

***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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Contents at a Glance

<i>Introduction</i>	<i>1</i>
<i>Part I: Boring, Basic Repairs</i>	<i>7</i>
Chapter 1: Start Here First	9
Chapter 2: Keyboards, Mice, and Joysticks	19
Chapter 3: Replacing the Monitor, Adding a Second One, or Connecting to a TV	35
Chapter 4: Choosing a New Printer	45
Chapter 5: Moving from the Old PC to the New One	63
<i>Part II: Beefing Up Your PC for Windows Vista, Games, and Video</i>	<i>75</i>
Chapter 6: Discovering How Well Your PC Will Run Windows Vista	77
Chapter 7: Beefing Up Your PC's Video	87
Chapter 8: Adding More Memory	99
Chapter 9: Adding Storage with a Hard Drive	111
Chapter 10: Replacing the Power Supply or Laptop Battery	137
<i>Part III: Teaching an Old PC New Tricks</i>	<i>147</i>
Chapter 11: Fine-Tuning Your PC's Sound	149
Chapter 12: Turning Your TV into a Home Theater with Vista's Media Center	167
Chapter 13: Making Movies	179
Chapter 14: Adding a Scanner	187
Chapter 15: Adding a CD or DVD Drive	199
<i>Part IV: Communications</i>	<i>211</i>
Chapter 16: Replacing a Modem	213
Chapter 17: Linking PCs with a Network	231
Chapter 18: Filtering Out Evil with Firewalls	255
<i>Part V: Introducing Parts to Windows</i>	<i>265</i>
Chapter 19: Hiring the Right Driver for Windows	267
Chapter 20: Installing or Upgrading to Windows Vista	287
Chapter 21: Troubleshooting and Fixing Windows	301
Chapter 22: Finding Help Online	325

<i>Part VI: The Part of Tens</i>	<i>335</i>
Chapter 23: Ten Cheap Fixes to Try First.....	337
Chapter 24: Ten Handy Upgrade Tools.....	345
Chapter 25: (Nearly) Ten Upgrade Do's and Donuts.....	351
<i>Appendix: The Rathbone Reference of Fine Ports</i>	<i>355</i>
<i>Index</i>	<i>369</i>

Table of Contents

Introduction..... 1

What's New in This Edition?	1
Where to Start	2
Read These Parts	2
Don't Read These Parts.....	3
How This Book Is Organized.....	3
Part I: Boring, Basic Repairs	3
Part II: Beefing Up Your PC for Windows Vista, Games, and Video	3
Part III: Teaching an Old PC New Tricks	4
Part IV: Communications.....	4
Part V: Introducing Parts to Windows	4
Part VI: The Part of Tens	4
Icons Used in This Book.....	5
Where to Go From Here.....	6

Part I: Boring, Basic Repairs..... 7

Chapter 1: Start Here First 9

Determining When to Upgrade.....	10
Determining When You Shouldn't Upgrade.....	11
Finding Out What Parts Your Computer Has.....	11
Locating your version of Windows, CPU, and RAM	12
Identifying the parts inside your computer.....	14
Please! Before You Do Anything Else!	15
Turning On Windows Update.....	15
Making sure System Restore is working.....	16

Chapter 2: Keyboards, Mice, and Joysticks 19

Updating Your Keyboard.....	19
Understanding keyboard buzzwords.....	19
Installing a new keyboard.....	21
Fixing keyboard problems.....	24
Making Way for a New Mouse.....	26
Understanding mouse buzzwords.....	27
Installing or replacing a USB or PS/2 mouse.....	28
Fixing mouse problems.....	30
Upgrading Joysticks and Game Controllers.....	31
Understanding game controller buzzwords.....	32
Installing a game controller.....	33
Fixing game controller problems.....	33



**Chapter 3: Replacing the Monitor, Adding a Second One,
or Connecting to a TV35**

Understanding Monitor Buzzwords.....	36
Monitor buzzwords.....	36
The plugs and ports.....	39
Installing One or Two Monitors to a PC or Laptop.....	40
Watching Your PC on a TV.....	42
Fixing Your Monitor.....	42
Fixing a monitor that doesn't turn on.....	43
Checking a monitor that makes weird noises.....	43

Chapter 4: Choosing a New Printer45

Understanding Printer Buzzwords.....	45
Commonly encountered printer breeds.....	46
Awkward printer terms.....	48
Installing a Printer.....	50
Fixing Common Printer Problems.....	53
Fixing a printer that doesn't print anything.....	54
Playing the replacement ink cartridge guilt game.....	55
Installing a new toner or ink cartridge.....	56
Fixing printing smears and blotches.....	58
Choosing the right paper.....	60
Keeping the print from running off the page.....	61
Fixing paper jams.....	61
Keeping your printer happy.....	62

Chapter 5: Moving from the Old PC to the New One63

Understanding File Transfer Buzzwords.....	63
Preparing to Move into Your New PC.....	65
Choosing how to transfer your old information.....	65
Installing your old PC's programs onto your new PC.....	66
Transferring Information between Two PCs with Windows Easy Transfer.....	67

***Part II: Beefing Up Your PC for Windows Vista,
Games, and Video.....75***

Chapter 6: Discovering How Well Your PC Will Run Windows Vista 77

Understanding Vista's Hardware Requirements.....	77
Running Vista's Upgrade Advisor.....	78
Understanding Parts That Need Upgrading.....	82
TV tuner card/TV output.....	82
CPU (Central Processing Unit).....	83
DVD or DVD R/W (Digital Video Disk Read/Write).....	83

RAM (Random Access Memory)	83
Graphics adapter	84
Hard drive.....	84
Choosing the Right Parts from the Right Place.....	85
Choosing the right brand and model.....	85
Buying locally versus buying online	86
Chapter 7: Beefing Up Your PC's Video	87
Understanding Video Buzzwords.....	87
Discovering What Video Circuitry Is inside Your PC.....	88
Onboard video	90
Video cards	91
Installing a new video card.....	94
Troubleshooting a Card That Doesn't Work	97
General troubleshooting tips	97
Dealing with a card that just doesn't seem to fit.....	97
Chapter 8: Adding More Memory	99
Understanding Memory Buzzwords	99
The main types of memory	100
Deciphering memory advertisements and packaging	103
Deciding What Memory to Buy	104
Installing memory chips	107
Dealing with failing memory	110
Chapter 9: Adding Storage with a Hard Drive	111
Understanding Hard Drive Buzzwords	111
Vista technologies	112
Drive types	112
Speed and space	113
Hard drive hardware, mechanics, and connections	114
Knowing Your Hard Drive Upgrade Options	115
Replacing a Dead Internal Hard Drive	117
Installing an External Hard Drive	119
Adding a Second Internal Hard Drive	121
Adding extra storage to your computer	
with a second hard drive	122
Installing Windows on a new hard drive	126
Partitioning and Formatting a Drive in Windows.....	126
Dealing with a Broken Hard Drive.....	131
Windows doesn't recognize my hard drive's full size.....	132
Defragmenting the hard drive.....	133
Checking for disk errors	135
Backing Up Your Hard Drive	136

Chapter 10: Replacing the Power Supply or Laptop Battery137

Understanding Power Supply Buzzwords.....	137
Installing a New Power Supply	140
Replacing Your Laptop's Battery	144
Quieting Your Power Supply	145
Whining power supplies: Replace 'em.....	145
Diagnosing the source of a whining noise.....	145

Part III: Teaching an Old PC New Tricks 147**Chapter 11: Fine-Tuning Your PC's Sound149**

Understanding Sound Card Buzzwords.....	149
Upgrading Your PC's or Laptop's Sound	154
Installing a new sound card	154
Installing a sound box.....	156
Connecting Your PC's Sound to a Home Stereo	159
Healing a Sick Sound Card	160
Fixing Windows sound settings	161
Diagnosing and fixing hardware problems.....	165

**Chapter 12: Turning Your TV into a Home Theater
with Vista's Media Center167**

Identifying the Cables and Connectors on Your TV Tuner and TV	168
Installing a TV Tuner	169
Connecting Your TV Signal to Your PC.....	171
Connecting Your PC's Video to a TV.....	172
Connecting Your PC's Surround Sound to a Multispeaker Home Stereo	175
Connecting Your PC's Sound to a TV.....	177

Chapter 13: Making Movies179

Understanding Camcorder Buzzwords	179
Capturing Sound and Video from Digital Camcorders	181
Upgrading a PC for Video Editing.....	182
A fast computer	182
Two fast hard drives	183
Video-editing software	185

Chapter 14: Adding a Scanner187

Understanding Scanner Buzzwords.....	187
Installing a Scanner	190
Dealing with a Scanner That Doesn't Work.....	191
Scanning with Windows' Built-in Software.....	192
Choosing the right scanning resolution	195
Dealing with scans that look awful.....	197

Chapter 15: Adding a CD or DVD Drive199

Understanding CD and DVD Buzzwords	199
Flavors of CDs and CD drives	200
Flavors of DVDs and DVD drives	201
Buzzwords in advertising	202
Installing an External CD or DVD Drive	203
Installing an Internal CD or DVD Drive	204
Dealing with a CD or DVD Drive That Doesn't Work.....	208
Dealing with a burner that doesn't burn discs	208
Understanding MP3 and DVD decoders (MPEG).....	209
Buying the right blank discs for your CD or DVD drive	210

Part IV: Communications211**Chapter 16: Replacing a Modem213**

Understanding the Various Types of Internet Services.....	213
Dialup or POTS (Plain Old Telephone Service)	214
Cable modems	214
DSL (Digital Subscriber Line).....	215
Installing or Replacing a Modem.....	216
Replacing your internal dialup modem	216
Installing an external dialup modem	218
Replacing a cable modem	219
Troubleshooting Modem Problems	221
Windows Vista can't find my dialup modem!.....	221
Setting up your Internet account with Internet Explorer	223
Sending and receiving faxes with a modem	228
Dealing with a modem that inappropriately disconnects	229

Chapter 17: Linking PCs with a Network231

Understanding Network Buzzwords	232
Choosing Between a Wired or Wireless Network.....	233
Understanding wireless (Wi-Fi) home networks	234
Understanding wired home networks	236
Creating a Wired and Wireless Computer Network	239
Buying parts for your network	240
Installing wired or wireless network adapters	240
Connecting Wirelessly	244
Setting up a wireless router	244
Setting up Windows Vista to connect to a wireless network.....	245
Connecting to and Sharing Files with Other PCs on Your Network.....	249
Sharing a Printer on the Network	251
Dealing with a Network That Isn't Networking.....	252
Fixing problems with wired networks	252
Fixing problems with wireless networks	253

Chapter 18: Filtering Out Evil with Firewalls255

Understanding Firewall Buzzwords	256
Turning On (or Off) Windows Vista's Firewall	257
Letting a Program Poke through Windows Vista's Firewall	259
Manually Configuring a Firewall's Ports	262

Part V: Introducing Parts to Windows265**Chapter 19: Hiring the Right Driver for Windows267**

Understanding Driver Buzzwords	268
Installing (or Reinstalling) a Driver	270
Dealing with a Driver That Won't Drive	271
Running a part's bundled software	272
Running the Add Hardware Wizard	273
Finding a new driver	276
Using the Device Manager to fix driver problems	279

Chapter 20: Installing or Upgrading to Windows Vista287

Understanding Windows Vista Buzzwords	287
Preparing to Install Windows Vista	289
Choosing the right version of Windows Vista	289
Choosing between a clean install or an upgrade	291
Installing Windows Vista	292
Upgrading to Windows Vista	292
Doing a Clean Install of Windows Vista	297

Chapter 21: Troubleshooting and Fixing Windows301

Handling Windows Vista's Incompatibilities	302
Understanding incompatibility buzzwords	302
Finding out what's compatible	303
Fixing problem programs with Vista's Program Compatibility Wizard	304
Stopping Unwanted Programs from Running When Windows Starts	308
Finding Information about Your PC's Performance with Task Manager	310
Using System Restore	311
Using Remote Assistance	312
Cleaning Out Your Hard Drive with Disk Cleanup	316
Tidying Up Your Hard Drive with Disk Defragmenter	317
Viewing Advanced System Information	317
Avoiding Virus and Worm Attacks	319
Use Windows Update often	319
Install and use antivirus software	320
Never open e-mail with unexpected attachments	321
Scan downloaded software for viruses before using it	321

Use a firewall	322
Don't forward hoaxes	322
Repairing virus damage	323
Chapter 22: Finding Help Online	325
Understanding Internet Buzzwords	325
Finding Help through Search Engines	326
Searching Google for specific information	326
Mastering the art of pinpoint Google searching	328
Checking the Manufacturer's Support Web Site	330
Microsoft Knowledge Base	330
Serial number and service tag Web sites	331
Manufacturer's Web sites in other countries	332
Community Support Web Sites	332
Tom's Hardware Guide	332
Acronym Finder	333
Wikipedia	333
Legacy, relic, and cult Web sites	333
Part VI: The Part of Tens	335
Chapter 23: Ten Cheap Fixes to Try First	337
Plug It In	337
Turn Off the Computer, Wait 30 Seconds, and Turn It On	338
Install a New Driver	339
Google the Error Message	339
Find and Remove Spyware	339
Avoid Viruses by Not Opening Unexpected Attachments	340
Run System Restore	341
Check for Overheating	341
Install a New Power Supply	342
Run Check Disk	342
Chapter 24: Ten Handy Upgrade Tools	345
Using the Manual and Online Sources	345
The First Tools to Grab	346
Turning Household Items into Tools	347
Magnetized Screwdrivers and Dust Blowers	348
Your Windows Vista DVD or Windows XP CD	349
Chapter 25: (Nearly) Ten Upgrade Do's and Donuts	351
Do Upgrade One Thing at a Time	351
Do Make a Restore Point before Every Upgrade	352
Do Watch Out for Static Electricity	352
Do Hang On to Your Old Boxes, Manuals, Warranties, and Receipts	352

Don't Force Parts Together	353
Don't Bend Cards	354
Don't Rush Yourself	354
Don't Open Up Monitors or Power Supplies	354

Appendix: The Rathbone Reference of Fine Ports.....355

USB (Universal Serial Bus)	356
IEEE 1394 (Also Known as FireWire or Sony i.LINK)	358
Standard VGA Video Port	359
Flat-Panel LCD Video Port (DVI)	360
Analog Video	361
Ethernet (RJ-45)	362
Telephone (RJ-11)	362
Stereo Sound	363
Coaxial Cable	364
RCA (Composite)	364
S-Video	365
Optical/Toslink	365
The Legacy Devices	366
PS/2 mouse and keyboard	366
Serial connectors	367
Parallel (printer) connectors	367

Index.....369

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.