

***Upgrading &
Fixing PCs***
FOR
DUMMIES®
7TH EDITION

by Andy Rathbone



Wiley Publishing, Inc.

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Fixing PCs***
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About the Author

Andy Rathbone started geeking around with computers in 1985 when he bought a boxy CP/M Kaypro 2X with lime-green letters. Like other budding nerds, he soon began playing with null-modem adapters, dialing up computer bulletin boards, and working part-time at RadioShack.

In between playing computer games, he served as editor of the *Daily Aztec* newspaper at San Diego State University. After graduating with a comparative literature degree, he went to work for a bizarre underground coffee-table magazine that sort of disappeared.

Andy began combining his two main interests, words and computers, by selling articles to a local computer magazine. During the next few years, he started ghostwriting computer books for more-famous computer authors, as well as writing several hundred articles about computers for technoid publications like *Supercomputing Review*, *CompuServe Magazine*, *ID Systems*, *DataPro*, and *Shareware*.

In 1992, Andy and *DOS For Dummies* author/legend Dan Gookin teamed up to write *PCs For Dummies*. Andy subsequently wrote the award-winning *Windows For Dummies* series, *TiVo For Dummies*, and many other *For Dummies* books.

Today, he has more than 15 million copies of his books in print, which have been translated into more than 30 languages.

Andy lives with his most-excellent wife, Tina, and their cat in Southern California. Feel free to drop by his Web site at www.andyrathbone.com.

Dedication

To that sense of satisfaction felt when you fix it yourself.

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Introduction

You're no dummy; we both know that. But something about computers often makes you feel like a dummy. And that's perfectly understandable. Unlike today's kids, you probably didn't grow up with a computer in your kindergarten class, living room, or on the palm of your hand. With this book, you'll no longer feel helpless when you're faced with a computer that refuses to work the way it should.

This book doesn't help you replace your computer's motherboard or build a PC from scratch using custom-selected parts. Plenty of more advanced titles out there can help you with those chores.

No, this book helps you with the types of upgrade and repair tasks that you're most likely to encounter today: Upgrading an older PC to run Windows Vista, for instance, and making sure that everything works correctly. Adding a larger hard drive. Upgrading that video card to satisfy the needs of Windows Vista or a new computer game. Making sure your PC's firewall is turned on and working correctly. Turning on the security option for your wireless network.

Simply put, this book discusses the most common upgrading and repair problems facing computer users today. It explains what to buy, where to plug it in, and how to make sure that your computer knows what to do with it.

What's New in This Edition?

Welcome to *Upgrading & Fixing PCs For Dummies*, rejuvenated for its seventh edition, and celebrating more than a decade in print. Aimed at people who want to upgrade to Windows Vista or spice up their computers to take advantage of today's latest technology, this book contains several helpful new chapters and updated sections:

- ✓ You'll find a full-color 16-page insert with photos depicting exactly how you're supposed to remove your PC's case, install a card, connect a new hard drive, and perform other operations described in this book.
- ✓ This book includes an updated visual Appendix that explains how to use *all* the ports on your computer and add any ports you might need.
- ✓ Chapter 17 includes a network installation guide that helps you configure a network with both wired and wireless devices.
- ✓ Chapter 20 provides details on installing or upgrading to Windows Vista — even onto a newly installed hard drive.

- ✔ Computer parts need *drivers* — special software that helps Windows understand how to talk with them. Without a proper driver, Windows Vista probably won't know how to talk to some parts of your computer. Chapter 19 contains everything you need to know about how Vista treats drivers: When you need them, where to find them, and how to install them successfully.
- ✔ Windows Vista's Home Premium edition lets you record TV shows onto your PC for later viewing or burning to DVD. The catch? Your PC needs a TV tuner, a device I explain how to buy and install in Chapter 12.
- ✔ DVD burners are the rage today, and I've explained their odd format terminology and incompatibilities in Chapter 15.

Plus, this edition continues to include the information that hundreds of thousands of people have relied on for 14 years: information about upgrading and fixing video cards, hard drives, CD/DVD drives, memory chips, monitors, modems, printers, scanners, hard drives, and other popular computer parts.

Where to Start

Jump in anywhere. Each chapter is a self-contained nugget of information, keeping you from flipping back and forth between different sections.

Chapters start by defining the buzzwords surrounding each new upgrade; they also offer tips on making hardware purchases. A step-by-step installation guide follows, complete with screen shots, color photos, or line drawings, where appropriate.

Each chapter ends with a troubleshooting guide for those awful moments: when you turn on the computer, but the new part stays turned off.

Read These Parts

If you're lucky (and your computer is fairly healthy), you don't need to read very much of this book; just skim the step-by-step instructions. But when something weird happens, this book helps you figure out what went wrong, whether it's repairable, or whether you must replace it.

Along the way, you might find helpful comments or warnings to help you out.



You find tips like this scattered throughout the book. Take a look at them first. In fact, some of these tips might spare you from having to read more than a paragraph of a computer book — a worthy feat indeed!

Don't Read These Parts

Okay, I lied a little bit. I did stick some technobabble in this book. After all, you sometimes need to decipher the language on a computer part's packaging. Luckily for you, however, I have neatly cordoned off all the technical drivel.



Any particularly odious technical details are isolated and posted with this icon so that you can avoid them easily. If a computer nerd drops by to help with your particular problem, just hand him or her this book. With this icon, the computer nerd knows exactly which sections to look for.

How This Book Is Organized

This book has six major parts. Each part is divided into several chapters. And each chapter covers a major topic, which is divided into specific sections.

The point? Well, this book's indexer sorted all the information with an extra-fine-tooth flea comb, making it easy for you to find the exact section you want when you want it. Plus, everything's cross-referenced. If you need more information about a subject, you can figure out exactly which chapter to head for.

Here are the parts and what they contain.

Part I: Boring, Basic Repairs

You find the boring, basic stuff in here. If you read the first chapter, for instance, you discover all those boring programs you can set up to make your computer *repair itself*. The other chapters cover those day-to-day parts that must be replaced: keyboards, mice, monitors, and printers. Yawn.

Part II: Beefing Up Your PC for Windows Vista, Games, and Video

Microsoft's latest version of Windows, Vista, will soon march onto most of the world's PCs. This part of the book explains how to make sure your PC's ready when Vista arrives. It explains how to find out whether your current PC can run Vista, what parts need to be replaced, and how to add Vista essentials, such as better graphics, more memory, and a larger power supply.

By the way, upgrading your PC for the graphics-intensive Vista also makes it a prime PC for playing the latest computer games.

Part III: Teaching an Old PC New Tricks

Flip here quickly for the fun stuff. Rather than focusing on the boring, necessary repairs and upgrades, this part of the book explains the luxuries. You can transform your PC into a home theater, for example, by upgrading its sound, speakers, and adding a TV tuner. Another chapter explains how to transform your camcorder footage into an edited movie, stored on an easily viewed DVD. No DVD burner yet? Another chapter explains how to choose and install a DVD burner to take advantage of Vista's new DVD-burning programs.

Part IV: Communications

Computers running Windows Vista don't like to be alone. This part of the book shows how to hook your computer up to the Internet with a dialup or broadband modem. Because many households now sport two or more computers, a chapter in this part explains how to create a home or small office network, enabling all your computers to share the same Internet connection. If you're worried about hackers breaking into your computer, head to this part to make sure Windows Vista's firewall works as it should.

Part V: Introducing Parts to Windows

If anybody's a dummy here, it's your computer. Even after you've stuck a new part in its craw, your computer often doesn't realize that the part is there. If Windows refuses to deal politely with the newly installed device, check out the chapter on finding and installing the right *driver* to make Windows behave. Turn to this part also when you're ready to upgrade to Windows Vista or install it onto a brand new hard drive.

Part VI: The Part of Tens

Some information just drifts away when it's buried deep within a chapter — or even within a long paragraph. That's why these tidbits are stacked up in lists of ten (give or take a few items). Here, you find the cheap fixes you should try first, a list of handy upgrade tools, and other fun factoids.

Icons Used in This Book

This book's most exceptional paragraphs are marked by icons — little eye-catching pictures in the margins:



This icon warns of some ugly technical information lying by the side of the road. Feel free to drive right by. The information is probably just a more complex discussion of something already explained in the chapter.



Pounce on this icon whenever you see it. Chances are that it marks a helpful paragraph worthy of a stick-on note or highlighter.



If you've forgotten what you were supposed to remember, keep an eye toward the margins for this icon.



Better be careful when you're about to do stuff marked by this icon. In fact, it warns you about dangerous activities you *shouldn't* be doing, like squirting WD-40 into your floppy drive.



Not everybody is rushing off to buy Vista, and this book doesn't forget Windows XP owners. This icon alerts you to instructions particularly applicable to the Windows XP holdouts.



This icon flags areas of special importance to Windows Vista owners. After all, everybody uses Windows Vista these days — or at least that's what the newspaper inserts say.



Laptops aren't nearly as upgradeable as desktop PCs. This icon alerts laptop owners to the laptop parts that *are* upgradeable.

Auto mechanics can find the most helpful sections in their manuals by just looking for the greasiest pages. So by all means, draw your own icons next to the stuff you find particularly helpful. Scrawl in some of your own observations as well.

Where to Go from Here

If you're clamoring for more basic information on Windows, check out one of my *Windows For Dummies* books, published by Wiley Publishing. They come in several flavors, including Vista, XP, Me, 98, 95, and earlier.

Also, be sure to check my Web site at www.andyrathbone.com. It contains a complete and updated list of all the Internet sites mentioned in this book, collected for your point 'n click convenience. Any corrections, heaven forbid, appear there, as well.

Ready to go? Then grab this book and a screwdriver. Your computer is ready whenever you are. Good luck.

Part I

Boring, Basic Repairs

The 5th Wave

By Rich Tennant



"I bought a software program that should help us monitor and control our spending habits, and while I was there, I picked up a few new games, a couple of screen savers, 4 new mousepads, this nifty pullout keyboard cradle..."

In this part . . .

This part of the book doesn't cover those exciting new toys that make you whip out the credit card. You don't find wireless network cards, digital cameras, home theater computers, or DVD burners in this part. No, this part of the book covers the boring, basic computer things that you *have* to do. And sometimes repeatedly.

The first chapter explains how to find out exactly what's inside your PC — how much memory it has, for example. It walks you through making sure your computer's System Restore and Windows Update features work correctly, for instance, so that Windows can keep itself running smoothly.

Spilled a Coke on the keyboard? Keyboards are covered here, as well as mice, monitors, and printers. Except for adding two monitors to a single PC (Chapter 3), nothing new and exciting has happened with these types of parts for quite some time. But chances are that this is the stuff you'll find yourself needing to fix or replace the most often.

And if you've just walked home with a new Windows Vista PC, check out Chapter 5: It explains how to move your files, bookmarks, and program settings off your old PC and onto your new one.

Chapter 1

Start Here First

In This Chapter

- ▶ Knowing when to upgrade
 - ▶ Knowing when you shouldn't upgrade
 - ▶ Finding out what's inside your computer
 - ▶ Using Windows Update
 - ▶ Using System Restore
-

You picked up this book for any of several reasons. You might be eyeing the power-hungry Windows Vista, Microsoft's newest version of Windows, and want to upgrade your PC's video to meet Vista's stringent needs. Perhaps one of your PC's parts died, and you're looking to replace it with a better one. Or maybe your PC simply needs some fine-tuning. Whatever your reason, this is the right chapter to read first.

This chapter explains what Windows expects out of a PC and how to replace the outdated parts that no longer work. It explains how to know what parts currently live inside your computer's case, so you can see if your computer meets those fine-print System Requirements listed on the side of many software boxes.

And for the fix-it folks, this chapter points out where Windows Vista and Windows XP have the power to repair themselves — if those powers are turned on and running correctly, that is. You find complete instructions on making sure those self-healing abilities are up to snuff.



Any time you're not sure what plugs in where, check out this book's Appendix. It's a visual directory of all your computer's ports and the plugs and gadgets that fit into them.

Determining When to Upgrade

Your computer usually tells you when it wants an upgrade. Some warning signals are subtle, others more obvious. At worst, they can be downright annoying.

In any case, keep track of the following when you're deciding whether it's time to open the wallet and grab the toolbox:



- ✓ **When your operating system demands it:** Everybody's using Vista, the latest version of Windows. (Or at least that's what the folks at Microsoft say.) If you've caught the "latest and the greatest" fever, it's easy to find out if your computer is up to snuff; Microsoft lists Vista's System Requirements at www.windowsvista.com, and I dissect them in Chapter 6.
- ✓ **When you keep waiting for your PC to catch up:** You press a key and wait. And wait. When you're working faster than your PC, give your PC a boost with some extra memory and maybe a faster video card. (Of course, if you want a bigger and faster hard drive too, it might be time to throw in the towel and buy a new computer.)
- ✓ **When you can't afford a new computer:** When a new PC's out of your price range, upgrade your PC one part at a time. Add that memory now, for example, and then add a new hard drive with your holiday bonus. Time each purchase to match the lowest prices. When you finally buy a new computer, save costs by salvaging your old computer's monitor and recently added parts.
- ✓ **When you want a new part in a hurry:** Computer repair shops aren't nearly as slow as stereo repair shops. Still, do you *really* want to wait four days for some tech head to install that hot new video card — especially when you have a nagging suspicion that you could do it yourself in less than 15 minutes?
- ✓ **When there's no room for new software:** When your hard drive constantly spits up Disk Full messages, you have three options:
 - Uninstall programs you no longer use and copy unneeded files to CDs or DVDs.
 - Replace your PC's hard drive with a larger one or add a second internal hard drive.
 - Buy a removable drive to serve as a parking garage for files and programs. Most external drives plug into your PC's USB port, a chore as simple as plugging in a mouse.
- ✓ **When you're afraid to open the case:** Fear of opening your computer's case is no longer an excuse to put off upgrades. Many new computer parts now live on the *outside* of the computer. You find external CD-ROM drives and burners, hard drives, floppy drives, memory card readers, sound boxes, and much more. None of these devices require popping open the case to install them.

Determining When You Shouldn't Upgrade

Sometimes, you shouldn't upgrade your own computer. Keep your hands off during any of the following circumstances:



- ✓ **When a computer part breaks while under warranty:** If your computer is under warranty, let the manufacturer fix it. In fact, trying to fix or replace a part sometimes voids the warranty on the rest of your computer. Some manufacturers void the warranty if you simply open your computer's case. Read the warranty's fine print before touching anything.

Keep track of your warranty expiration date; it's usually listed on your sales receipt. Lost it? Some manufacturers (Gateway, Dell, and a few others) provide access to your warranty information through their Web sites, as described in Chapter 22.

- ✓ **On a Friday:** Never try to install a new computer part on a Friday afternoon. When you discover that the widget needs a *left* bracket, too, many shops will be closed, leaving you with a desktop full of detached parts until Monday morning.

- ✓ **When you're working on a deadline:** Just like kitchen remodeling, computer upgrading and repairing occasionally takes twice as long as you originally planned. Some parts install in a few minutes, but always allow yourself a little leeway.

- ✓ **If your computer is old:** Not all computers can be upgraded. If you bought your PC before 2001, you're pouring money into a sinking ship.



Before upgrading a computer, check these numbers: Add the cost of needed parts (more memory, a bigger hard drive, a faster video card and/or monitor, a DVD burner, networking card, and updated software) and compare it with the cost of a new computer. Chances are, a new computer costs much less. Plus, it already comes with Windows Vista and parts guaranteed to be compatible.

Finding Out What Parts Your Computer Has

Computers come in a wide variety of makes and models pieced together with parts made by variety of manufacturers. So how do you know who made what part?

Luckily, Windows takes pity on its users and tells you exactly what parts lurk inside your computer's case — if you know how to ask it politely. The first step is finding out your Windows version, your PC's Central Processor Unit (CPU), and its amount of Random Access Memory (RAM).

And why should you care, you might ask, shifting impatiently in your chair? Because when you buy computer software or parts, the box's fine print lists the System Requirements, followed by lots of details about what your computer must have to use the software or part. If your computer doesn't meet those detailed requirements, the software or part won't work very well — if at all — on your computer.

To add insult to injury, many stores don't let you return software — even if it won't run on your computer. Some stores even refuse to accept *unopened* software. Check your store's return policy before opening your wallet.

Locating your version of Windows, CPU, and RAM

Windows comes in many different versions, each with its own set of requirements, problems, and personalities. Luckily, all versions reveal their version numbers when you follow this simple step.

1. Right-click the Computer or My Computer icon on your desktop and choose Properties.

If you don't see the Computer or My Computer icon on the desktop, click the Start menu, and then right-click the Computer or My Computer icon.

In both Windows Vista (see Figure 1-1) and Windows XP (see Figure 1-2), that step reveals basic information about your PC's power.

- **Windows version:** Chances are yours says Windows XP Home, Windows XP Professional, Windows Vista Home Basic, Windows Vista Home Premium, or Windows Vista Ultimate.
- **CPU:** Short for Central Processing Unit, this big chip drives your entire PC. Windows lists the chip's model and speed.
- **RAM:** Short for Random Access Memory, these upgradeable chips enable Windows to open many programs at once without lagging.

That's it — a one-step guide to seeing your PC's most important parts, and how well they match the requirements listed on a box of software.



✓ If you'd rather not write down all that system information, you can print what's on your screen by following these steps:

Press the PrtScrn key, open Paint, paste the screen into a new image by pressing Ctrl+V, and then send it to your printer by choosing File, and then Print. That gives you a quick reference guide to take to the store when shopping for software or a new PC.