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7th Edition

# Laptops

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and privacy features

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**Dan Gookin**

Author of *Word 2019 For Dummies*  
and *PCs For Dummies*



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**dummies**<sup>®</sup>  
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## Laptops For Dummies®, 7th Edition

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# Introduction

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It's lightweight, high-tech, and portable; the product of years of research, a longtime dream of engineers and scholars, something people all over the world crave. It's wireless. It's about communications. And it will help you become the ultimate mobile computer user. Of course, I'm talking about this book: *Laptops For Dummies*.

This is the seventh edition of *Laptops For Dummies*, updated and spiffed up for the latest in PC laptop hardware and software as well as for Microsoft's latest operating system, Windows 10.

This book covers your portable computer from laptop to lap-bottom, inside and out, on the road or resting at home. The information here runs the gamut, from introducing your laptop to making your first wireless connection at your favorite swanky cybercafé. You'll find this book useful whether you want to go laptop shopping or you consider yourself an old hand.

## About This Book

---

I'm glad that you're still reading this introduction. Most people stop reading after a few paragraphs, or they don't even bother reading the introduction. Consider yourself special.

This book covers laptop computing, from buying and setting up to going on the road, from networking and the Internet to power management and security and everything in between. There's a lot of laptopy advice to be had between this book's yellow covers.

I don't intend for you to read every chapter in sequence. That's because this book is organized as a reference: Find the tidbit of information, the knowledge nugget you need to know, and then be on your merry way. Everything is cross-referenced, so if you need to look elsewhere in the book for more information, you can easily find it.

In writing this book, I assume that you may know a bit about computers, as most folks do today. But you may be utterly fresh on the idea of *portable* computing. Despite what they tell you, a laptop computer isn't merely a desktop computer with a handle attached. There's more to it, and this book is here to show you the ropes — and to let you take full advantage of what the laptop has to offer.

## And Just Who Are You?

Let me jump to the conclusion that you're a human being, not a cleverly disguised owl. Furthermore, either you own a laptop PC or you want to buy one. You may already have a desktop computer, or perhaps you had a laptop a long, long time ago and noticed that things have changed.

I use the word *laptop* to refer to all types of portable computers, from the traditional notebooks to the teensy Ultrabooks. A new category is the 2-in-1 laptop, which is more like a tablet. Those are covered here as well and fall under a general category that I term *tablet PCs*. Any laptop with a touchscreen display is a tablet PC, and I wax eloquently on that topic in Chapter 7.

This book assumes that your laptop is PC-compatible, that it runs the Windows operating system. The current version is Windows 10, which is a great operating system for laptop users. This book doesn't cover older versions of Windows, nor does it cover using Linux, which is fun but way too nerdy.

This book doesn't describe the basic operations of a computer, Windows, or your software. I've tried to keep the information here specific to the portable aspects of the laptop computer. Beyond that, if you need more information about running your computer, any standard PC or Windows reference works fine.

## Icons Used in This Book



TIP

The Tip icon notifies you about something cool, handy, or nifty — or something that I highly recommend. For example: “Never make a bar bet with a guy wearing a bowtie.”



REMEMBER

Don't forget! When you see this icon, you can be sure that it points out info you should remember or something I said earlier that I'm repeating because it's important and you'll likely forget it anyway. For example: “There is no need to touch the electric fence a second time just to be sure that it's on.”



WARNING

Danger! Ah-oogah! Ah-oogah! When you see the Warning icon, pay careful attention to the text. This icon flags something that's bad or that can cause trouble. For example: "The enormous sea monster slithering toward your village won't be using the legal system to settle its grievances."



TECHNICAL  
STUFF

This icon alerts you to something technical, an aside or a trivial tidbit that I simply cannot suppress the urge to share. For example: "My first laptop was a steam-powered, 8-bit 6502 that I breadboarded myself." Feel free to skip over this book's technical information as you please.

## Where to Go from Here

You can start reading this book anywhere. Open the table of contents and pick a spot that amuses you or concerns you or piques your curiosity. Everything is explained in the text, and stuff is carefully cross-referenced so that you don't waste your time reading repeated information.

My email address is [dgookin@wambooli.com](mailto:dgookin@wambooli.com). Yes, this is my real address. I reply to all email I receive, and you'll get a quick reply if you keep your question short and specific to this book. Although I enjoy saying hi, I cannot answer technical support questions or help you troubleshoot your laptop. Thanks for understanding.

You can also visit my web page for more information or as a diversion:

[www.wambooli.com](http://www.wambooli.com)

This book's specific support page can be found at

[www.wambooli.com/help/laptops](http://www.wambooli.com/help/laptops)

There you'll find updates, as well as frequent blog posts with laptopy information, tips, and tricks.

The publisher also maintains a support page, complete with updates and such. You can visit the publisher's website at [dummies.com](http://dummies.com). To search for specific information related to this book, including the bonus online Cheat Sheet, search for *Laptops For Dummies* from the site's main page.

Enjoy your laptop computer. I'll see you on the road!



# 1 This Laptop Thing

**IN THIS PART . . .**

Discover how the modern laptop came to be.

Learn how to buy a new laptop that's just right for you.



- » Understanding portable computing
- » Reviewing laptop history
- » Discovering modern laptops
- » Getting to know the subnotebooks
- » Recognizing the tablet PC

## Chapter **1**

# The Portable Computing Quest

**O**ne summer day, in his 42nd year, Eugene noted how pleasant the weather was outside. He was inspired to attach wheels to the room-size, vacuum tube computer. Then he and the other three computer scientists, despite their utter lack of muscle tone, pushed the 17-ton beast out of the lab to work outside. It was this crazy notion that sparked the portable computer revolution.

Today the revolution continues. Computers are not only shrinking — they're becoming more portable. Their names represent a pantheon of portable PC potential, including portables, laptops, notebooks, netbooks, convertibles, and tablets. Indeed, portable computing has a rich history, from the first dreams and desires to the multitudinous options now available.

## The History of Portable Computing

You can't make something portable by simply bolting a handle to it. Sure, it pleases the marketing folk, who are interested in things that sound good more than things that are practical. For example, you can put a handle on an anvil and call it portable, but that doesn't make it so.

My point is that true portability implies that a gizmo has at least these three characteristics:

- » It's lightweight.
- » It needs no power cord or other wires.
- » It's practical.

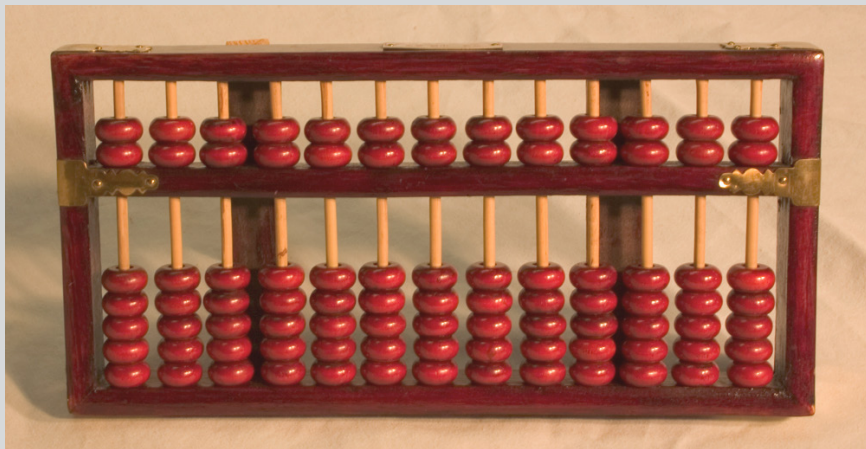
In the history of portable computing, these three things didn't happen all at once, and definitely not in that order.

## THE ANCIENT PORTABLE COMPUTER

Long before people marveled over credit-card-size calculators, merchants and goatherds used the world's first portable calculator. Presenting the *abacus*, the device used for centuries to rapidly perform calculations that would otherwise induce painful headaches.

*Abacus* comes from the Greek word meaning "to swindle you faster." Seriously, the abacus, or counting board, is simple to master. Schoolkids today learn to use the abacus as a diversion from more important studies. In the deft hands of an expert, an abacus can perform all the same operations as a calculator — including square roots and cubic roots.

In his short story *Into the Comet*, science fiction author Arthur C. Clarke wrote of stranded astronauts using many abacuses to plot their voyage home when the spaceship's computer wouldn't work because the Internet was down and their version of Windows couldn't be validated.



# The Xerox Dynabook

The desire to take a computer on the road has been around a long, long time. Back around 1970, when Bill Gates was still in school and dreaming of becoming a chiroprapist, Xerox PARC developed the Dynabook concept.

Today, you'd recognize the Dynabook as an eBook reader, similar to the Amazon Kindle: The Dynabook was proposed to be the size of a sheet of paper and only a half-inch thick. The top part was a screen; the bottom, a keyboard.

The Dynabook never left the lab, remaining only a dream. Yet the desire to take a computer on the road wouldn't go away. During the three decades after the Dynabook concept fizzled, many attempts were made to create truly portable computers.

## The Osborne 1

The first successful portable computer was the Osborne 1, created by computer book author and publisher Adam Osborne in 1981. Adam believed that in order for personal computers to be successful, they must be portable.

His design for the Osborne 1 portable computer was ambitious for the time: The thing needed to fit under an airline seat — and this was *years* before anyone would even dream of using a computer on an airplane.

The Osborne 1 portable computer, shown in Figure 1-1, was a whopping success. It featured a full-size keyboard and two 5¼-inch floppy drives but only a teensy, credit-card-size monitor. It wasn't battery powered, but it did have a handy carrying handle so that you could lug around the 24-pound beast like an overpacked suitcase. Despite its shortcomings, 10,000 units a month were sold; for \$1,795, you got the computer plus free software.

## The loveable luggables

The Osborne computer was barely portable. Face it: The thing was a *suitcase!* Imagine hauling the 24-pound Osborne across Chicago's O'Hare Airport. Worse: Imagine the joy expressed by your fellow seatmates as you try to wedge the thing beneath the seat in front of you.

Computer users yearned for portability. They wanted to believe the advertising images of carefree people toting the Osborne around — people with arms of equal length. But no hipster marketing term could mask the ungainly nature of the Osborne: Portable? Transportable? Wispy? Nope. Credit some wag in the computer press for dreaming up the term *luggable* to describe the new and popular category of portable computers ushered in by the Osborne.



**FIGURE 1-1:**  
A late-model  
Osborne.

Never mind its weight. Never mind that most luggable computers never ventured from the desktops they were first set up on — luggables were the best the computer industry could offer an audience wanting a portable computer.

In the end, the Osborne computer's weight didn't doom it. No, what killed the Osborne was that in the early 1980s the world wanted IBM PC compatibility. The Osborne lacked it. Instead, the upstart Texas company Compaq introduced luggability to the IBM world with the Compaq 1, shown in Figure 1-2.

The Compaq Portable (also called the Compaq 1), introduced in 1983 at \$3,590, proved that you could have your IBM compatibility and haul it on the road with you — as long as a power socket was handy and you had good upper-body strength.

Yet the power cord can stretch only so far. It became painfully obvious that for a computer to be truly portable — as Adam Osborne intended — it would have to lose its power cord.

## The Model 100

The first computer that looked even remotely like a modern laptop, and was fully battery powered, was the Radio Shack Model 100, shown in Figure 1-3. It was an overwhelming success.



**FIGURE 1-2:**  
The luggable  
Compaq Portable.

## WHAT'S A PC?

*PC* is an acronym for *politically correct* as well as for *personal computer*. In this book's context, the acronym *PC* stands for personal computer.

Originally, personal computers were known as *microcomputers*. This term comes from the microprocessor that powered the devices. It was also a derisive term, comparing the personal systems with the larger, more intimidating computers of the day.

When IBM entered the microcomputer market in 1982, it called its computer the *IBM PC*. Though it was a brand name, the term *PC* soon referred to any similar computer and eventually to any computer. A computer is basically a PC.

As far as this book is concerned, a PC is a personal computer that runs the Windows operating system. Laptop computers are also PCs, but the term *PC* more often implies a desktop model computer.



**FIGURE 1-3:**  
The Radio Shack  
Model 100.

The Model 100 wasn't designed to be IBM PC compatible, which is surprising considering that PC compatibility was all the rage at the time. Instead, this portable computer offered users a full-size, full-action keyboard plus an eensie, 8-row, 40-column LCD text display. It came with several built-in programs, including a text editor (word processor), a communications program, a scheduler, and an appointment book, plus the BASIC programming language, which allowed users to create their own programs or obtain BASIC programs written by others.

The Radio Shack Model 100 was all that was needed for portability at the time, which is why the device was so popular.

- » The Model 100 provided the *form factor* for laptops of the future. It was about the size of a hardback novel. It ran for hours on standard AA batteries. And it weighed just 6 pounds.
- » So popular was the Model 100 among journalists that it was common to hear the hollow sound of typing on its keyboard during presidential news conferences in the 1980s.
- » Despite its popularity and versatility, people wanted a version of the Model 100 that would run the same software as the IBM PC. Technology wasn't ready to shrink the PC's hardware to Model 100 size in 1983, but the Model 100 set the bar for what people desired in a laptop's dimensions.