

LEARNING MADE EASY



PCs & Laptops

for
dummies[®]
A **Wiley** Brand



Determine what you need
in a personal computer

—
Understand the components
of your PC or laptop

—
Connect your computer
to other devices

Dan Gookin

Author of the first *For Dummies*
book - *DOS For Dummies*



PCs & Laptops

by Dan Gookin

for
dummies[®]
A Wiley Brand

PCs & Laptops For Dummies®

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Introduction

Since the first IBM PC rolled off the assembly line in 1981, tremendous leaps in technology have taken place. Who would have thought you could purchase a sophisticated, high-speed computer or laptop in the same place where you buy tires and booze? Despite these advancements, computers remain a daunting, intimidating piece of machinery. They can make you feel like a dummy.

This book's job is to convince you that you're not a dummy. Computers are intimidating only when you believe them to be. Peel back that sleek case and you find a shy, frightened beast that desires only to help you. Oh, and I'm speaking metaphorically: Try to avoid peeling off the computer's case.

This book covers desktop PCs and laptops. The information here runs the gamut, from assembling a desktop to taking your laptop out to a swanky cybercafé. Across the desktop and from laptop to lap-bottom, it's all covered here.

About This Book

I'm glad you're still reading this introduction. Most people stop reading after a few paragraphs, probably from the fear that I'll regale them with dull details about 19th century French poetry or describe the effect of cubism on honeybee migration. Regardless, I appreciate your dedication.

This book covers both laptops and desktop computers. These categories define two different configurations of what is essentially the same device: a personal computer, or PC. The term *PC* applies to both, though it traditionally refers to the desktop model. Regardless, these devices run Windows, the most popular and hated computer operating system in history.

Topics here cover computer tasks and duties, from setup and identification of parts and basics such as turning the thing on and off to other subjects like networking, printing, computer security, and maintenance. These are concepts that were once contained in the computer manual, though this book isn't as serious and has less of a chance of giving you a paper cut.

Foolish Assumptions

You have a computer, desktop or laptop, or you intend to purchase one before you read the last word in this sentence. Good. The computer you have or desire to obtain is a PC, as described earlier. It is not a Macintosh. It is not a Cray super-computer. It is not an ENIAC.

The term *desktop* applies to all desktop PCs, from the behemoth under-the-desk powerhouses to those tiny models that are slightly larger than a deck of cards. These are nonportable computers.

I use the word *laptop* to refer to all types of portable computers, from traditional notebooks to tablets and various models in between. These are all easily flung out a window.

Here's what I think of you: Beyond being clever and handsome, you are a human being and not a cleverly disguised owl. You may have some experience with a computer or none at all. But you're not a Vulcan or a superintelligent gerbil desiring to program an Arduino in FORTRAN.

This book covers both Windows 10 and Windows 11, the two current and most fashionable versions of the Microsoft Windows operating system. Previous editions of this book cover Windows 7, and even older versions cover the horrid Windows 8, for which several Microsoft employees are still paying penance. Windows 9 doesn't exist for reasons that are understandable only to Germans.

When this book refers to Windows without a specific edition or version, the information applies to both Windows 10 and Windows 11.

Though using Windows is necessary to performing many tasks in this book, I do not cover the Windows operating system directly. For details on using Windows, I recommend *Windows For Dummies*, by my pal Andy Rathbone (Wiley Publishing). For helpful tomes on using various software applications, hunt down a *For Dummies* title on that specific program.

Where to Start

This book is a reference. You can start reading at any point because, unlike books on reassembling cats, this book doesn't assume that you've already read previous chapters or even some of the current chapter. After you read the information, you're done; there's no need to read any further. The book has no plot, the characters are one-dimensional, and the conclusion is predictable.

Each of this book's 28 chapters covers a specific aspect of the computer. Sample sections include:

- » Restarting the PC
- » Ejecting storage media
- » Stopping a printer run amok
- » Accessing a Wi-Fi network
- » Understanding cloud storage
- » Things to pack in your laptop bag
- » Doing a virus scan

Each section is designed to be read independently of other information in the book. Read the information quickly, digest what you have read, and then put down the book and get on with using the computer — or instead choose to do something beneficial to humanity, such as play pickleball.

Conventions Used in This Book

Menu items, links, and other controls on the screen are written using initial-cap text. So, if an option is labeled “Turn off the computer,” the text Turn Off the Computer (without quotes or commas) appears in this book.

If you must type something, it looks like this:

Type me

You type the text *Type me* as shown. You're told when and whether to press the Enter key. You're also told whether to type a period; periods end sentences written in English, but not always when you type text on a computer.

Windows menu commands are shown like this:

Choose File ⇨ Exit.

This line directs you to choose the File menu and then choose the Exit command.

Key combinations you may have to press are shown like this:

Ctrl+S

This line says to press and hold down the Ctrl (Control) key, type an *s*, and then release the Ctrl key. It works the same as pressing Shift+S on the keyboard to produce an uppercase S. Same deal, different shift key.



The Windows key on the keyboard is labeled with the Windows icon, lurking in the margin. This key may instead be adorned with the keyboard manufacturer's logo. It's used by itself to pop up the Windows Start menu, though it can also be used like a shift key with other keys on the keyboard. See Chapter 10 for exciting keyboardy stuff.

Icons Used in This Book



TIP

The Tip icon indicates helpful advice or an insight that makes using the computer interesting. For example, when you're dunking the computer into liquid nitrogen, be sure to wear protective goggles.



REMEMBER

This icon indicates something to remember, like wearing trousers when you address a large crowd.



WARNING

When you see this icon, pay careful attention to the text. It 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 courts to settle its grievances."



TECHNICAL
STUFF

This icon alerts you to a technical topic, 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 any text tagged with this little picture.

Where to Go from Here

Thank you for making it through the introduction. See? I didn't cover French poetry at all and only barely mentioned honeybee migration.

What's next is up to you: 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 topics are carefully cross-referenced so that you don't waste your time reading repeated information. Again, everything is carefully cross-referenced so that you don't waste your time reading repeated information.

My email address is `dgookin@wambooli.com`. Yes, this is my real address. I reply to all email I receive, though you 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 computer. Thanks for understanding.

With this book in hand, you're now ready to go out and conquer your desktop or laptop PC. Try not to read all of it, which would embarrass me because I've never finished reading a book, let alone

1

Hello, Computer!

IN THIS PART . . .

Discover what a PC is and what it can do

Explore desktop and laptop computers

Set up and configure a PC

Toil through turning on a computer

Cope with turning a computer off

- » Understanding the computer
- » Discerning between hardware and software
- » Answering some common PC questions
- » Buying a computer
- » Getting rid of old technology

Chapter **1**

Computer 101

You must accept two important facts about a computer: It can't blow up and it's not evil.

Computers explode in the movies. They excel at it. You see fire, smoke, and little pieces flying everywhere. Real life is sadly less dramatic.

Though it's stimulating to believe that computers are evil, and such a belief explains many confusing things nicely, it just isn't true. Computers are innately indifferent, almost disappointingly so.

Sad to say, computers are handy tools — just frustrating to use at times. This chapter helps ease you into understanding these useful and often misunderstood gizmos.

The enrollment application for dogs to join the Marines in WW2 was designed to be filled out from the dog's perspective:

The Fast Idiot

Computers aren't smart; they're just fast. If you slow down time and observe deep inside the computer's bosom, you find a calculator. That's it. But surrounded by lots of helpful electronics, and cranking out billions of computations per second, the computer seems amazing. It's like your drooling nephew building a Lego Eiffel Tower in two seconds. You'd think he's a genius, but he's just moving quickly. That's essentially how the computer fools you into thinking it's smart.

What a computer does

A computer's core mission statement is to consume input, process it, and generate output. In this manner, the computer operates like a cow but one that's less expensive to feed and with less odorous output. Figure 1-1 illustrates the basic computer operation, which coincidentally also applies to a cow.

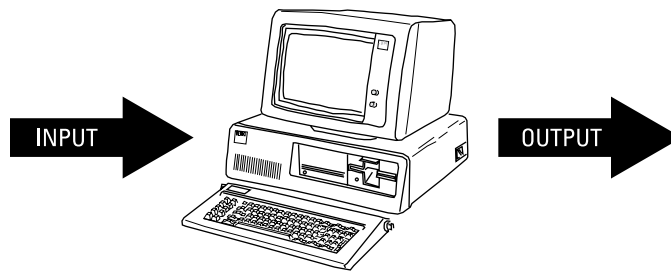


FIGURE 1-1:
What a computer
does at its
simplest level.

To perform its basic task, the computer occupies itself with three activities:

- » I/O
- » Processing
- » Storage

I/O: I/O stands for input and output. It's pronounced "I owe," like *Io*, the third-largest moon of Jupiter. The computer receives input from devices such as the keyboard, a pointing device (mouse), and the Internet. It generates output displayed on the screen, printed, or returned to the Internet. I/O is also a popular subject for songs sung at computer camp.

Processing: Between input and output you find *processing*. The input is somehow manipulated, mangled, or munged. Then it's spewed out in a modified form. Minus any processing, the computer is like a tube, and computer science would be

identical to plumbing. Processing is covered in Chapter 6. Plumbing is covered in *Plumbing For Dummies*.

Storage: The final computer activity is storage. Storage can be temporary or long-term. Temporary storage is the computer *memory*, or *RAM*, covered in Chapter 7. Long-term storage is provided by the computer's storage media, covered in Chapter 8. Overhead storage is designed for luggage that doesn't fit below the seat in front of you.

Hardware and software

All parts of a computer system can be classified as either hardware or software.

Hardware is the physical part. Anything you can touch or see — or that smells like burning plastic — is hardware.

Software is the computer's instructions. It tells the hardware what to do.

For example, consider a symphony orchestra. The hardware consists of the musicians and their instruments. Their software is music. As with a computer, the music (software) tells the musicians and their instruments (hardware) what to do.

Without software, hardware just sits around bored. Like a symphony orchestra without music, that can be an expensive waste of time, especially at union scale. No, it's software that makes the computer system work. It's in charge. Software determines the computer's personality and potential.

- » If you can toss it out a window, it's hardware.
- » If you can toss it out a window and it comes back, it's a cat.
- » Computer software includes all the programs you use on the computer.
- » The most important piece of software is the computer's operating system. It's the main program in charge of everything.

Doubtless, You Have Some Questions

Rather than bore you with further exploration of the dry and dull world of computer technology, I thought I'd save some time and get some burning questions you may have out of the way.

“What is a PC?”

A PC is a personal computer. The name applies to pretty much all computers these days, though historically a PC is related to the original IBM PC (personal computer), introduced in the early 1980s. Today, a PC is any computer system that isn't a Macintosh, though a Mac is technically also a personal computer.

“Do I need a laptop?”

Probably.

“Can you be more specific?”

Okay. The two main styles of personal computers are desktop systems and laptops.

A desktop PC dwells in one location. It's not portable. These systems are often more powerful and expandable than laptops. They can also be upgraded, which isn't possible with most laptops.

Laptops go anywhere, thanks to their light weight and battery power. They are powerful but sacrifice features and expandability for their portability. They can also be more expensive than comparable desktop systems.



TIP

- » You can use a laptop as a desktop system, expanding it with a full-size keyboard and monitor. This setup has the advantage of your still being able to take the computer with you to work remotely or when the building is on fire.
- » Many people opt to use both systems: a powerful desktop for the office or home and a laptop to take on the road.
- » Laptops are also a near necessity for students. Colleges and universities offer guidelines for student computers — specifically, laptops. Heed this advice.

“Why not just use a tablet or smartphone instead of a computer?”

The quick answer is that mobile devices such as smartphones and tablets are designed for data *consumption*, not data production. If you're merely passing through this digital life, you can get by with a phone or tablet and never own a computer. If you need to create something, however, a computer is a better tool than a tablet or smartphone.

- » As someone who detests typing on a touchscreen, I can assure you that typing on a real keyboard is the best reason to own a computer.
- » If you enjoy using a tablet with a removable keyboard, you would probably be happier with the full power of a laptop instead.
- » Mobile devices lack a computer's potential for expandability.
- » A typical computer lasts for years. Mobile devices are usually replaced on an average 2-year cycle.

“Seriously, can a computer explode?”

A computer cannot spontaneously explode. Even if you accidentally spill a fish tank of water on it, the device most likely will short out and die, flipping the circuit breaker, but it won't explode.

My first PC had a 65-watt power supply that failed. I heard a pop and the computer died. Then I saw a puff of smoke rise from behind the monitor. I replaced the dead power supply with a beefier model and the computer worked fine after that. No drama, though I delighted in the experience, knowing that I would write about it later in this book.

Buy That Computer!

If you don't yet have a computer, you must rush out and buy one! Or, if your current computer is so old that it can access the DuMont Network, get a new one right now! This order carries no urgency, despite what you just read.

Buying a complex piece of electronics like a computer isn't the same as purchasing a vase or cement mixer. To make your purchase a successful one, consider my friendly, 5-step method for buying a computer.

- 1. Know what it is that you want the computer to do.**
- 2. Choose between a desktop and laptop.**
- 3. Determine how much hardware is required.**
- 4. Locate service and support.**
- 5. Buy the computer!**

If you heed these steps, you'll be a lot more satisfied with your computer purchase than if you just saunter into an upscale store to buy something with the Apple logo on it.

Step 1: Determine what you want the computer to do

Computers are best used to create something: to write a novel, edit video, generate graphical designs, compose music, devise a spreadsheet to monitor gambling debts, and so on. On the antiproduktivity side, computers are great for playing high-end video games. Many gamers prefer computers over the various gaming consoles, primarily because computer hardware is easily upgraded.

The point of this step is to understand how you plan on using the computer. What do you see yourself doing? How are you going to use the computer: as a tool to get work done or to professionally waste time?



TIP

- » Gaming consoles are considered specifically engineered computers.
- » Even if you decide to use your computer for one task, you can expand to other creative activities later. For example, you can perform office tasks as well as play horrifically graphic video games.
- » If you just need to check email, browse the web, or waste time with a serious expression on your face, consider buying a smartphone or tablet instead of a computer.

Step 2: Choosing between a desktop and a laptop

Desktop computers stay in one place. They're powerful, expandable, and less expensive than laptops. They're more difficult to lose in a stack of magazines on the coffee table and then accidentally tossed out in a rush because guests are coming over.

Laptop computers go anywhere. They're wireless, though the battery must be charged and can last only so long (usually, several hours). They lack expandability. Due to their small size and other specifics, laptops are generally more expensive than desktop computers.

- » Laptops offer you freedom to compute anywhere. Desktops offer you power.
- » Laptops occupy less space than desktops. This condition makes sense because it's awkward to balance a desktop computer on your lap.
- » Desktop computers offer full-size keyboards and larger monitors.