Chapter 1

Sometimes You Can Take It with You

In This Chapter

- Searching for a portable computer
- Looking back at the history of the laptop computer
- Deciding if you need a laptop

From the time when the first computer was powered on in the early 1940s, users have craved mobility. I'm certain of it. Sitting in the lunch room, some guy with a crew cut, thick glasses, and a white lab coat popped up and said, "How 'bout we put wheels on the ENIAC? Then we could roll it out into the quad and work outside on a sunny day? Hey?" And so the dream was born.

This chapter provides an overview of the laptop computer concept. If you're uncertain as to what a laptop is, or how it can help you, then this is where you start reading.

The Power Cord Can Stretch Only So Far

Any computer can be mobile. The solution is simple: Just add a handle. I remember my first portable TV. It may have weighed over 40 pounds, but dangit, the thing had a handle, and therefore it was portable. Seeing that portability is often desired in a product, manufacturers were quick to add handles to everything, blessing products such as blenders, table saws, microwave ovens, and grand pianos with the gift of portability.

For computers, the desire to make it portable is a primeval one. It was a quest for the Holy Grail, but without a Holy Grail. That's because the true notion of what a portable computer is, and what it could offer, changed subtly over time.

The Osborne 1

The first successful portable computer was the Osborne 1, created by Adam Osborne in 1980. A computer book author and publisher, Adam believed that for personal computers to be successful, they would have to be portable.

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

The Osborne 1 portable computer (see Figure 1-1) was a whopping success. It featured a full-sized keyboard, two full-sized floppy drives, but a teensy credit card-sized monitor. It wasn't battery powered, but it did have a handy carrying handle so you could lug the 24-pound beast around like an over-packed suitcase. Despite any shortcomings, they were selling 10,000 units a month (at $1,795 each, which included software — a first for the time). The cash was rolling in.

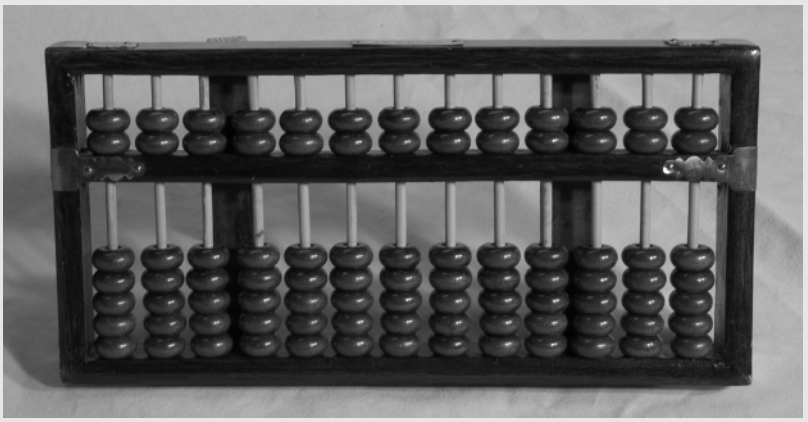
Figure 1-1: A late-model Osborne.

By late 1983, sadly, Adam's company floundered, suffering from the onslaught of the new IBM PC and its legion of compatibles and clones. Yet the Osborne 1 proved that computers could be portable. In fact, it founded a new class of computer: the *luggable*.

The ancient portable computer

Long before people marveled over solar powered, credit card-sized calculators, there existed the world's first portable, human-powered calculator. Presenting the *abacus,* the device used for centuries by merchants and goat herders to rapidly perform calculations that would break human fingers.

Abacus comes from the Greek word meaning "to swindle you faster." Seriously, the abacus or *counting board* is simple to master, and in the deft hands of an expert, it can even out perform all operations on a calculator — including the square 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 broke down.



The luggables

The Osborne was portable, but not conveniently so. Heck, it was a *suitcase!* Imagine hauling the 24-pound Osborne across Chicago's O'Hare airport? Worse: Imagine the joy of your fellow seatmates as you try to wedge the thing beneath the seat in front you.

Despite the inconvenience, the computer world recognized the value of portability. And despite the print ads showing carefree people toting the Osborne around — people with arms of equal length, no less — no hip marketing term could mask the ungainly nature of the Osborne: Portable? Transportable? Wispy? Like it or not, the computer industry itself devised the unglamorous term *luggable* to describe that type of computer.

Portability and communications

Long before the Internet came around, one item that was deemed standard on all portable computers was the ability to communicate. The laptop computer not only had to be able to talk with the desktop computer, to exchange and update files, but it also had to use a *modem* to communicate electronically over phone lines.

Nearly every portable PC from the Radio Shack Model 100 onward had to have a modem, or at least an option for installing one. This was in an era when modems were considered optional luxuries for a desktop computer. Portable computers required a modem to keep in touch with the desktop systems of the day while they were on the road. Special software was required, but once the connection was made, it was possible to keep files on the laptop updated even from the most remote of locations.

The luggables were an extremely popular class of computer. Never mind the weight. Never mind that most never ventured from the desktop that they were set up on, luggables were the best the computer industry could offer in the arena of portable computing.

The problem with the Osborne was not that it was a luggable. No, what killed the Osborne was that the world wanted IBM PC compatibility. The Osborne lacked that. Instead, an upstart Texas company called Compaq introduced luggability to the IBM world with the Compaq 1, shown in Figure 1-2.

Figure 1-2: The luggable Compaq 1.

The Compaq 1, introduced in 1983 at $3,590, proved that you could have your IBM compatibility and eat it on the road — or anywhere there was a power socket handy.

But 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 was going to have to lose that power cord.

The Model 100

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

The Model 100 was not designed to be IBM PC compatible, which is surprising considering that PC compatibility was all the rage at the time. Instead, it offered users a full-sized, full-action keyboard, plus a tiny 8-row, 40-column display. It came with several built-in programs, including a text editor/word processor, communications, a scheduler/appointment book, plus the BASIC programming language, which allowed users to create their own programs or buy and use BASIC programs written by others.

Figure 1-3: Radio Shack's Model 100.

The Radio Shack Model 100 was really all that was needed for portability at the time, which is why the device was a such a resounding success.

- 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 off of standard AA batteries. It weighed just 6 pounds.
- 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 down to Model 100 size, but the Model 100 set the goal for what users wanted in a laptop's dimensions.

Hybrid beasts, or the "lunch buckets"

Before the dawn of the first true laptop, some ugly mutations wandered in, along with a few rejects from various mad scientists around the globe. I call them the *lunch bucket* computers because they assumed the shape, size and weight of a typical hard hat's lunch box. The Compaq III, shown in Figure 1-4, was typical of this type of portable computer.

Figure 1-4: The Compaq III.

- The lunch box beasts weighed anywhere from 12 to 20 or more pounds, and most were not battery powered.
- At this same time, color monitors were becoming the standard for desktop computers. For technological reasons, monochrome LCD screens were all that laptops could offer.
- Honestly, the lunch buckets did offer something over the old transportable or luggables: less weight! A late-model lunch bucket PC weighed in at about 12 pounds, or half the weight and about ⅛ the size of the suitcase-sized luggables.

Early PC laptops

The computer industry's dream was to have a portable computer that had all the power of a desktop computer, plus all the features, yet be about the same size and weight as the Model 100. One of the first computers to approach that mark was the Compaq SLT back in 1988, shown in Figure 1-5.

The Compaq SLT was the first portable computer that actually looks like one of today's laptops. It featured a full-sized keyboard, full-sized screen, floppy drive (this is before the era of CD-ROM), and a 286 microprocessor, which meant that the computer could run the DOS operating system of the day.

Figure 1-5: The Compaq SLT.

Weight? Alas, the SLT was a bowling ball at 14 pounds!

What the Compaq SLT did was prove to the world that portability was possible. A laptop computer was designed to feature everything a desktop computer could, plus run off batteries for an hour or so.

Calculating laptop weight: The missing piece(s)

When computer companies specify the weight of their laptops, I'm certain that they do it under ideal conditions, possibly at the North Pole or some other location where the earth's gravity field is at its weakest. The weight advertised is, like they say, "for comparison purposes only."

Commonly left out of the laptop's weight is what's known as the *power brick*. This is the AC adapter used to connect the laptop to a wall socket. When the laptop isn't running off of batteries, you need the power brick to supply the thing with juice. This means that the power brick is a required accessory — something you have to tote with you if you plan on taking the laptop on an extended trip.

In the old days, what they didn't tell you in the advertisements was that the power brick often weighed half as much as the laptop itself! Either that, or the power brick was more bulky than the laptop, as seen nearby with the Dell 320LT's obnoxiously big power brick (and heavy 30-minute batteries). Lugging around such items is not very convenient. Things are better today.

The search for weightlessness

Just because the marketing department labeled the computer a "laptop" didn't mean that it was sleek and lightweight. For a while there, it seemed like anyone could get away with calling a portable PC a laptop, despite the computer weighing up to 20 pounds — which is enough to crush any lap, not to mention kneecaps.

In the fall of 1989, NEC showed that it could think outside of the laptop box when it introduced the UltraLite laptop, shown in Figure 1-6. It featured a full-sized screen and keyboard, but no disk drives or other moving parts! The UltraLite used battery-backed up memory to serve as a *silicon disk.* The silicon disk stored 1 or 2MB of data — which was plenty back in those days.

The UltraLite featured a modem, but it could also talk with a desktop computer via its serial port and a special cable. Included with the UltraLite was software that would let it easily exchange files and programs with any desktop PC.

The weight? Yes, the UltraLite lived up to its name and weighed in at just under 5 pounds — a feather compared to the obese laptops of the day. And the battery lasted a whopping two hours, thanks to the UltraLite's lack of moving parts.

Figure 1-6: The NEC UltraLite.

From laptop to notebook

The UltraLite marked the line between what was then called a *laptop* to what is today called a *notebook*. While manufacturers had perverted the term laptop to include heavy, bulky portables that were anything but lap-friendly (such as the bowling ball-heavy Compaq III), the UltraLite raised the bar and created the notebook category.

Any laptop that weighs under 6 pounds and is less than an inch thick is technically a notebook. Some even lighter units earned the moniker *sub-notebook*. But keep in mind that all these terms are for marketing purposes; today, all of these computers, regardless of weight, size, or what the brochure says, are called *laptops*.

The modern notebook

As technology careened headlong into the 1990s, it became apparent that users were desperate for three things from their laptop computers:

- Light weight
- Long battery life
- Full hardware compatibility with desktop systems

Over time, all of these were achieved — but at a price. Today, the Holy Grail of a lightweight, PC compatible laptop that boasts a long battery life isn't elusive, it's just expensive:

- **Weight.** Depending on how much you want to pay, your laptop can be anywhere from ½-inch thick to just under an inch thick and weigh in at between 2 to 6 pounds, such as the IBM Thinkpad shown in Figure 1-7. The weight and size also depend on the features you want in your laptop, with more features adding more weight.
- **Battery Life.** While the batteries themselves haven't improved much in the past several years, thanks to power management hardware and software, modern laptops can extend battery life from the once-standard two hours to about three or four hours.
- **Hardware compatibility.** Since the late 1990s, all laptops come with color screens just like desktop systems. They also sport CD-ROM or DVD drives, though floppy drives are seldom found in a modern laptop (and then usually as an external device). Laptops also feature modems, networking, and expansion options. Special laptop microprocessors and other hardware have been developed over the years, keeping the laptop hardware small and energy efficient.

Figure 1-7: The author's IBM Thinkpad T-41 weighs in at 4 pounds.

The future of the laptop

Human laps aren't getting any smaller. Human eyes can only comfortably read text that's so big. But most importantly, human fingers have trouble with keyboards that are too tiny. Because of these limitations, the laptop of the future will probably remain the about same size as a laptop of today. (Even though scientists could make the keyboard and screen smaller, the human form wouldn't appreciate it.)

Technology will continue to make laptop hardware smaller, more energy efficient, and better able to handle the portable environment. But one area that needs vast improvement is battery technology.

The battery of the future will be the *fuel cell,* which is like a miniature power plant directly connected to your laptop PC. Fuel cell technology promises power that lasts for weeks instead of hours, which will prove a boon to portable gizmos of every kind — but only when it's perfected.

Presently, scientists are predicting that the first usable fuel cells will be available by the end of the decade, or around 2009. Until then, we'll have to slug it out with rechargeable batteries and power packs.

(Refer to Chapter 8 for more information on batteries as well as other power management issues.)

What about Tablet PCs?

This book doesn't cover the so-called Tablet PCs. These computers are essentially laptops, but without the keyboard; the tablet consists of only the monitor "half" of the laptop, on which you write information using a special pen or stylus. (Some Tablet PCs do have keyboards, though that kind of defeats the purpose.)

While the notion of the Tablet PC sounds intriguing (and I must admit that they are sexy), sales just aren't taking off. There's a reason for this: People prefer keyboards and want that method of input. Also the Tablet PC is really nothing new. Back in the early days of laptop computers, similar devices were introduced, and they too failed.

Unless someone dreams up some must-have reason for toting a keyboard-less laptop around, I predict that Tablet PCs will (again) drop off the computer radar screen.

Why You Need a Laptop

Obviously Adam Osborne was right: Computers need to be portable! The question should really be: Why buy a desktop computer that's stuck in one spot all the time?

Naturally, a desktop computer is more powerful, expandable, and cheaper than a laptop. *But you can't take it with you!* Well, you could, but by hauling all that desktop stuff around you'd really look like a dork.

On the other hand, it's impossible to look like a dork with a laptop. Imagine yourself sitting in that trendy coffee shop, sipping some overpriced caffeinated beverage while pouring over your e-mail and chatting on a cell phone — that's hip! That's so five-minutes-from-now!

Seriously, you want a laptop for one of the following reasons:

- **As your main computer**

  Why dither over saving money with a desktop when you really want the portability of a laptop?

  A desktop computer cannot pretend to be a laptop, but a laptop can certainly fake being a desktop: You can use a full-sized keyboard and monitor with your laptop. You can also connect any number of popular desktop peripherals such as a printer, scanner, external hard drive, and so on. But, unlike a desktop system, you're free to disconnect the laptop and take it with you whenever you want.

- **As a space-saving computer system**

  Unlike desktops, you don't have to build a shrine to your laptop computer — that is, you don't need a computer desk. If space is tight

in your house, apartment, or dorm room, keep the laptop on the shelf or in a drawer. Then set it up on the kitchen table or coffee table when you're ready to work. Forget about the constant mess and clutter that orbits the typical desktop computer station. Viva Adam Osborne!

- **As a second computer**

  Why buy a second desktop computer when you can get a laptop and enjoy not only the presence of a second computer but the ability to make that computer system portable? Further, you can network the two computers together, allowing them to share the Internet connection, printers, as well as data and files. But you still have the luxury of having one system that's portable.

- **As your on-the-road computer**

  Laptops let you take your work on the road. After a few moments of *synch* (transferring current files between your desktop and laptop, covered in Chapter 14), you're off and running to anywhere you like (though being in direct, bright sunlight can make it difficult to see the laptop screen).

  When you return from your "road warrior" trip, you perform another synch, and both computers are all caught up for the day.

- Laptops let you escape the confines of your office and do work anywhere you like for a few hours. Or if there is power at your location, you can plug in and work all day.
- The laptop lets you take your work with you when you travel. It lets you experience the reality of using a computer on an airplane (which isn't as sexy as it sounds).

Why You Don't Need a Laptop

Laptops are not cheap. They're also expensive to fix. They can easily get stolen. The battery life never lives up to the printed specifications. It's tough to get work done on a jet or in a café because people either look over your shoulder or ask you questions about the laptop. Ack! But those are minor quibbles.

Thanks to their light weight, long battery life, and increasing computing power, laptops make an ideal computer for just about anyone. If you don't own a laptop today, you will someday.

Taking that laptop off to school

Once upon a time, your fellow students just knew that you were a computer geek when you hauled up your ancient "microcomputer" for installation in your dorm room. Today, they just know you're a geek if you don't have a laptop. (In fact, laptops are cool; desktop computers are very *five minutes ago* on college campuses.)

Laptops allow you to bring a full-powered computer with you anywhere on campus. You can get work done in your dorm just as easily as you can in the library or anywhere else your feet take you.

Most colleges and universities provide a laptop requirements sheet that tells you which type of hardware you should look for when purchasing a laptop for school. (But before you go, please refer to Chapter 17 on laptop security.)