

Diamond Knowledge Base

How to Manage Devices | XP

When you use Device Manager, you have a graphical view of the hardware that is installed on your computer. You can use Device Manager to change the way your hardware is configured, and to change the way your hardware interacts with your computer's microprocessor.

When you use Device Manager, you can:

- Determine if the hardware on your computer is working properly.
- Change hardware configuration settings.
- Identify the device drivers that are loaded for each device and obtain information about each device driver.
- Change advanced settings and properties for devices.
- Install updated device drivers.
- Disable, enable, and uninstall devices.
- Reinstall the previous version of a driver.
- Identify device conflicts and manually configure resource settings.
- Print a summary of the devices that are installed on your computer.

Typically, Device Manager is used to check the status of computer hardware and update device drivers on the computer. If you are an advanced user, and you have a thorough understanding of computer hardware, you can use Device Manager's diagnostic features to resolve device conflicts, and change resource settings.

To access Device Manager, use any of the following methods:

- Click Start, click Run, and then type "devmgmt.msc" (without the quotation marks).
- Right-click My Computer, click Manage, and then click Device Manager.
- Right-click My Computer, click Properties, click the Hardware tab, and then click Device Manager.
- Type the following command at a command prompt: `start devmgmt.msc`

If you want to access Device Manager on a local or remote computer:

1. Click Start, click Run, and then type "mmc" (without the quotation marks).
2. Click Add/Remove Snap In on the File menu (or press CTRL+M), click Add, and then click Device Manager.

When you use this procedure, a shortcut to Device Manager is created that you can use to open Device Manager.

How to Configure Device Manager to Display Detailed Information

To configure Device Manager to show details:

1. Click Start, click Run, type: `cmd.exe`, and then press ENTER.
2. Type: `set DEVMGR_SHOW_DETAILS=1`, and then press ENTER.
3. Type: `start devmgmt.msc`, and then press ENTER.

In Device Manager the properties for a device should now provide a Details tab that contains additional information about the device.

You can view the Details tab to see the following device information:

Device Instance ID, Hardware IDs, Compatible IDs, Matching Device ID, Service, Enumerator, Capabilities, Devnode Flags, Config Flags, CSConfig Flags, Ejection Relations, Removal Relations, Bus Relations, Device Upper Filters, Device Lower, Filters, Class Upper Filters, Class Lower Filters, Class Installer, Class Coinstallers, Device Coinstallers, Firmware Revision, Current Power State, Power Capabilities, Power State Mappings.

NOTE: Not all of these properties will be populated for a given device. In other words, although all of these properties are listed, some may not contain information when viewing a particular device.

How to Troubleshoot the Display Adapter Driver in Safe Mode

In Safe mode, the computer does not start the display driver that is used during normal operations, so you need to use Device Manager to discover, update, roll back, or uninstall the display driver instead of accessing the Display properties.

To locate the display adapter that is used in Normal mode:

1. Click Start, point to Settings, and then click Control Panel.
2. Double-click System, click Hardware, and then click Device Manager.
3. Click the PLUS SIGN to expand Display Adapters.

To run the display troubleshooter:

1. Follow steps 1 through 3 to find the display adapter.
2. Double-click the display driver.
3. On the General tab, click Troubleshoot.

To view driver details, and to update, roll back, or uninstall the display driver:

1. Follow steps 1 through 3 to find the display adapter.
2. Double-click the display driver.
3. On the Driver tab, click the appropriate button based on the action that you want to perform:

Driver Details
Update Driver
Roll Back Driver
Uninstall

It is not necessary to start the computer into Safe mode to perform the tasks that are listed in this article.

When you start the computer in Safe mode, your display resolution and colors may temporarily change in such a way that the windows and icons on your screen become very large, which may make it difficult for some windows to fit. This behavior is dependent of the type of video adapter that you are using.

Note: In Safe mode, if you

1. Open the Display properties.
2. Click Settings.
3. Click Advanced.
4. Click Adapter.
5. Click Properties.
6. Click Driver.

You may notice an option to stop the VgaSave service. The VgaSave service should not be stopped while the computer is in Safe mode because it is a component that allows Windows to display the screen.

How to Use the Roll Back Driver Feature

The Roll Back Driver feature enables you to replace a device driver by using a previously installed version. You can use this feature if you have installed a new device driver that causes your computer to be unstable. When you use the Roll Back Driver feature, you can restore (or roll back) the previous device driver, and continue to use the computer.

To use this feature, follow these steps:

1. Start Device Manager.
2. Double-click the device for which you want to restore the driver.
3. Click the Driver tab, and then click the Roll Back Driver button.

Description of the Microcode Update Device

If the computer that you are using does not contain the processor described in the "Summary" section of this article, or if your BIOS is up to date with Intel's latest microcode, the Microcode Update device is not initiated; the device is unloaded to free up resources. Device Manager marks the device with a code 24 status message:

The device is not present, is not working properly, or does not have all its drivers installed.

If the microcode on your computer is current, the drivers are unloaded by design. In this case, the code 24 status message is expected, and it does not indicate a problem. The device is marked as hidden and is not visible by default. Therefore, when the code 24 status message occurs, the message is not displayed when you are using the default configuration.

How to Add OEM Plug and Play Drivers to Windows XP

This describes the steps required to add Original Equipment Manufacturer (OEM)-supplied drivers to Windows installations. This article only includes drivers that are normally installed during graphical user interface (GUI)-mode Setup or post Setup by normal Plug and Play enumeration. This allows you to pre-load OEM Plug and Play drivers that you can use at a later time when the associated hardware is introduced in the system.

This describes how to add OEM Plug and Play drivers in the following situations:

- Unattended Setup
- Sysprep Setup
- Remote Installation Service (RIS) installations
- Riprep images
- Existing Windows installations

If you need to add OEM supplied mass-storage devices during text-mode Setup, please see the following Microsoft Knowledge Base articles:

Q220845 Adding Third-Party or Updated Driver During Windows XP Setup
 Q225125 Limited OEM Driver Support with F6 During Windows XP Setup

Drivers that are installed during the "Installing Devices" portion of GUI-mode Setup have to be found in certain locations. At this point, Setup is installing the devices using Plug and Play IDs that have been enumerated by Windows Plug and Play. Setup searches a pre-defined path on the drive, looking in .inf files to find the best match for the Plug and Play ID of the device. This path is defined in the following registry location and is set to %SystemRoot%\Inf by default:

HKEY_LOCAL_MACHINE\Software\Microsoft\Windows\CurrentVersion\DevicePath:
 REG_EXPAND_SZ:%SystemRoot%\Inf

Setup uses this path to locate .inf files for device installation. After Setup, this path is also used for any new hardware found and installed. If you modify this key during Setup using the Sysprep.inf or Unattended answer file, the value is saved and is also used after Setup. More detailed information here.

The Add Hardware Wizard May Detect Disabled COM Ports

If you disable a COM port in Device Manager and then run the automatic detection feature for the first time by using the Add Hardware Wizard, the disabled COM port is detected as new hardware. This problem occurs if your computer uses Advanced Configuration and Power Interface (ACPI).

Because of the various types of COM port implementations on existing computers, Windows has to enumerate COM ports in various ways for compatibility reasons. Windows must check the COM port devices for duplicates to avoid conflicts with other devices.

If you disable an ACPI COM port in Device Manager, Windows cannot detect the resource conflict; the COM port is regarded as new hardware when the you run the Add Hardware Wizard.

This problem typically does not occur until you reboot the computer. To avoid this problem, do not click Install Communication Port when the COM port is detected by the Add Hardware Wizard. If you install the port, an additional incorrect COM port is added in Device Manager.

To clear the incorrect COM ports in Device Manager, delete in Device Manager all the COM ports that are not active. When you next start your computer, the COM ports are detected correctly.

COM Port Not in Available Ports List for Modem

While you are using the Add Hardware Wizard to install a new modem, you may find that one of your COM ports is not in the list of available COM ports. This behavior can occur if another program or service is holding that COM port open. To work around this behavior, quit the program or service that is holding the COM port open, and then run the Add Hardware Wizard again.

<http://support.diamondtraffic.com/knowledgemanager/questions/30/>