



The Compaq Portable II (left) is smaller and lighter than the original Portable and offers an AT-compatible 80286 processor.

By John Lombardi  
Review Board

The Compaq Portable earned an enviable reputation as a quality portable that offered all the power of a desktop IBM PC in a fully compatible, though somewhat hefty, package. Now Compaq has updated its venerable best-seller by substituting a PC AT-compatible processor, knocking off a few pounds, and cramming the systems into a smaller case. The result is another quality portable in the Compaq tradition. However, it has a few disadvantages, like a remarkably slow hard disk, a rather stiff price, and a somewhat insular attitude when it comes to third-party upgrades.

**FEATURES:** The Compaq line of portable computers has become complex. In addition to the Deskpro line of high-performance, PC- and AT-compatible desktop computers, Compaq continues to offer the original Compaq Portable, a PC-compatible based on the 8088 microprocessor; the Compaq Plus, an XT-compatible hard disk version of the basic portable; and the Compaq Portable 286, an AT-compatible with an 80286 processor and a high-speed, 20-megabyte hard disk.

In many ways, the new Compaq Portable II appears designed to split the difference between the basic Portable and the Portable 286. Priced between the two machines, it uses the same speedy 80286 microprocessor as the high-end model but only offers a slow 10-megabyte hard drive, like the older system, and a PC-compatible, 360K floppy drive rather than the 1.2-megabyte, AT-style floppy drive of the Portable 286. The Portable II is noticeably smaller and lighter than either of its predecessors. From the product literature, it appears to be positioned for those who need a standard PC-compatible portable with somewhat faster processing, but who don't need a full AT system.

The Portable II comes in three models, corresponding to different combinations of disk drives and memory. We tested the top-of-the-line Model 3, which includes 640K of memory, a 360K floppy drive, and a 10-megabyte fixed disk drive. The Intel 80286 microprocessor can run at speeds of 6 MHz, like the PC AT, or at 8 MHz for better performance. A socket is available for an 80287 math coprocessor.

The computer looks very much like the original Compaq, but one that slunk in the wash. It is about 1 to 2 inches smaller all around, and at 26 pounds, is about 5 pounds lighter. With its padded handle, this machine can be managed in airports more comfortably than its predecessors.

The AT-type keyboard is modified so that the function keys are across the top. This allows a smaller keyboard to fit the reduced dimensions of the machine. Light to the touch, the keyboard provides enough

tactile feedback for extended typing sessions, and also offers an adjustable audible key click.

Compaq's Portable II comes with four expansion slots, two standard PC- and two AT-compatible expansion slots. The Model 3 uses one of each kind for controllers, leaving one PC and one AT slot open for added memory, modems, or other devices. (The earlier Compaq models offer two or three slots free, depending on configuration.) The computer comes with a parallel and a 9-pin serial port, composite and red-green-blue color display connectors, an RF (radio frequency) output for connection through an RF modulator to a standard television set, and a light-pen connector.

Although the maximum main board memory is 640K, a plug-in board can add from 512K to 1.536 megabytes of memory without using an expansion slot. By using an expansion slot, another 512K to 2.048 megabytes can be added, giving you a theoretical memory capacity of 4.2 megabytes — 50 percent more than even the Portable 286. (The original Compaq is limited to 640K.)

The Compaq Portable II, like the PC AT, has a built-in, battery-supported clock that keeps the right time even when the machine is unplugged and also keeps some information about the hardware arrangement in memory, always available at start-up.

**PERFORMANCE:** In most respects, this machine performs as well as or better than an equivalent PC AT when it comes to processing speed. On the other hand, the hard disk drive doesn't even come up to the performance of the PC AT.

The Portable II has a dual-speed processor capable of running at the IBM standard of 6 MHz or at the high-speed, 8-MHz standard of many compatibles (also used on the new PC AT). At 8 MHz, programs such as 1-2-3, Wordstar, Multimate, and others zip along at very

impressive clips. Sluggishly performing software becomes agile, and long jobs are significantly reduced.

However, the Compaq hard disk only holds 10 megabytes, and there is no way to add another hard disk. The Compaq hard disk (made by Miniscribe in our unit) is somewhat slower, at a 105-millisecond rating, than an XT's 10-megabyte hard disk, usually rated at about 85 milliseconds. AT-compatible hard disks are significantly faster than this, on the order of 30 milliseconds.

Compaq claims a 400 percent increase in processing speed over the 8088-based original Compaq Portable. We tested these claims with some simple programs that use interpreted and compiled Basic to write lines to a disk. In addition, we used a standard 1-2-3 spreadsheet with a simple repetitive formula to test calculating speed. In all these tests the Compaq Portable II in fast (8 MHz) mode performs between three and five times faster than an IBM PC, and in slow (6 MHz) mode, about three times faster than a PC. The Norton Utilities System Information speed test indicates that the Portable II's processing speed is comparable to other dual-speed AT compatibles.

The Portable II is advertised as being compatible with software designed for the entire line of IBM PCs, from the basic PC to the AT. The Portable II, like all the members of its family, shares the same hardware characteristics that have made Compaq computers compatible with the PC family in the past. Compaq's list of tested software and hardware includes most major business programs and a number of memory boards from other manufacturers.

The one-third-height floppy disk drive had some difficulty reading one of our disks written on a stock PC drive. The Norton Utilities found nothing wrong with this disk, which could be read in a variety of other machines. This may indicate a Compaq

drive with somewhat less tolerance for errors than standard PC drives. Otherwise, all the software we tried on the system operated without difficulty.

System software for the Portable II is mostly standard issue MS-DOS 3.1 utility programs that perform virtually the same as they do on any machine running PC-DOS 3.1. However, Compaq's version of the operating system has some modifications. The mode command has options for setting the screen mode, key click, and processor speed.

Compaq's positioning of the Portable II is unclear, even to Compaq officials quizzed on the issue. For our ratings, InfoWorld defines a performance computer as having three basic features: an 80286 processor, a 16-bit add-on board bus, and a high-speed hard disk drive, typically 20 megabytes or more with an access time in the range of 30 milliseconds. The Portable II has two of these — the processor and AT add-on board compatibility — but not the fast disk drive. Since the Portable II seems designed to straddle both worlds, we will rate it both ways. Those looking for more performance in a basic computer can judge the system by the basic computer report card, and those looking for more portability in a performance computer can consider the performance computer report card.

As a PC compatible, the Portable II is too expensive to be an entry-level system. Instead, it offers the Portable owner an upgrade path into the world of the AT — as long as the user has no present need for a high-speed hard disk. Rated as a basic computer, the Compaq Portable II is a very good performer in processing power, and offers the user AT compatibility in both processor and add-on board slots.

Rated in the world of AT compatibles, the Portable II is faster than the original 6-MHz AT and comparable to its AT-compatible competitors. But it lags badly in hard disk performance and capacity. No 20-megabyte, high-speed drive is available for the system at this time. (Compaq officials hint at upgrades.) Because of the limited hard disk drive capabilities, as a performance computer we rate the Compaq Portable II poor in performance.

**DOCUMENTATION:** Compaq documentation has a reputation for elegant presentation and clarity. This machine comes with two main manuals in addition to an *Operations Guide*. The MS-DOS manual is excellent, with a good index, clear explanations, and a readable typeface. Likewise, the Basic, Version 3 manual demonstrates the same careful approach. This manual also includes information on compatibility of this Basic with other Basics. The *Operations Guide* includes essential technical information about installation of option boards, speed of processor, and other important data for the average user.

Technical details can be had from the

## Compaq Line Gains Addition

### Also included

- Hardware Buyer's Guide
- Review Responses

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*Technical Reference Manual*, which is an extra-cost option. We looked at the *Technical Reference Manual* for Compaq 286 products, which was sent in our package. It's a good technical manual but unfortunately does not cover the unique hardware features of the Portable II.

This machine's standard documentation receives an excellent rating thanks to its quality and comprehensiveness. (We did not rate the technical manual because it is not part of the standard package.)

**EASE OF USE:** The Portable II has some additional features that may help make this machine easier to use than others. A utility is provided that automatically makes backups. It formats a disk with system tracks, copies files from the master disk, and then creates a configuration file and an auto execute file, all in one operation. This is of some utility, but most users will want to prepare their own configuration and auto execute files to fit the special needs of their software.

The operating system disk also includes a diagnostics program and utilities for handling tape backup, although there is no tape option available for the Compaq Portable II.

The dual-mode screen has sharp monochrome characters in a medium-persistence phosphor that leaves a faint ghost of the text for a few moments as the computer scrolls rapidly, similar to the behavior of the IBM's monochrome screen. The graphics mode presents a respectable version of the IBM Color Graphics Card operating a green screen monitor. The effect of a small screen is more noticeable in graphics mode than in monochrome, and we would not recommend the 9-inch monitor in graphics

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mode for long sessions. However, in monochrome mode, the clarity and precision of the text display can sustain lengthy sessions.

The Portable II shifts from monochrome to graphics modes either through a software command or a Ctrl-key combination. A similar switch changes between fast and slow speeds, with a two-beep response for fast and a single beep for slow. The loudness of the key click is adjusted with another Ctrl-key combination. Though these work well, users need to be aware of possible conflicts with software that may have other meanings for these key combinations. The keys used are the Ctrl key and Alt key in combination with the greater-than, less-than, plus and minus, and backslash keys.

Because of the extra utilities, the inclusion of color emulation and a diagnostics program, and the convenience of the speed and keyboard click switching and the capability to switch between monitor modes, we rate the Compaq Portable II very good in ease of use.

**SETUP:** Nothing could be easier than beginning to use this machine. All it takes is opening the case, taking out the power cord, plugging it in, and turning the computer on. Initial setup is very easy, and the instructions provided couldn't be more specific. The diagnostic program and the setup program make it easy to prepare the machine for use. This is a plug-and-go machine that we rate excellent in setup.

## InfoWorld

### REPORT CARD

#### PERFORMANCE COMPUTERS COMPAQ PORTABLE II

<b>4.0</b>	Unacceptable	Poor	Satisfactory	Very Good	Excellent
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Performance	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Documentation	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Ease of Use	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Setup	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Serviceability	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Value	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**SERVICEABILITY:** The Compaq Portable II, like other Compaq portables, is built with bracing and shock mounting to make the machine withstand the rough treatment inherent in portability. It's no small task to open this machine to install option boards, but the supplied Torx screwdriver and clear instructions make the job simple. Unfortunately, it is easy to strip the special Torx screws so that you can't remove them easily. The machine is laid out well, most components are accessible, and though the inside is cramped, service should not be a major problem.

The Compaq warranty is for a standard 90 days, including parts and labor. Compaq support is supposed to be provided by dealers, but there is a phone number for information. We called and found the responses to be helpful and informed, although the response to our question about the availability of a 20-megabyte hard disk from another manufacturer was not satisfactory. You should be able to put a hard disk on a card into the Compaq Portable II, but Compaq wouldn't provide any information on the compatibility of another manufacturer's hard disk.

Registered owners receive a magazine dedicated to Compaq computers and information about enhancements and other Compaq products.

We expect, given the manufacturer's reputation, that this machine will be reliable. The quality of service you get will depend on the dealer you use, so despite the quality of design and manufacture, we cannot rate serviceability higher than satisfactory.

**VALUE:** Value is the only category besides performance affected by the choice between the Portable II as a basic computer or as a performance computer. This machine has a list price of \$4,799 for the 640K, hard disk model, and \$3,599 for a two-drive, 256K system. As a performance computer, this machine is appropriately priced compared to the AT and to other AT-compatible portables. In fact, this is only the third AT-compatible portable we have seen come to market, the first being the Compaq Portable 286, which with a high-speed, 20-megabyte hard disk costs almost \$7,000 and weighs 5 pounds more.

The other competitor for a portable AT-style machine is the Corona ATP, also with a high-speed, 20-megabyte hard disk ("The Corona ATP Is Faster Than the IBM PC AT, but It Has Flaws," January 27, 1986), and it weighs almost 40 pounds more. In response to the recent price cut by IBM, Corona cut its prices 30 percent, going from \$800 more expensive than the Compaq Portable II to \$900 less expensive. This dramatically changes the value picture for both machines.

We expect a volatile pricing situation for the next few months as other vendors, including perhaps Compaq, seek a pricing

The Compaq Portable II upgrades the basic Portable by adding a fast AT-compatible 80286 processor and trimming its size. As an AT-level machine, it suffers from a slow 10-megabyte hard drive; as a fast PC-level system, it offers fast processing but at a high cost.

List price: \$3,499 (basic model); \$4,799 (with 10-megabyte hard disk, 640K, one 300K drive). Models include optional speed 6 and 8-MHz 80286 processor, socket for 80287, two AT and two PC expansion slots, parallel and serial ports, light-pen connector, RF connector, composite and RGB monitor connectors, 9-inch monochrome screen with IBM CGA emulation. Compaq Computer Corp. 20655 FM 149, Houston, TX 77070; (800) 231-0900 or (713) 370-0670 in Alaska.

## InfoWorld

### REPORT CARD

#### BASIC COMPUTERS COMPAQ PORTABLE II

<b>6.3</b>	Unacceptable	Poor	Satisfactory	Very Good	Excellent
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Performance	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Documentation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Ease of Use	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Setup	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Serviceability	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Value	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

equilibrium. At the moment, we can rate the Compaq Portable II as a satisfactory value for a performance computer on the grounds that it costs about the same as a desktop PC AT with a 20-megabyte hard disk; in effect, it trades off disk performance for a high degree of portability.

As a basic computer, the Compaq has a lot harder time justifying its price. It is \$1,500 more than the original Compaq Portable. Many will find they can add performance to their basic computers in a more cost-effective manner by other means, including speed-up boards. The AT compatibility of the slots and the smaller, neater, lighter package still don't seem to make up for the price. We rate the Compaq Portable II poor in value in the basic computer category.

The result of Compaq's efforts is an interesting, full-feature portable that bridges the gap between the standard IBM PC-compatible portable and a high-performance, PC AT-compatible portable. It offers all the functionality of a desktop computer in a portable package. It has high memory capacity, a good display, compatibility with both the PC and AT, improved performance over the original Compaq Portable, and weighs and costs less than the Compaq Portable 286. The Compaq Portable II rates well as a basic computer; those looking for a performance computer will find the slow hard disk drive a major disadvantage. The value issue is subject to change as prices in the PC and AT market undergo change; for now, the Compaq is expensive in either category.



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