Troubleshooting Guide

HP Compaq dx2200 Microtower Business PC

Document Part Number: 413757-001

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This guide provides helpful hints and solutions for troubleshooting the above products as well as scenarios for possible hardware and software problems.

WARNING: Text set off in this manner indicates that failure to follow directions could result in bodily harm or loss of life.

CAUTION: Text set off in this manner indicates that failure to follow directions could result in damage to equipment or loss of information.

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Safety and Comfort

⚠ **WARNING:** Misuse of the computer or failure to establish a safe and comfortable work environment may result in discomfort or serious injury. Refer to the *Safety & Comfort Guide* on the *Documentation* CD and available at www.hp.com/ergo for more information on choosing a workspace and creating a safe and comfortable work environment.

Before You Call for Technical Support

If you are having problems with the computer, try the appropriate solutions below to try to isolate the exact problem before calling for technical support.

■ Run the diagnostics utility (available for some models only). Refer to "Downloading HP Insight Diagnostics" for more information on downloading the utility.

■ Run the Drive Protection System (DPS) Self-Test in Computer Setup. Refer to the *Computer Setup (F10) Utility Guide* on the *Documentation* CD for more information.

✎ The Drive Protection System (DPS) Self-Test software is available on some models only.

■ Check the Power LED on the front of the computer to see if it is flashing. The flashing lights are error codes that will help you diagnose the problem. Refer to "Interpreting Diagnostic Lights" to interpret the codes.

■ If the screen is blank, plug the monitor into a different video port on the computer if one is available. Or, change out the monitor with a monitor that you know is functioning properly.

■ If you are working on a network, plug another computer with a different cable into the network connection. There may be a problem with the network plug or cable.

■ If you recently added new hardware, remove the hardware and see if the computer functions properly.

■ If you recently installed new software, uninstall the software and see if the computer functions properly.

■ Boot the computer to the Safe Mode to see if it will boot without all of the drivers loaded. When booting the operating system, use "Last Known Configuration."

■ Refer to the comprehensive online technical support at www.hp.com/support.

■ Refer to "Helpful Hints" in this guide for more general suggestions.

■ Run the *Restore Plus!* CD to restore the original operating system and factory-installed software.

$\triangle$ **CAUTION:** Running the *Restore Plus!* CD will erase all data on the hard drive.

To assist you in resolving problems online, HP Instant Support Professional Edition provides you with self-solve diagnostics. If you need to contact HP support, use HP Instant Support Professional Edition's online chat feature. Access HP Instant Support Professional Edition at: www.hp.com/go/ispe.

Access the Business Support Center (BSC) at www.hp.com/go/bizsupport for the latest online support information, software and drivers, proactive notification, and worldwide community of peers and HP experts.

If it becomes necessary to call for technical assistance, be prepared to do the following to ensure that your service call is handled properly:

■ Be in front of your computer when you call.

■ Write down the computer serial number and product ID number, and the monitor serial number before calling.

■ Spend time troubleshooting the problem with the service technician.

■ Remove any hardware that was recently added to your system.

■ Remove any software that was recently installed.

■ Run the *Restore Plus!* CD.

△ **CAUTION:** Running the *Restore Plus!* CD will erase all data on the hard drive.

✎ For sales information and warranty upgrades (HP Care Pack Services), call your local authorized service provider or dealer.

Helpful Hints

If you encounter problems with the computer, monitor, or software, see the following list of general suggestions before taking further action:

■ Check that the computer and monitor are plugged into a working electrical outlet.

■ Check to see that the computer is turned on and the green power light is on.

■ Check to see that the monitor is turned on and the green monitor light is on.

■ Turn up the brightness and contrast controls of the monitor if the monitor is dim.

■ Press and hold any key. If the system beeps, the keyboard should be operating correctly.

■ Check all cable connections for loose connections or incorrect connections.

■ Wake the computer by pressing any key on the keyboard or pressing the power button. If the system remains in standby mode, shut down the computer by pressing and holding the power button for at least four seconds then press the power button again to restart the computer. If the system will not shut down, unplug the power cord, wait a few seconds, then plug it in again. The

computer will restart if automatic start on power loss is set in Computer Setup. If it does not restart, press the power button to start the computer.

■ Reconfigure the computer after installing a non–plug and play expansion board or other option. See "Solving Hardware Installation Problems" for instructions.

■ Be sure that all the needed device drivers have been installed. For example, if you are using a printer, you need a driver for that model printer.

■ Remove all bootable media (diskette, CD, or USB device) from the system before turning it on.

■ If you have installed an operating system other than the factory-installed operating system, check to be sure that it is supported on the system.

■ If the system has multiple video sources (embedded, PCI, or PCI-Express adapters) installed (PCI-Express on some models only) and a single monitor, the monitor must be plugged into the monitor connector on the source selected as the primary VGA adapter. During boot, the other monitor connectors are disabled and if the monitor is connected into these ports, the monitor will not function. You can select which source will be the default VGA source in Computer Setup.

$\triangle$ **CAUTION:** When the computer is plugged into an AC power source, there is always voltage applied to the system board. You must disconnect the power cord from the power source before opening the computer to prevent system board or component damage.

Solving General Problems

You may be able to easily resolve the minor problems described in this section. If a problem persists and you are unable to resolve it yourself or if you feel uncomfortable about performing the operation, contact your HP authorized reseller or service provider.

Problem	Cause	Solution
Computer will not turn on.	Cables to the external power source are unplugged.	Ensure that cables connecting the computer to the external power source are plugged in properly and the wall outlet is active.
	Voltage selector switch on the rear of the computer chassis is not switched to the correct voltage (115V or 230V).	Select the proper AC voltage using the slide switch.
	A defective PCI card has been installed.	Remove any expansion board that was just installed.
	Drive data or power supply cables may not be properly connected.	Reseat drive data and power supply cables.
	The unit temperature was exceeded. The fan may be blocked.	1. Unit is in an exceedingly hot environment. Let it cool down. 2. Ensure that computer air vents are not blocked and the internal fan is running. 3. Contact an HP authorized reseller or service provider.
Computer appears locked up and will not turn off when the power button is pressed.	Software control of the power switch is not functional.	1. Press and hold the power button for at least four seconds until the computer turns off. 2. Disconnect the power cord from the electrical outlet.

Problem	Cause	Solution
Computer will not respond to USB keyboard or mouse.	System has locked up.	Restart the computer.
	Keyboard or mouse is not connected to computer.	Connect keyboard and mouse cables to computer.
	Computer is in **standby** mode.	Press the power button to resume from **standby** mode.

⚠ **CAUTION:** When attempting to resume from **standby** mode, do not hold down the power button for more than four seconds. Otherwise, the computer will shut down and you will lose any unsaved data.

Problem	Cause	Solution
Computer date and time display is incorrect.	RTC (real-time clock) battery may need to be replaced. ✎ Connecting the computer to a live AC outlet prolongs the life of the RTC battery.	First, reset the Date and Time Properties in the **Control Panel**. (Computer Setup can also be used to update the RTC date and time.) If the problem persists, replace the RTC battery. See the *Hardware Reference Guide* on the *Documentation* CD for instructions on installing a new battery.
Cursor will not move using the arrow keys on the keypad.	The **Num Lock** key may be on.	Press the **Num Lock** key. The Num Lock light should not be on if you want to use the arrow keys. The **Num Lock** key can be disabled (or enabled) in Computer Setup.
Poor performance is experienced.	Processor is hot.	1. Ensure airflow to the computer is not blocked. Leave a 4-inch (10.2-cm) clearance on all vented sides of the computer and monitor to permit required airflow. 2. Ensure fans are connected and working properly (some fans only operate when needed). 3. Ensure the processor heatsink is installed properly.

Problem	Cause	Solution
Poor performance is experienced *(continued)*.	Hard drive is full.	Transfer data from the hard drive to create more space on the hard drive.
	Low on memory.	Add more memory.
	Hard drive is fragmented.	Defragment hard drive.
	Program previously accessed did not release reserved memory back to the system.	Restart the computer.
	Virus resident on the hard drive.	Run the virus protection program.
	Too many applications running.	1. Close unnecessary applications to free up memory. 2. Add more memory.
	Some software applications, especially games, are stressful on the graphics subsystem.	1. Lower the display resolution for the current application or consult the documentation that came with the application for suggestions on how to improve performance by adjusting parameters in the application. 2. Add more memory. 3. Upgrade the graphics solution.
	Cause unknown.	Restart the computer.
Blank screen (no video).	Monitor is not turned on and the monitor light is not on.	Turn on the monitor and check that the monitor light is on.
	The cable connections are not correct.	Check the cable connection from the monitor to the computer and to the electrical outlet.

Problem	Cause	Solution
Blank screen (no video) *(continued)*.	You may have a screen blanking utility installed or energy saver features are enabled.	Press any key or click the mouse button and, if set, type your password.
	Computer is in **standby** mode.	Press the power button to resume from **standby** mode.

⚠ **CAUTION:** When attempting to resume from **standby** mode, do not hold down the power button for more than four seconds. Otherwise, the computer will shut down and you will lose any unsaved data.

Problem	Cause	Solution
	You are using a fixed-sync monitor and it will not sync at the resolution chosen.	Be sure that the monitor can accept the same horizontal scan rate as the resolution chosen.
	The VGA/BNC selector switch on the monitor (some models) is not properly set.	Set the selector switch to agree with the cable connection.
	Bad monitor.	Try a different monitor.
Power LED is flashing and computer will not start.	Internal error has occurred and the computer is flashing a code.	Refer to "Interpreting Diagnostic Lights" to interpret the error code.

Solving Hardware Installation Problems

You may need to reconfigure the computer when you add or remove hardware, such as an additional drive or expansion card. If you install a plug and play device, Windows XP Home/Professional will automatically recognize the device and configure the computer. If you install a non–plug and play device, you must reconfigure the computer after completing installation of the new hardware. In Windows XP Home/Professional, use the **Add Hardware Wizard** and follow the instructions that appear on the screen.

Problem	Cause	Solution
A new device is not recognized as part of the system.	Device is not seated or connected properly.	Ensure that the device is properly and securely connected and that pins in the connector are not bent down.
	Cable(s) of new external device are loose or power cables are unplugged.	Ensure that all cables are properly and securely connected and that pins in the cable or connector are not bent down.
	Power switch of new external device is not turned on.	Turn off the computer, turn on the external device, then turn on the computer to integrate the device with the computer system.
	When the system advised you of changes to the configuration, you did not accept them.	Reboot the computer and follow the instructions for accepting the changes.
	A plug and play board may not automatically configure when added if the default configuration conflicts with other devices.	Use Windows XP Device Manager to deselect the automatic settings for the board and choose a basic configuration that does not cause a resource conflict. You can also use Computer Setup to reconfigure or disable devices to resolve the resource conflict.

Problem	Cause	Solution
Computer will not start.	Wrong memory modules were used in the upgrade or memory modules were installed in the wrong location.	1. Review the documentation that came with the system to determine if you are using the correct memory modules and to verify the proper installation.
		2. Observe the LED lights on the front of the computer. See "Interpreting Diagnostic Lights" to determine possible causes.
		3. If you still cannot resolve the issue, contact Customer Support.

Interpreting Diagnostic Lights

This section covers the front panel LED codes that may occur before or during POST that do not necessarily have an error code or text message associated with them.

✎ If you see flashing LEDs on a PS/2 keyboard, look for flashing LEDs on the front panel of the computer and refer to the following table to determine the front panel LED codes.

✎ Recommended actions in the following table are listed in the order in which they should be performed.

✎ Replace the system board or power supply only as the last resort.

Diagnostic Front Panel LEDs

Activity	Possible Cause	Recommended Action
Green Power LED On.	Computer on.	No action required.
Green Power LED flashes every two seconds.	Computer in Suspend to RAM mode (some models only) or normal Suspend mode.	Press any key or move the mouse to wake the computer.
Green Power LED flashes every four seconds.	Processor thermal protection activated: A fan may be blocked or not turning. OR The heatsink/fan assembly is not properly attached to the processor.	1. Ensure that the computer air vents are not blocked and the processor cooling fan is running. 2. Open hood, press power button, and see if the processor fan spins. If the processor fan is not spinning, make sure the fan's cable is plugged onto the system board header. Ensure the fan is fully/properly seated or installed. 3. If fan is plugged in and seated properly, but is not spinning, then replace processor fan. 4. Reseat processor heatsink and verify that the fan assembly is properly attached. 5. Contact an authorized reseller or service provider.
Green Power LED flashes five times, once every second, followed by a two second pause.	Pre-video memory error.	1. Reseat DIMMs. Power on the system. 2. Replace DIMMs one at a time to isolate the faulty module. 3. Replace third-party memory with HP memory. 4. Replace the system board.

Diagnostic Front Panel LEDs *(Continued)*

Activity	Possible Cause	Recommended Action
Green Power LED flashes six times, once every second, followed by a two second pause.	Pre-video graphics error.	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.
Green Power LED flashes eight times, once every second, followed by a two second pause.	Invalid ROM based on bad checksum.	1. Reflash the system ROM with the latest BIOS image. 2. Replace the system board.

Diagnostic Front Panel LEDs *(Continued)*

Activity	Possible Cause	Recommended Action
System does not power on and LEDs are not flashing.	System unable to power on.	Press and hold the power button for less than 4 seconds. If the hard drive LED turns green, the power button is working correctly. 1. Check that the voltage selector (some models), located on the rear of the power supply, is set to the appropriate voltage. 2. Replace the system board. OR Press and hold the power button for less than 4 seconds. If the hard drive LED does not turn on green. 1. Check that the unit is plugged into a working AC outlet. 2. Open hood and check that the power button harness is properly connected to the system board. 3. Check that both power supply cables are properly connected to the system board. If the 5 V_aux light on the system board is on: 4. Replace the power button harness. 5. Replace the system board. If the 5 V_aux light on the system board is off: 6. Remove the expansion cards one at a time until the 5 V_aux light on the system board turns on. 7. Replace the power supply.

Restoring the Software

The Windows operating system and software can be restored to the original state that they were when you purchased the computer by using the *Restore Plus!* CD. See the documentation included with the *Restore Plus!* CD for complete instructions on using this feature.

✎ In the event that you lose power during the initial operating system installation process, use the *Restore Plus!* CD to install the operating system.

Contacting Customer Support

For help and service, contact an authorized reseller or dealer. To locate a reseller or dealer near you, visit www.hp.com.

✎ If you take the computer to an authorized reseller, dealer, or service provider for service, remember to provide the setup and power-on passwords if they are set.

✎ Refer to the number listed in the warranty or in the *Support Telephone Numbers* guide on the *Documentation* CD for technical assistance.

Downloading HP Insight Diagnostics

The HP Insight Diagnostics utility (available for some models only) 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. You can download the utility from the HP Web site. The utility is not available for all models.

1. Go to www.hp.com.

2. Click the **Software & Driver Downloads** link.

3. Enter your product number (for example, dx2200) in the text box and press the **Enter** key.

4. Select your specific computer model

5. Select your OS.

6. Click the **Diagnostic** link.

7. Click **HP Insight Diagnostics Offline Edition**.

8. Select a language and click **Download**.

✎ The download includes instructions on how to create the bootable CD.