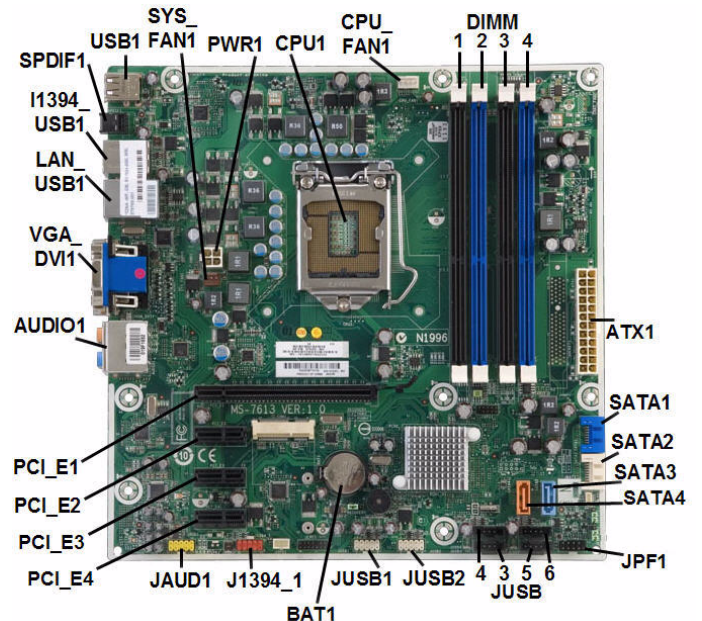|	
Blu-ray Disc ROM with SuperMulti DVD±R/RW DL Drive	581601-001
DVD±RW and CD-RW SuperMulti DL Combo Drive with LightScribe	581600-001
DVD-ROM drive	581599-001
2 TB hard drive, 7200 rpm	616608-001
1.5 TB hard drive, 7200 rpm	613209-001
1.5 TB hard drive, 5400 rpm	613203-001
1 TB hard drive, 7200 rpm	613202-001
750 GB hard drive, 7200 rpm	613205-001
640 GB hard drive, 7200 rpm	613204-001
500 GB hard drive, 7200 rpm	613208-001
320 GB hard drive, 7200 rpm	613207-001
320 GB hard drive, 5400 rpm	586969-001
250 GB hard drive, 7200 rpm	613206-001
250 GB hard drive, 5400 rpm	586719-001
250 GB USB hard drive	586383-001
160 GB hard drive, 7200 rpm	613201-001
160 GB hard drive, 5400 rpm	419102-001
Hard drive conversion bracket	397117-001

Standard and Optional Boards

1	System board, H57 (includes bumper, thermal material, alcohol pad, and CPU socket cover)	614494-001
Memory modules (PC3-10600, CL9)		
2	1 GB	576109-001
*	2 GB	576110-001
*	4 GB	585157-001
Other boards		
*	USB 3.0 PCIe x1 expansion card, includes bracket	616610-001
*	Agere International 56K LSI v92 modem, includes bracket	490689-001
*	ATI Radeon HD4550 (RV710) PCIe x16 graphics card, 512 MB	584217-001
*	ATI Radeon HD4650 (RV730) PCIe x16 graphics card, 1 GB	578174-001
*	ATI Radeon HD5450 PCIe graphics card, 1 GB	601155-001
*	GeForce GT315 1-GB PCIe graphics card	619934-001
*	GeForce GT230 1.5-GB PCIe graphics card	586381-001
*	GeForce GT210 512-MB PCIe graphics card	593213-001
*	802.11b/g/n WLAN PCIe adapter	616609-001
*	Intel Gigabit NIC, includes bracket	490367-001
Intel Pentium processor (3-MB L2 cache)		
*	G6950, 2.80-GHz	604623-001
Intel Quad-Core processors (8-MB L3 cache)		
*	Core i7-860, 2.80-GHz	586377-001
*	Core i5-750, 2.66-GHz	586376-001
Intel Dual-Core processors (4-MB L3 cache)		
*	Core i5-670, 3.46-GHz	604616-001
*	Core i5-660, 3.33-GHz	604615-001
*	Core i5-650, 3.20-GHz	604614-001
*	Core i3-550, 3.20-GHz	617830-001
*	Core i3-540, 3.06-GHz	604613-001
*	Core i3-530, 2.93-GHz	600133-001

Not shown

Miscellaneous Parts

1	Chassis fan	438741-001
2	Heat sink, Intel class F for use with Intel Core2 Duo Qxxxx processors: (includes replacement thermal material)	616607-001
*	Heat sink, Intel class F-1156 for use with the Intel Core i7-860 processor (includes replacement thermal material)	619933-001
*	Heat sink, Intel class H for use Intel Core2 Quad Qxxxx, Celeron, Core2 Exxxx, and Pentium Exxxx processors (includes replacement thermal material)	614505-001
*	Heat sink, Intel class H-1156 for use with Intel Core i3, i5, i7 and Pentium G6950 processors (includes replacement thermal material)	615791-001
*	Media card reader	480032-001
*	Mouse, optical, Jack Black	537749-001
*	Mouse, laser, Jack Black	570580-001
*	Rubber feet	370708-001
*	Rear I/O cover	592507-001
*	Antenna, dual band dipole, 802.11 a/b/g/n	583345-001

Not shown

System Board

System Board Connectors and Jumpers (component location may vary)

USB1	USB connector	F_USB3-6	USB connectors
SYS_FAN1	System fan connector	JUSB2	Front I/O panel USB connector
PWR1	CPU power connector	JUSB1	Media card reader connector
CPU1	Processor slot	BAT1	RTC battery socket
CPU_FAN1	CPU/heat sink fan connector	J1394_1	1394 connector
DIMM1	Memory socket 1	JAUD1	Front panel audio connector
DIMM2	Memory socket 2	PCI_E4	PCI Express x1 slot 3
DIMM3	Memory socket 3	PCI_E3	PCI Express x1 slot 2
DIMM4	Memory socket 4	PCI_E2	PCI Express x1 slot 1
ATX1	Main power connector	PCI_E1	PCIe X16 connector
SATA1	1st SATA optical drive	AUDIO1	Double stack audio connector
SATA2	1st SATA hard drive	VGA_DVI1	Stacked DVI/VGA connector
SATA3	2nd SATA hard drive	LAN_USB1	Stacked RJ-45/USB connectors
SATA4	2nd SATA optical drive	I1394_USB1	Stacked 1394/USB connectors
JPF1	Power switch connector	SPDIF1	Digital line-in/line-out audio connector

Computer Setup

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.
	System IDs	Allows you to view or change the following by pressing **Enter**: Product name, serial number, UUID, SKU, Family name (view only), Feature byte, Build ID.
	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.
Advanced	CPU Type	View only.
	CPU Speed	View only.
	Cache RAM	View only.
	Cache RAM (L2)	View only.
	Cache RAM (L3)	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-E.
	USB Ports	Allows you to disable/enable individual USB ports.
	SATA Controller	Allows you to disable/enable the SATA controller.
	SATA Controller Mode	If SATA Controller is enabled, allows you to set the mode to: IDE, AHCI, RAID.
	Onboard Audio	Allows you to set the onboard audio to: Enabled, Disabled, Auto.
	Onboard LAN	Allows you to 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 establish, disable, or change the supervisor password.
	Change User Password	Allows you to establish, disable, or change the user password. Only displays in a Supervisor password is set.
	Onboard Video Memory Size	Allows you to set onboard video memory size to Enabled 32MB, Enabled 64 MB, Enabled 128MB (default).
	Onboard 1394	Allows you to enable/disable all 1394 ports. Default is enabled.
	DVMT/FIXED Memory	Allows you to specify the DVMT/system memory allocated for video memory to 128MB, 256 MB (default), Maximum DVMT.
Power	After AC Power Failure	Allows you to select system restart behavior after power loss: Stay off, Power on, Auto.
	XD (Execute Disable)	Allows you to disable/enable the processor's XD feature. Default is enabled.
	Virtualization Technology	Allows you to enable/disable the processor's Virtualization Technology feature. Default is disabled.
	WOL in S5	Disables/enables limited Wake on LAN from S5. Note that the computer can only wake from S5 during a normal shutdown event. Default is disabled.
Boot	Boot-time Diagnostic Screen	Disable/enable POST diagnostic messages display during boot.
	(Boot Device Priority) 1st Boot Device, 2nd Boot Device, 3rd Boot Device, 4th Boot Device	Allows you to set device group boot priority: 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. NOTE: This computer does not support floppy drives.
	CD-ROM Boot Priority	Specifies boot device priority within CD/DVD drives.
	Hard Drive Boot Priority	Specifies boot device priority within hard drives.
	Network Group Boot Priority	Specifies boot device priority within bootable network devices.
	ESC: Boot Menu	Allows you to enable/disable the option to press the ESC key to access the Boot menu during computer startup. Default is enabled.
	F9: Diagnostics	Disables/enables the F9 Boot Menu prompt message on the logo screen. Default is enabled.
	F10: Setup	Disables/enables the F10 Setup prompt message on the logo screen. Default is enabled.
	F11: Recovery	Disables/enables the F11 Recovery prompt message on the logo screen. Default is enabled.
	F12: Boot from LAN	Disables/enables the F12 Boot from LAN prompt message on the logo screen. Default is enabled.
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 Error Messages

- Default BIOS settings have been loaded due to BIOS update or checksum issue.
  Press <F10> to enter Setup. Otherwise, allow the PC to continue.
- ERROR: System Fan Has Failed.
  Service PC to prevent damage to the system.
  Press <F2> to continue
- ERROR: System Fan Has Failed.
  Service PC to prevent damage to the system.
  Press <F2> to continue
- ERROR: Unsupported CPU installed.
  PC will automatically power down in a few seconds.
- The machine cover has been removed since last system startup.
  Please ensure that any system access was authorized.
  Press <F2> to continue.
- (HDD information displayed here): Hard disk failure is imminent. Please back up your hard disk and have it replaced!
  Press <F10> for Setup, <F2> to Continue
- Warning: Changing setup options while resuming from Hibernate may cause your system to fail to resume.

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.

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.
5. On systems with 3-pin jumpers, remove the jumper from pins 1 and 2. Place the jumper on pins 2 and 3. On systems with 2-pin jumpers, remove the jumper from pins 1 and 2.
6. Replace the access panel.
7. Reconnect the external equipment.
8. Plug in and turn on power. Allow the operating system to start. This clears the current passwords and disables the password features.
9. To establish new passwords, repeat steps 1 - 4, replace the password jumper on pins 1 and 2, then repeat steps 6 - 8. Establish new passwords in Computer Setup.

Clearing and Resetting the CMOS

The computer's configuration memory (CMOS) stores information about the computer's configuration. The CMOS jumper resets CMOS but does not clear the supervisor and user passwords.
CAUTION: Resetting the CMOS jumper will reset CMOS values to factory defaults. It is important to back up the computer CMOS settings before resetting them in case they are needed later. Back up is easily done through Computer Setup.

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.
3. Remove the access panel.
4. Locate the header and jumper.
   CAUTION: Make sure you have disconnected the AC power cord from the wall outlet. Clearing the CMOS while power is connected can damage the system board.
5. Remove the jumper from pins 1 and 2. Place the jumper on pins 2 and 3.
6. Place the jumper back on pins 1 and 2.
7. Replace the access panel.
8. Reconnect the external equipment.
9. Plug in and turn on power.
NOTE: You will receive POST error messages after clearing CMOS and rebooting advising you that configuration changes have occurred. Use Computer Setup to reset any special system setups along with the date and time.

Hewlett-Packard Vision Diagnostics

The Hewlett-Packard Vision Diagnostics utility allows you to view information about the hardware configuration of the computer and perform hardware diagnostic tests on the subsystems of the computer. The utility simplifies the process of effectively identifying, diagnosing, and isolating hardware issues.
Use HP Vision Diagnostics to determine if all the devices installed on the computer are recognized by the system and functioning properly.
To access HP Vision Diagnostics, you must create a Recovery Disc Set then boot to the CD containing the utility. It can also be downloaded from http://www.hp.com and either burned to CD or installed to a USB flash drive.

Downloading the Latest Version of HP Vision Diagnostics

1. Go to http://www.hp.com.
2. Click the Software & Drivers link.
3. Select Download drivers and software (and firmware).
4. Enter your product name in the text box and press the Enter key.
5. Select your specific computer model.
6. Select your OS.
7. Click the Diagnostic link.
8. Click the Hewlett-Packard Vision Diagnostics link.
9. Click the Download button.
NOTE: The download includes instructions on how to create the bootable CD.

Microsoft System Restore

If you have a problem that might be due to software that was installed on your computer, use System Restore to return the computer to a previous restore point. You can also set restore points manually.
NOTE: Always use this System Restore procedure before you use the System Recovery program.
NOTE: Some features might not be available on systems that are shipped without a version of Microsoft Windows.
To start a System Restore:

1. Close all open programs.
2. Click the **Start** button, right-click **Computer**, and then click **Properties**.
3. Click **System protection**, **System Restore**, click **Next**, and then follow the on-screen instructions.

To add restore points manually:

1. Close all open programs.
2. Click the **Start** button, right-click **Computer**, click **Properties**, and then click **System protection**.
3. Under **Protection Settings**, select the disk for which you want to create a restore point.
4. Click **Create**, and then follow the on-screen instructions.

System Recovery

System Recovery completely erases and reformats the hard disk drive, deleting all data files you have created, and then reinstalls the operating system, programs, and drivers. However, you must reinstall any software that was not installed on the computer at the factory. This includes software that came on media included in the computer accessory box, and any software programs installed after purchase.
You must choose one of the following methods to perform a System Recovery:

- Recovery Image. Run the System Recovery from a recovery image stored on your hard disk drive. The recovery image is a file that contains a copy of the original factory-shipped software.
   NOTE: The recovery image uses a portion of the hard disk drive that cannot be used for data storage.
- Recovery Discs. Run the System Recovery from a set of recovery discs that you create from files stored on your hard disk drive or purchased separately.

System Recovery Options

You should attempt a System Recovery in the following order:

1. Through the hard disk drive, from the Windows Start menu.
2. Through the hard disk drive, by pressing the F11 key on the keyboard during system startup.
3. Through recovery discs that you create.
4. Through recovery discs purchased from HP Support.

System Recovery from the Windows Start Menu

CAUTION: System Recovery deletes all data and programs you created or installed. Back up any important data to a removable disc.
If the computer is working and Windows is responding, use these steps to perform a System Recovery.

1. Turn off the computer.
2. Disconnect all peripheral devices from the computer except the monitor, keyboard, and mouse.
3. Turn on the computer.
4. Click the **Start** button, click **All Programs**, click **Recovery Manager**, and then click **Recovery Manager**. If prompted, click **Yes** to allow the program to continue.
5. Under **I need help immediately**, click **System Recovery**.
6. Select **Yes**, and then click **Next**. The computer restarts.
NOTE: If the system does not detect a recovery partition, it prompts you to insert a recovery disc. Insert the disc, select **Yes**, and then click **Next** to restart the computer and run Recovery Manager from the recovery disc. Insert the remaining recovery discs when prompted.
7. When the computer restarts, once again you see the Recovery Manager welcome screen. Under **I need help immediately**, click **System Recovery**. If you are prompted to back up your files, and you have not done so, select **Back up your files first (recommended)**, and then click **Next**. Otherwise, select **Recover without backing up your files**, and then click **Next**.
8. System Recovery begins. After System Recovery is complete, click **Finish** to restart the computer.
9. Complete the registration process, and wait until you see the desktop.
10.Turn off the computer, reconnect all peripheral devices, and turn the computer back on.

System Recovery at System Startup

CAUTION: System Recovery deletes all data and programs you created or installed. Back up any important data to a removable disc.
If Windows is not responding, but the computer is working, follow these steps to perform a System Recovery.

1. Turn off the computer. If necessary, press and hold the On button until the computer turns off.
2. Disconnect all peripheral devices from the computer, except the monitor, keyboard, and mouse.
3. Press the On button to turn on the computer.
4. As soon as you see the initial company logo screen appear, repeatedly press the **F11** key on the keyboard until the Windows is Loading Files… message appears on the screen.
5. Under **I need help immediately**, click **System Recovery**.
6. If you are prompted to back up your files, and you have not done so, select **Back up your files first (recommended)**, and then click **Next**. Otherwise, select **Recover without backing up your files**, and then click **Next**.
7. System Recovery begins. After System Recovery is complete, click **Finish** to restart the computer.
8. Complete the registration process, and wait until you see the desktop.
9. Turn off the computer, reconnect all peripheral devices, and turn the computer back on.

System Recovery from Recovery Discs

CAUTION: System Recovery deletes all data and programs you created or installed. Back up any important data to a removable disc.
To perform a System Recovery using recovery discs:

1. If the computer is working, create a backup DVD containing all the data files you want to save, and then remove the backup disc from the drive tray.
2. Insert recovery disc #1 into the DVD drive tray, and close the tray.
3. If the computer works, click the **Start** button, click the Arrow button next to **Shut Down**, and then click **Shut Down**. Or, if the computer is not responding, press and hold the On button for approximately 5 seconds, or until the computer turns off.
4. Disconnect all peripheral devices from the computer except the monitor, keyboard, and mouse.
5. Press the On button to turn on the computer. If you are prompted to choose between running System Recovery from disc or from hard drive, select **Run program from disc**, and then click **Next**.
6. Under **I need help immediately**, click **Factory Reset**.
7. If you are prompted to back up your files, and you have not done so, select **Back up your files first (recommended)**, and then click **Next**. Otherwise, select **Recover without backing up your files**, and then click **Next**.
8. If you are prompted to insert the next recovery disc, do so.
9. When the Recovery Manager is finished, remove all recovery discs from the system.
10.Click Finish to restart the computer.