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**Help
Windows
Help You**

**Set Up & Troubleshoot
Hardware**

- Audio Players
- Printers & Faxes
- Scanners & Digital Cameras
- Digital Video
- Wireless & Ethernet Networks



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MAKE WINDOWS PLAY NICE WITH HARDWARE

Our Setup & Troubleshooting Guide
Will Get You Started

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Are you ready for some new hardware? Maybe you want to expand your computing environment throughout your home or small office with a traditional wired network or a wireless network. You could be thinking about beefing up your document creation capabilities with a new printer or multi-function device. Maybe you're looking to increase your computing efficiency via an enhanced keyboard or mouse. On the other hand, your new hardware ambitions might be leaning in the direction of improving the entertainment features of your computer with multimedia-oriented devices.

Well, no matter what type of hardware you're looking for, we've got you covered. This month we are featuring a series of articles that introduce you to a host of peripherals and gadgets, and we show you how to add and configure these devices to work with your Windows PC. Our goal in each article is to answer as many fundamental questions as possible about how to add peripherals to a Windows PC and how to use those devices with Windows' built-in wizards and other configuration tools.

Now, Wait A Minute

Before you rush out to the nearest computer store and plunk down your hard-earned cash for the hardware of your dreams, you need to step back and consider your options. For example, you need to think about the capabilities of your current system and how that relates to the system requirements of the new hardware you're contemplating. And most importantly, you need to think about operating system compatibility. Nothing's worse than that sinking feeling you get when you rip open the box of a new piece of hardware, whip out the users manual, and discover that the new device won't work with your existing setup.

As such, we would be remiss if we didn't provide you with some guidance as you begin your new hardware acquisition expedition. So, without further ado, let's roll out the map and chart your course of action.

First Stop: Windows Catalog

When thinking about any new hardware for your Windows system, you should begin the process by visiting Microsoft's Windows Hardware And Driver Central (www.microsoft.com/whdc/hcl). Here you'll find links to extensive listings for a range of software and hardware that are built specifically for use with Windows XP and other



Windows OSes. We will focus on the Windows Catalog (www.microsoft.com/windows/catalog). Of course, in order for Microsoft to feature products in the Windows Catalog, the minimum requirement for the product is that it must be compatible with WinXP. However, the ultimate assurance of compatibility is a product that carries the official Windows logo and is a part of the Designed For Windows XP Logo Program.

When you arrive at the Windows Catalog site, you may want to browse around the Home Page to see the featured products, but your ultimate target should be to explore the Hardware tab. Under the Hardware tab you'll find a categorized menu system that will help you track down every piece of hardware imaginable. Now, as you look around the site, keep in mind that not all of the product listings provide you with detailed information. However, the key piece of data that you're looking for is located in the Status column. It is here that you will find the Designed For Windows XP logo or the Compatible With Windows XP logo.

Now, as we previously mentioned, the ultimate assurance of compatibility is the

Designed For Windows XP logo. However, you may find that the product you're interested in only has a Compatible With Windows XP logo; be aware that a product carrying this logo doesn't meet all of the Designed For Windows XP Logo Program requirements.

So what's the bottom line? Well, it all boils down to ease of installation, configuration, and an additional level of quality. Products that carry the Designed

When considering a new hardware purchase for your Windows XP system, your first stop should be the Windows Catalog Web site.

For Windows XP logo are generally very easy to use and provide a good user experience, and the OS essentially guar-

antees to automatically configure the product upon installation. Products that carry the Compatible With Windows XP logo might be a bit trickier to install and use but are still considered viable products.

Now before we let you go on your way, we need to point out that if you don't see a product in the Windows Catalog, that doesn't mean the product is not compatible with WinXP. Microsoft states that there are thousands of additional products that will work with WinXP, but the manufacturers have not yet submitted the products for inclusion in the Windows Catalog.

Windows 98 Users

Although the main focus of the Windows Catalog is on WinXP, Win98 users can seek out similar information in the Hardware Compatibility List, which contains products that have passed the Windows Hardware Quality Labs testing procedures for Win98. You can find the Win98 Hardware Compatibility List on the Windows Quality Online Services site (winqual.microsoft.com/download). **PC**

by Greg Shultz

SET UP PRINTERS & MFDS

Know What To Expect When Purchasing & Installing New Devices

Are you thinking about purchasing a fancy new color photo printer in order to enhance your home photography experience? Maybe you're considering boosting your home office capabilities with a new MFD (multi-function device) that will provide you with printing, copying, faxing, and scanning capabilities all in one device. Regardless of which scenario you're contemplating, chances are good that your pleasant dreams have occasionally been interrupted when you stop and wonder about actually connecting the device to your computer. Such words as "compatibility" and "device drivers" suddenly bring you back to reality.

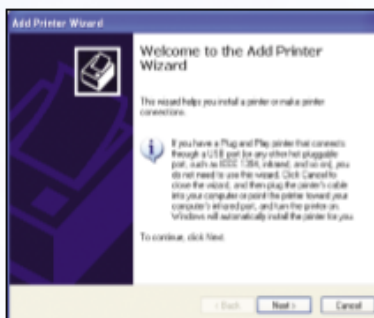
Recent enhancements in hardware and software standards have made way for a technology that actually makes PnP (Plug and Play) a reality. As such, installing and configuring peripherals such as printers and MFDs is almost completely automatic. Even so, there are a host of things that you need to do and be aware of in order for everything to work just right.

We'll take a look at the process of setting up and configuring printers and MFDs in Windows XP. Along the way, we'll provide you with some guidelines on what to look for when purchasing a printer or MFD.

Do Your Shopping

When you begin to analyze the multitude of printers or MFDs on the market today, the first thing you want to look for is the Designed For Windows logo. As you may know, Microsoft describes the Designed For Windows logo as a moniker that helps customers quickly identify products that are specifically designed to work well with the Windows OS. Keep in mind that when you look at the actual label for the Designed For Windows logo, you'll find a list of OSes for which Microsoft has certified the printer or MFD.

Another thing to keep in mind is that some of the printers or MFDs on the market today come with the necessary cables. The devices ship with power cables, of course, but some don't come with USB (Universal Serial Bus)



If you select the Add A Printer option in the Printers And Faxes dialog box, a detailed message appears in the wizard dialog box that tells you the wizard may not be your best option if you are installing a PnP (Plug-and-Play) device.

or FireWire cables. You'll want to pick up the correct cable when you purchase your printer or MFD.

Speaking of USB cables, it is important to note that there are two standards: USB 1.1 and USB 2.0. USB 2.0 is the more efficient of the two. Although both interfaces will work together, a USB 2.0 device running at 480Mbps (megabits per second) will drop down to 12Mbps when you connect it to a USB 1.1 port or if you use a USB 1.1 cable. So, if your computer has a USB 2.0 port and your printer or MFD uses USB 2.0, you'll want to make sure that your USB cables or hubs are also USB 2.0.

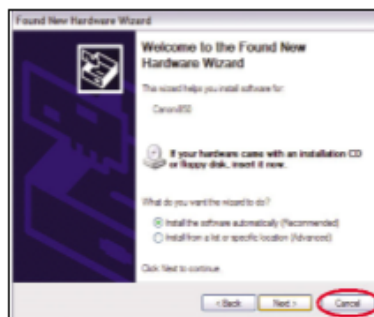
And while we are still on the subject of connections, we should explain that some printers and MFDs have parallel connectors in addition to USB or FireWire connectors, but you really don't want to use a parallel connector these days, especially if your computer has USB or FireWire ports, because they are considered legacy technology, and as such they are not privy to modern technologies such as PnP. However, if your computer doesn't have USB or FireWire ports, then you can use a parallel connection.

Installation Overview

In the past, the most logical way to install a new printer was to connect it to your computer, turn on your PC, and then wait to see if PnP would take

over. If it did, then Windows would prompt you to insert the driver floppy diskette that shipped with your printer. After you installed the floppy, the installation procedure would begin. Alternatively, you could access the Add Printer Wizard (open the Start menu, select Settings, double-click Printers, and double-click the Add Printer icon) and follow along using the same steps.

Both of these printer installation options are available still today in WinXP, but neither option is highly recommended as the way to go when installing a printer or MFD that supports PnP. In fact, if you open the Printers And Faxes dialog box in WinXP (open the Start menu and double-click Printers And Faxes) and select the Add A Printer option in the Printer Tasks panel, you'll see a very detailed informational message on the first screen of the Add Printer Wizard. In essence, the message says that if the printer or MFD supports PnP and connects to the computer via USB or FireWire, you don't need to use the Add Printer Wizard and that you can



The Quick Installation Guide that is included with most printers or MFDs (multifunction devices) will tell you to click Cancel when the Found New Hardware Wizard appears.

simply connect the printer to the computer and let PnP take over.

Now in some cases simply connecting a printer to the computer may be the correct course of action; however, in the majority of them it's not. Let's take a closer look at a few reasons why.

Potential problems. In order for you to successfully install a printer or

MFD, the PnP technology assumes that all key elements are in place once the operation begins. One of these key elements is the device driver.

If the printer or MFD existed prior to Microsoft's release of WinXP, then chances are the OS includes a basic driver for the device in its list of compatible devices. If that is the case, then when you plug the printer or MFD into your computer, the PnP installation will proceed without any problems.

However, if the device is newer than WinXP, the OS won't have a driver listed for the device. So when you plug the printer or MFD into your computer, the PnP installation will proceed up to a point when the OS realizes that it needs more information. WinXP will then display the Found New Hardware Wizard or the Add Printer Wizard and prompt you to insert the Setup CD that the manufacturer shipped with the device.

Now here's where the potential for installation problems occurs. As soon as you insert the Setup CD, AutoPlay kicks in, while at the same time the CD-based installation procedure takes over and begins walking you through its paces. However, the original PnP installation procedure is left hanging in the background.

After the device completes its native installation procedure, it is likely that Windows will prompt you to restart your computer. Thinking that everything is good, you will click OK. When the system begins the restart procedure, the original PnP installation procedure shuts off abruptly. Depending upon how gracefully the procedure reacts, everything could be just fine or the original PnP installation procedure could leave all sorts of flotsam behind that will gunk up the installation that you just completed.

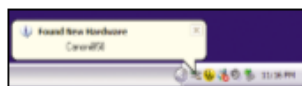
The correct way. In order to achieve a successful PnP installation for your printer or MFD, you should first read the quick installation guide. The instructions will tell you to run the software CD before you connect your printer or MFD to the computer. Although some

instructions will indeed direct you to set up and connect the printer or MFD to the computer before you use the software CD, the instructions will specifically tell you to click Cancel if you encounter the Found New Hardware Wizard, even though they may tell you to insert the CD.

Although you may be hesitant to cancel the wizard at first, rest assured that the practice is a sound one. When you run the software CD before you connect your printer or MFD to the computer, you're essentially putting everything in place so the PnP installation procedure will be able to find everything that it needs to successfully install and configure the device once you connect it to the computer.

Complete The Setup

After you complete the native installation procedure using the software CD, Windows may prompt you to restart your computer. Regardless of whether you restart, when you connect the printer or MFD to your computer and then turn the device on, the PnP installation procedure will take over. A Found New Hardware icon will appear on your System Tray. An alert pops up over this icon, listing your printer or MFD by name. An installation dialog box with a progress bar appears and a flurry of other activities are in progress as PnP completes the installation.



When you turn on your printer or MFD, PnP identifies the device by name and begins the installation procedure.



After the PnP procedure is finished, the program notifies you the new hardware is installed and ready for use.

After the PnP installation procedure completes all of its tasks, the printer or MFD's driver initializes and the alert on your System Tray indicates that the new hardware is installed and ready to use.

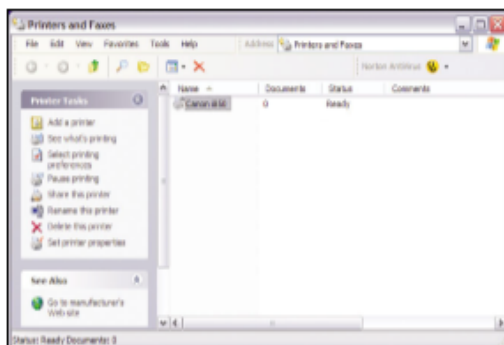
Detailed Configuration

When you are ready to use your printer or MFD, you may want to investigate all the available configuration options. To perform this operation, you can go to the Printers And Faxes window, which is accessible from the Start Menu or the Control Panel.

If your MFD includes a scanner, you will find the scanner tasks and options in Scanners And Cameras, which is in My Computer, as well as in the Control Panel.

When you open the Printers And Faxes window, select your printer or MFD and you will see a set of basic tasks in the left pane

that vary depending on whether you are using a printer or an MFD. In order to really configure the way a device works, you will want to access the device's Properties dialog box; right-click the icon and select Properties. The number and type of tabs that you see in the Properties dialog box will vary according to whether you're



Within Printers And Faxes you'll find a set of generic tasks that you can perform, as well as access a host of configuration options from the devices Properties dialog box.

Special Considerations For Windows 98

- When it comes to setting up printers and MFDs (multifunctional devices) in Win98, ensure your installation and configuration success as much as possible by selecting a device that sports the Designed For Windows logo. In addition, you'll want to look at the fine print to be sure Win98 is listed as a compatible OS.
- When installing the device, pay close attention to the steps listed in the quick installation guide. In most cases the instructions will recommend that you use the software CD before you connect the device to the computer.
- As you get started, keep in mind that Win98's PnP (Plug-and-Play) capabilities are a bit primitive by today's standards. However, the instructions in the quick installation guide should take that into account and provide you with the necessary details. In addition, you might want to check the company's technical support Web site to seek out any problems other Win98 users may have reported.

using a printer or a MFD and what options and features that particular device offers. However, it is safe to say that you'll find everything you need to configure how the device works. Keep in mind that the device may also come with standalone software that will provide you with access to a multitude of other features and configuration options.

Give It A Try

As you can see, by getting a printer or MFD that carries the Designed For Windows logo and following the correct set of installation instructions, you'll have your hardware up and running in no time. **PCT**

by Greg Shultz