

Making Everything Easier!™

4th Edition

Wireless Home Networking

FOR DUMMIES®

Learn to:

- Consider financial and logistical issues when planning a wireless network
- Design, install, and use a wireless LAN
- Keep your network security up to date
- Plan for the Wi-Fi capability of your mobile devices

Danny Briere
Pat Hurley

*Coauthors of Smart Homes
For Dummies, 3rd Edition*



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Wireless Home Networking For Dummies[®], 4th Edition

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Manufacturers

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by Danny Briere and Pat Hurley



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Pat Hurley is director of research with TeleChoice, Inc., specializing in emerging telecommunications technologies, including all the latest access and home technologies: wireless LANs, DSL, cable modems, satellite services, and home networking services. Pat frequently consults with the leading telecommunications carriers, equipment vendors, consumer goods manufacturers, and other players in the telecommunications and consumer electronics industries. Pat is the co-author of *Smart Homes For Dummies*, 3rd Edition; *HDTV For Dummies*, 2nd Edition; *Windows XP Media Center Edition 2004 PC For Dummies*; *Wireless Network Hacks & Mods For Dummies*; and *Home Theater For Dummies*, 2nd Edition (all published by Wiley). He lives in San Diego, California, with his wife, beautiful daughter, and two smelly and unruly dogs.

Authors'

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Introduction

Welcome to *Wireless Home Networking For Dummies*, 4th Edition. Wireless networking for personal computers isn't a new idea; it has been around since the late 1990s. Two big developments have made wireless go from an expensive niche for geeks to something that just about everyone is familiar with and has used: first the development of industry-wide standards (that ensured that wireless equipment would work regardless of who made it) and then the incorporation of wireless networking capabilities into all sorts of consumer electronics devices (PCs and laptops, netbook computers, smart phones, printers, cameras, even TVs). Now . . . well, wireless is everywhere.

One of the most appealing things about the current crop of wireless networking equipment is the ease with which you can set up a home network, although its reasonable price may be its *most* attractive aspect. In some cases, setting up a wireless home network is almost as simple as opening the box and plugging in the equipment; however, you can avoid many “gotchas” by doing a little reading beforehand. That's where this book comes in handy.

About This Book

If you're thinking about purchasing a wireless computer network and installing it in your home — or if you have an installed network and want to make sure it's operating correctly or want to expand it — this is the book for you. Even if you've already purchased the

equipment for a wireless network, this book will help you install and configure the network. What's more, this book will help you get the most out of your investment after it's up and running.

With *Wireless Home Networking For Dummies*, 4th Edition, in hand, you have all the information you need to know about the following topics (and more):

- Planning your wireless home network

- Evaluating and selecting wireless networking equipment for installation in your home

- Installing and configuring wireless networking equipment in your home

- Sharing an Internet connection over your wireless network

- Sharing files, printers, and other peripherals over your wireless network

- Playing computer games over your wireless network

- Connecting your audiovisual gear to your wireless network

- Securing your wireless network against prying eyes

- Finding and connecting to wireless hot spots away from home

- Creating your own on-the-go wireless networks with 3G wireless

- Discovering devices that you can connect to your wireless home network

System Requirements

Virtually any personal computer can be added to a wireless home network, although some computers are easier to add than others. This book focuses on building a wireless network that connects PCs running the Windows operating system (Windows XP, Vista, and Windows 7) or Mac OS X. You *can* operate a wireless network with Windows 98, Me, or 2000 or with Mac OS 9, but these systems are less and less able to handle the rapidly increasing requirements of applications and the Internet. As a result, we focus mostly on the most recent operating systems — the ones that have been launched within the past five years or so. Wireless networking is also popular among Linux users, but we don't cover Linux in this book.

Because wireless networking is a relatively new phenomenon, the newest versions of Windows and the Mac OS do the best job of helping you quickly and painlessly set up a wireless network. However, because the primary reason for networking your home computers is to make it possible for all the computers (and peripherals) in your house to communicate, *Wireless Home Networking For Dummies*, 4th Edition, gives you information about connecting computers that run the latest versions of Windows and the most widely used version of the Mac OS. We also tell you how to connect computers that run some of the older versions of these two operating systems.

How This Book Is Organized

Wireless Home Networking For Dummies, 4th Edition, is organized into 20 chapters that are grouped into five parts. The chapters are presented in a logical order — flowing from planning to installing to using your wireless home network — but feel free to use the book as a reference and read the chapters in any order you want.

Part I: Wireless Networking Fundamentals

Part I is a primer on networking and wireless networking. In case you've never used a networked computer — much less attempted to install a network — this part of the book provides background information and technogeek lingo that you need to feel comfortable. Chapter 1 presents general networking concepts; Chapter 2 discusses the most popular wireless networking technology and familiarizes you with wireless networking terminology; and Chapter 3 introduces you to several popular complementary and alternative technologies to wireless networking, like Bluetooth and technologies that help you extend the reach of your wired home network.

Part II: Making Plans

Part II helps you plan for installing your wireless home network. Chapter 4 helps you decide what to connect to

the network and where to install wireless networking equipment in your home, and Chapter 5 provides guidance on making buying decisions.

Part III: Installing a Wireless Network

Part III discusses how to install a wireless network in your home and get the network up and running. Whether you have Apple Macintosh computers running the Mac OS (see Chapter 8) or PCs running a Windows operating system (see Chapters 6 and 7), this part of the book explains how to install and configure your wireless networking equipment. In addition, Part III includes a chapter that explains how to secure your wireless home network (see Chapter 9). Too many people don't secure their wireless network, and we want to make sure you're not one of them!

Part IV: Using Your Wireless Network

After you get your wireless home network installed and running, you'll certainly want to use it. Part IV starts by showing you the basics of putting your wireless network to good use: sharing files, folders, printers, and other peripherals (see Chapter 10). We discuss everything you want to know about playing multiuser computer games wirelessly (see Chapter 11), connecting your audiovisual equipment (see Chapter 12), using broadband mobile services (3G) to connect when you're away from home (see Chapter 13), and doing other cool things over a wireless network (see Chapter 14).

Bluetooth-enabled devices are becoming more prevalent these days, so you don't want to miss Chapter 15. For that matter, don't miss Chapter 16, where we describe how to use wireless networking to connect to the Internet through wireless *hot spots* (wireless networks you can connect to for free or a small cost when you're on the road) in coffee shops, hotels, airports, and other public places. How cool is that?

Part V: The Part of Tens

Part V provides three top-ten lists that we think you'll find interesting — ten frequently asked questions about wireless home networking (Chapter 17); ten troubleshooting tips for improving your wireless home network's performance (Chapter 18); ten devices to connect to your wireless home network — sometime in the future (Chapter 19). Finally, we tell you where to go for even *more* information in Chapter 20, where we list our top ten (well, more than ten) places to find out more about the world of wireless.

Icons Used in This Book

All of us these days are hyperbusy people, with no time to waste. To help you find the especially useful nuggets of information in this book, we've marked the information with little icons in the margin.



As you can probably guess, the Tip icon calls your attention to information that saves you time or maybe even money. If your time is really crunched,

you may try just skimming through the book and reading the tips.



This icon is your clue that you should take special note of the advice you find there — or that the paragraph reinforces information provided elsewhere in the book. Bottom line: You will accomplish the task more effectively if you remember this information.



Face it, computers and wireless networks are high-tech toys, or *tools*, that make use of some complicated technology. For the most part, however, you don't need to know how it all works. The Technical Stuff icon identifies the paragraphs you can skip if you're in a hurry or just don't care to know.



The little bomb in the margin should alert you to pay close attention and tread softly. You don't want to waste time or money fixing a problem that you could have avoided in the first place.

Where to Go from Here

Where you should go next in this book depends on where you are in the process of planning, buying, installing, configuring, or using your wireless home network. If networking in general and wireless networking in particular are new to you, we recommend that you start

at the beginning, with Part I. When you feel comfortable with networking terminology or get bored with the lingo, move on to the chapters in Part II about planning your network and selecting equipment. If you already have your equipment in hand, head to Part III to get it installed — and secured (unless you *like* the idea of your neighbor or even a hacker being able to access your network).



If you were thinking of skipping Part I, please make sure that you're up to speed on the latest and greatest version of Wi-Fi wireless networking. — 802.11n — which will dramatically affect your planning. If you aren't up to speed on this new standard, we recommend that you at least take a quick view of Chapter 2 first.



The wireless industry is changing fast. We provide regular updates for this book at www.digitaldummies.com.

Happy wireless networking!

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