

# SP C220S/C221SF/C222SF

## Firmware Update Guide

This manual explains about how to update the machine's controller firmware and PDL firmware. You can download these updates from our Web site.

### ◆ About the machine's support for Mac OS X 10.5

To use the machine with Mac OS X 10.5, update the machine with controller firmware version 1.36 or later. If the version of controller firmware is lower than 1.36, printing via a network may not be executed properly.

### ◆ Disclaimer

The supplier shall not be liable to you for any consequential, incidental or indirect damages (including, but not limited to, damages for loss of profits, business interruption or loss of business information, and the like) caused by failure of this software or loss of documents or data, nor for any other damages arising out of the use of this software, if the supplier has been advised of the possibility of such damages.

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## Before Updating the Firmware

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Check your operating environment before beginning the update.

### ◆ Operating system of your computer

Your computer must be running one of the following operating systems: Windows 2000/XP (32/64 bit)/Vista (32/64 bit), Windows Server 2003 (32/64 bit)/2008 (32/64 bit), or Mac OS 10.2.8 or later.

### ◆ Backing up the machine's settings

After the firmware update, the machine's settings may return to their factory defaults.

Before you reconnect the machine for the update, we recommend that you back up the machine's settings by accessing the machine using a Web browser from a computer connected via a network. For details, see "Configuring Administrator Setup", *User Guide*.

Also, you can print out lists of scan and fax destinations or a configuration page using a Web browser or the machine's control panel. For details, see "Reports Print" or "Printing Reports", *User Guide*.

### ◆ Connection

Connect your computer and the machine through a network or directly by USB.

### **Caution**

- We recommend that you update the firmware via USB. If you update the firmware over the network, the machine may receive data over the network such as a print job during the updates, which can

interfere with the update process.

- If you are updating the firmware via USB, the printer driver for USB connection must be installed on your computer beforehand. However, if you are updating via a network, no printer driver is necessary.
- Make sure that your computer and the machine is securely connected with a cable you will be using (a USB or network cable) for the updates.
- Disconnect any other cables that are not necessary for the firmware update, such as a telephone cable, from the machine.
- Make sure that your computer does not enter standby or hibernation mode during the update process. Following is a procedure for configuring this setting based on Windows XP as an example:
  1. On the **[Start]** menu, click **[Control Panel]**.
  2. Click **[Performance and Maintenance]**.
  3. Click **[Power Options]**.
  4. On the **[Power Schemes]** tab, select **[Never]** for **[System standby:]** and **[System hibernates:]**.

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## Updating the Controller Firmware

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Use the following procedure to update the controller firmware. Be sure to print the configuration page both before and after the update. Comparing pre- and post-update configuration pages allows you to check whether or not the update was successful.

Follow the procedure carefully, and note that it will vary in parts depending on which version of the firmware is currently installed.

### **CAUTION**

- **Do not operate the machine using the control panel, or perform fax transmissions, printing, or TWAIN scanning during the update process.**
- **The update may take a while to complete. Do not turn off the power during the update. Turn off the power only when the machine beeps and "Firmware Update Done Please Reboot" appears on the control panel display.**
- **Never disconnect the cable you are using for the updates during the update process.**

### **Important**

- When using a computer running on a Windows operating system, you must have an account that has Manage Printers permission. Log on as an Administrators or Power Users group member to acquire this permission.
  - The screens shown in the following procedure are examples based on Windows XP, unless otherwise stated.
1. **Connect the machine and the computer with a cable you will be using for the update, and disconnect any other cable from the machine.**

2. Turn on the machine.
3. Press any menu key on the machine's control panel.
4. Press the [▲][▼] keys to select [Reports Print], and then press the [OK] key.
5. Press the [▲][▼] keys to select [Configuration Page], and then press the [OK] key.

The configuration page is printed out. Take note of the current firmware version (shown under "Firmware Version" on the configuration page).

6. Double-click the [UpdateTool.exe] (Windows) or [Firmware Update Tool] (Mac OS X) icon to launch the firmware update tool.

A dialog box with cautionary statements appears.



7. Read the cautionary statements carefully, and then click [OK].

The firmware update tool opens.



Do not close the update tool unless you are instructed to do so.

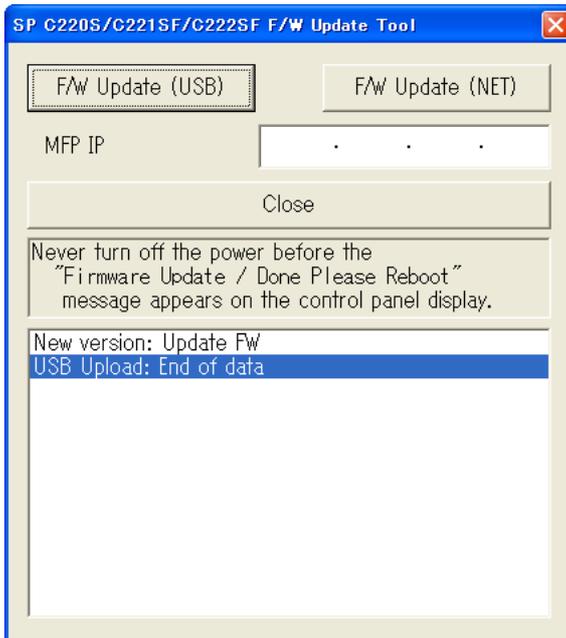
8. For a USB connection, click **[F/W Update (USB)]**. For a network connection, enter the machine's IP address in **[MFP IP]**, and then click **[F/W Update (NET)]**.

If using a computer running Mac OS X, the following confirmation screen appears. Click **[OK]**.



The machine beeps when the update begins.

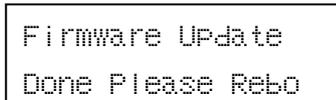
If "New version: Update FW" appears in the update tool window, proceed to step 9.



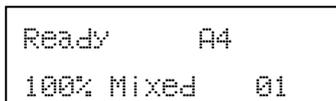
If "Old version: Update bootloader" appears in the update tool windows, perform steps A and B below.



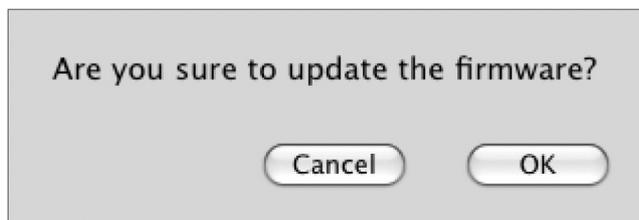
- A. Wait until the machine beeps again and "Firmware Update Done Please Reboot" appears on the control panel display. Then, turn off the power, and then turn it back on.**



- B. Wait until the initial screen appears on the control panel display, and then click [F/W Update (USB)] or [F/W Update (NET)] again.**

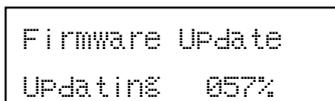


If using a computer running Mac OS X, the following confirmation screen appears. Click [OK].

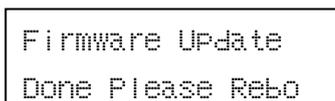


The machine beeps when the update begins.

- 9. Check the control panel display for messages and the update's current percentage of completion.**



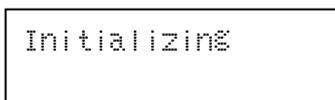
- 10. Wait until the machine beeps once and "Firmware Update Done Please Reboot" appears on the control panel display.**



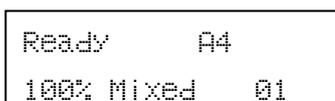
Click [Close] to close the update tool.

- 11. Turn off the power, and then turn it back on.**

After you turn the power back on, "Initializing" appears on the control panel display.



- 12. Wait until the initial screen appears on the control panel display.**



If the initial screen does not appear after more than one minute, the update is not complete. In this case, see p.9 "If the initial screen does not reappear following firmware update".

**13. Repeat Steps 3 to 5 to print the configuration page again.**

Take note of the new firmware version (shown under "Firmware Version" on the configuration page).

**14. Reconnect the cables as they were before the update.**

**Note**

- The update's percentage of completion might not be displayed, depending on which version of the firmware is currently installed.
- In addition to printing a configuration page, you can check the machine's firmware version by accessing the machine using a Web browser. For details, see "Checking Machine Status", *User Guide*.
- Depending on how it is configured, the machine might start up in fax mode following the firmware update.
- If the machine's settings have returned to their factory defaults, the Initial Setup menu appears on the control panel display after you turn on the machine. For details, see "Initial Setup", *User Guide*. You can restore the machine's settings from the backup files you have created using a Web browser. See "Setting Restore", *User Guide*.

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## Updating the PDL Firmware

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Use the following procedure to update the PDL firmware. Be sure to print the configuration page both before and after the update. Comparing pre- and post-update configuration pages allows you to check whether or not the update was successful.

Follow the procedure carefully.

**CAUTION**

- **Do not operate the machine using the control panel, or perform fax transmissions, printing, or TWAIN scanning during the update process.**
- **The update may take a while to complete. Do not turn off the power during the update. Turn off the power only when the machine beeps and "PDL F/W update Completed" appears on the control panel display.**
- **Never disconnect the cable you are using for the updates during the update process.**

**Important**

- When using a computer running on a Windows operating system, you must have an account that has Manage Printers permission. Log on as an Administrators or Power Users group member to acquire this permission.
  - The screens shown in the following procedure are examples based on Windows XP, unless otherwise stated.
- 1. Connect the machine and the computer with a cable you will be using for the update, and disconnect any other cable from the machine.**
  - 2. Turn on the machine.**

3. Press any menu key on the machine's control panel.
4. Press the [▲][▼] keys to select [PDL Settings], and then press the [OK] key.
5. Press the [▲][▼] keys to select [List Print], and then press the [OK] key.
6. Press the [▲][▼] keys to select [Configuration Page], and then press the [OK] key.

The configuration page is printed out. Take note of the current firmware version (shown under "Firmware Version" on the configuration page).

7. Double-click the [UpdateTool.exe] (Windows) or [Firmware Update Tool] (Mac OS X) icon to launch the firmware update tool.

A dialog box with cautionary statements appears.



8. Read the cautionary statements carefully, and then click [OK].

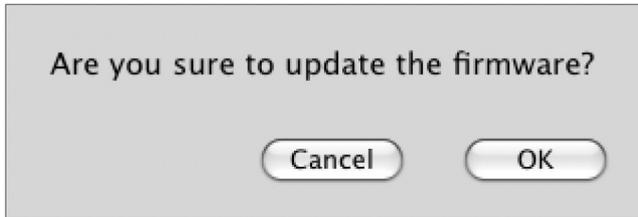
The firmware update tool opens.



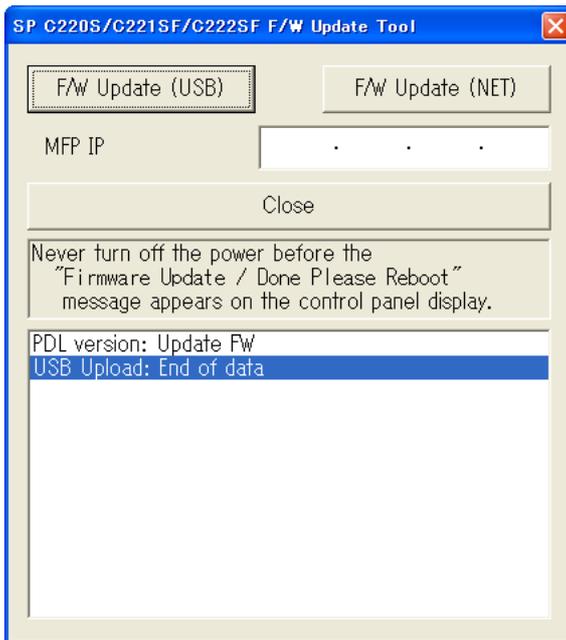
Do not close the update tool unless you are instructed to do so.

9. For a USB connection, click **[F/W Update (USB)]**. For a network connection, enter the machine's IP address in **[MFP IP]**, and then click **[F/W Update (NET)]**.

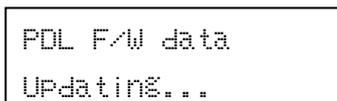
If using a computer running Mac OS X, the following confirmation screen appears. Click **[OK]**.



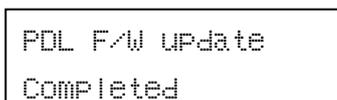
The machine beeps when the update begins.



10. Check the control panel display for messages and the update's current status.



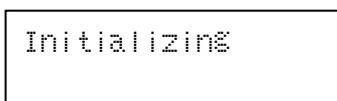
11. Wait until the machine beeps again and "PDL F/W update Completed" appears on the control panel display.



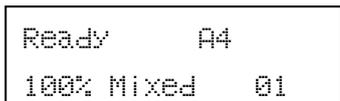
Click **[Close]** to close the update tool.

12. Turn off the power, and then turn it back on.

After you turn the power back on, "Initializing" appears on the control panel display.



**13. Wait until the initial screen appears on the control panel display.**



**14. Repeat Steps 3 to 6 to print the configuration page again.**

Take note of the new firmware version (shown under "Firmware Version" on the configuration page).

**15. Reconnect the cables as they were before the update.**

**Note**

- In addition to printing a configuration page, you can check the machine's firmware version by accessing the machine using a Web browser. For details, see "Checking Machine Status", *User Guide*.
- Depending on how it is configured, the machine might start up in fax mode following the firmware update.

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## Troubleshooting

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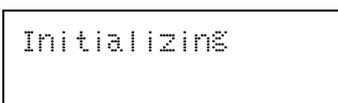
This section provides solutions to common update-related problems.

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### If the initial screen does not reappear following firmware update

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If the initial screen does not reappear and the message below remains on the control panel display for more than one minute following firmware update, a power failure or similar interruption prevented the update from completing.



If this happens, read p.1 "Before Updating the Firmware" carefully again, and then use the following procedure to recover from the failure and complete the update.

**Important**

- To be recovered following a failed update, the machine must be connected to a computer by USB.
- When using a computer running on a Windows operating system, you must have an account that has Manage Printers permission. Log on as an Administrators or Power Users group member to acquire this permission.
- The screens shown in the following procedure are examples based on Windows XP, unless otherwise stated.

1. If you performed the update through a network connection, disconnect the network cable, and then connect the machine to your computer using a USB cable.
2. While "Initializing" is shown on the control panel display, double-click the [UpdateTool.exe] (Windows) or [Firmware Update Tool] (Mac OS X) icon to launch the firmware update tool.

A dialog box with cautionary statements appears.



3. Read the cautionary statements carefully, and then click [OK].

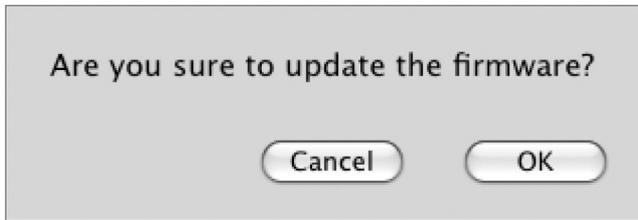
The firmware update tool opens.



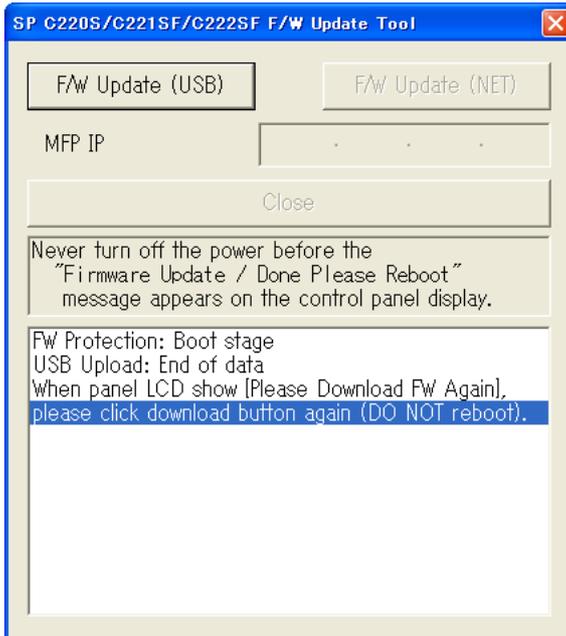
Do not close the update tool unless you are instructed to do so.

**4. Click [F/W Update (USB)].**

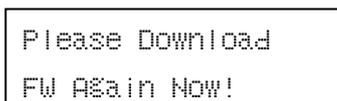
If using a computer running Mac OS X, the following confirmation screen appears. Click [OK].



The machine beeps when the update begins.



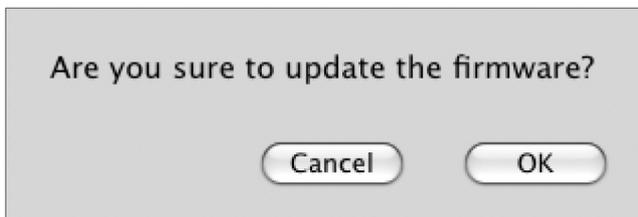
**5. Wait until "Please Download FW Again Now!" appears on the control panel display.**



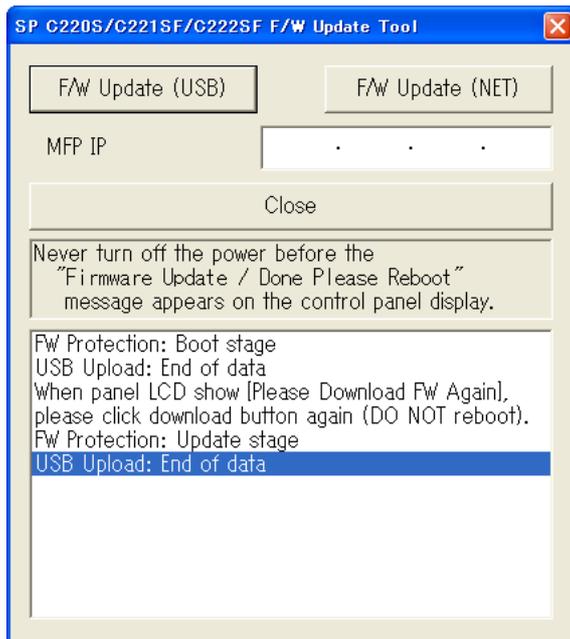
Make sure that you keep the power of the machine turned on.

**6. Click [F/W Update (USB)] again.**

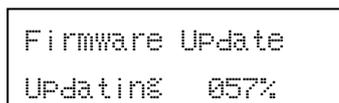
If using a computer running Mac OS X, the following confirmation screen appears. Click [OK].



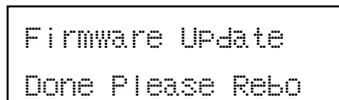
The machine beeps when the update begins.



7. Check the control panel display for messages and the update's current percentage of completion.



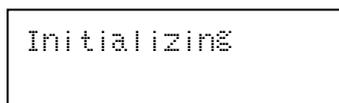
8. Wait until the machine beeps again and "Firmware Update Done Please Reboot" appears on the control panel display.



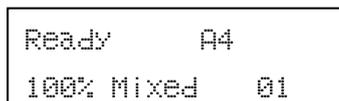
Click [Close] to close the update tool.

9. Turn off the power, and then turn it back on.

After you turn the power back on, "Initializing" appears on the control panel display.



10. Wait until the initial screen appears on the control panel display.



11. Press any menu key on the machine's control panel.

12. Press the [▲][▼] keys to select [Reports Print], and then press the [OK] key.

13. Press the [▲][▼] keys to select [Configuration Page], and then press the [OK] key.

Take note of the new firmware version (shown under "Firmware Version" on the configuration page).

14. Reconnect the cables as they were before the update.

## Note

- The update's percentage of completion might not be displayed, depending on which version of the firmware is currently installed.
- In addition to printing a configuration page, you can check the machine's firmware version by accessing the machine using a Web browser. For details, see "Checking Machine Status", *User Guide*.
- Depending on how it is configured, the machine might start up in fax mode following the firmware update.
- If the machine's settings have returned to their factory defaults, the Initial Setup menu appears on the control panel display after you turn on the machine. For details, see "Initial Setup", *User Guide*. You can restore the machine's settings from the backup files you have created using a Web browser. See "Setting Restore", *User Guide*.

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## Messages that appear in the update tool window

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The following table lists the messages that can appear in the update tool window during a firmware update, and explains the likely causes of those messages and what action to take when they appear.

(Messages are alphabetically ordered.)

Message	Causes	Solutions
Can't open ROM file. Please check ROM file.	Firmware file (*.brn/*.dwn) or setting file (*.ini) is not stored in the same folder as the update tool. (Note that the setting file only exists when you are using a computer running a Windows operating system.)	Make sure that the firmware file (*.brn/*.dwn) and setting file (*.ini) are stored in the same folder as the update tool. Also, make sure that you do not modify the setting file.
	The path to the location of the update tool is too long.	Make sure that the path to the update tool is not too long. For convenience, save the update tool in a subfolder directly under your computer's C: drive.
Fail to open USB port.	The USB cable is not connected.	Make sure the USB connection between the machine and computer is secure. If this message persists, try another USB cable.
	The USB printer driver is not installed in your computer.	Install the USB printer driver in your computer.

<b>Message</b>	<b>Causes</b>	<b>Solutions</b>
Fail to open USB port.	The machine is turned off or an error has occurred.	Turn off the power, turn it back on, and then perform the update again. If this message reappears after you turn the power back on, see "Error and Status Messages on the Screen", <i>User Guide</i> .
Net Connection : FAIL(X)* <sup>1</sup>	The IP address specified for either the machine or your computer is invalid.	Check that both IP addresses are valid.
	The [F/W Update (USB)] or [F/W Update (NET)] button was clicked when the update was already in progress.	Clicking the [F/W Update (USB)] or [F/W Update (NET)] button during the update process does not interfere with any ongoing update. Ignore this error message and complete the update using the procedure shown in this manual.
	The machine is turned off or an error has occurred.	Turn off the power, turn it back on, and then perform the update again. If this message reappears after you turn the power back on, see "Error and Status Messages on the Screen", <i>User Guide</i> .
	The machine is being operated through the control panel.	Cancel any operations being performed through the control panel. Put the machine into standby mode, and then perform the update again.
Net Server : Connecting...	Your computer is searching the network for the machine.	Wait a while until the machine is found.
Net Upload : End of data	Firmware has been transferred to the machine successfully.	Follow the instructions in this manual to complete the update.
USB Upload : End of data	Firmware has been transferred to the machine successfully.	Follow the instructions in this manual to complete the update.
USB Upload : FAIL	The [F/W Update (USB)] or [F/W Update (NET)] button was clicked when the update was already in progress.	Clicking the [F/W Update (USB)] or [F/W Update (NET)] button during the update process does not interfere with any ongoing update. Ignore this error message and complete the update using the procedure shown in this manual.

<b>Message</b>	<b>Causes</b>	<b>Solutions</b>
USB Upload : FAIL	The machine is being operated through the control panel.	Cancel any operations being performed through the control panel. Put the machine into standby mode, and then perform the update again.

\*1: "X" indicates an error code.

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## **Messages that appear on the control panel display**

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The following table lists the messages that can appear on the control panel display if an error occurred during a firmware update, and explains the likely causes of those messages and what action to take when they appear.

(Messages are alphabetically ordered.)

<b>Message</b>	<b>Causes</b>	<b>Solutions</b>
Initializing	If this message remains on the control panel display for more than one minute following firmware update, a power failure or similar interruption prevented the update from completing.	See p.9 "If the initial screen does not reappear following firmware update" and use the procedure shown there to recover from the failure and complete the update. If the message persists and recovery fails, contact your sales or service representative.
Please Reboot System	If this message appears on the control panel display after you turn the power back on following firmware update, a power failure or similar interruption prevented the update from completing.	Turn off the power, and then turn it back on. If the message persists, contact your sales or service representative.

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The product names of Windows 2000 are as follows:

- Microsoft<sup>®</sup> Windows<sup>®</sup> 2000 Professional
- Microsoft<sup>®</sup> Windows<sup>®</sup> 2000 Server
- Microsoft<sup>®</sup> Windows<sup>®</sup> 2000 Advanced Server

The product names of Windows XP are as follows:

- Microsoft<sup>®</sup> Windows<sup>®</sup> XP Professional
- Microsoft<sup>®</sup> Windows<sup>®</sup> XP Home Edition

The product names of Windows Vista are as follows:

- Microsoft<sup>®</sup> Windows Vista<sup>®</sup> Ultimate
- Microsoft<sup>®</sup> Windows Vista<sup>®</sup> Enterprise
- Microsoft<sup>®</sup> Windows Vista<sup>®</sup> Business
- Microsoft<sup>®</sup> Windows Vista<sup>®</sup> Home Premium
- Microsoft<sup>®</sup> Windows Vista<sup>®</sup> Home Basic

The product names of Windows Server 2003 are as follows:

- Microsoft<sup>®</sup> Windows Server<sup>®</sup> 2003 Standard Edition
- Microsoft<sup>®</sup> Windows Server<sup>®</sup> 2003 Enterprise Edition
- Microsoft<sup>®</sup> Windows Server<sup>®</sup> 2003 Web Edition
- Microsoft<sup>®</sup> Windows Server<sup>®</sup> 2003 Datacenter Edition

The product names of Windows Server 2003 R2 are as follows:

- Microsoft<sup>®</sup> Windows Server<sup>®</sup> 2003 R2 Standard Edition
- Microsoft<sup>®</sup> Windows Server<sup>®</sup> 2003 R2 Enterprise Edition

The product names of Windows Server 2008 are as follows:

- Microsoft<sup>®</sup> Windows Server<sup>®</sup> 2008 Standard
- Microsoft<sup>®</sup> Windows Server<sup>®</sup> 2008 Enterprise
- Microsoft<sup>®</sup> Windows Server<sup>®</sup> 2008 Datacenter
- Microsoft<sup>®</sup> Windows Server<sup>®</sup> 2008 for Itanium-based Systems
- Microsoft<sup>®</sup> Windows<sup>®</sup> Web Server 2008
- Microsoft<sup>®</sup> Windows<sup>®</sup> HPC Server 2008
- Microsoft<sup>®</sup> Windows Server<sup>®</sup> 2008 Standard without Hyper-V<sup>™</sup>
- Microsoft<sup>®</sup> Windows Server<sup>®</sup> 2008 Enterprise without Hyper-V<sup>™</sup>
- Microsoft<sup>®</sup> Windows Server<sup>®</sup> 2008 Datacenter without Hyper-V<sup>™</sup>

