



PC WEEK

DECEMBER 18, 1984

VOL 1 NO. 50 \$2.95

THE NATIONAL NEWSPAPER OF IBM STANDARD MICROCOMPUTING

HP, AT&T to Introduce Easy-to-Use UNIX PCs

Portable from HP Geared to Science And Engineering

Hewlett-Packard is expected to release a 68000-based UNIX microcomputer with an easy-to-use interface and a mouse in January.

HP's entry, reportedly dubbed the Integral, is a single-user portable aimed at engineering and scientific labs.

Sources said the HP Integral will have several unique features. The UNIX kernel will be stored in ROM and the unit will have a CMOS-based RAM disk for frequently used programs such as utilities. The machine will have a built-in 3½-inch floppy-disk drive. All of HP's printers, plotters, hard-disk drives and other peripherals are said to be compatible with the unit.

The 24-pound computer reportedly incorporates a bright amber, bit-mapped electroluminescent display.

Sources said use of this flat-panel technology helped keep the weight and bulk of the Integral to less than that of a 30-pound Compaq portable even though the HP includes a built-in Thinkjet printer mounted above the full, 25-by-80-line screen.

The unit incorporates HP's HPIL and HPIB interfaces for use with data acquisition and testing gear. The price is about \$5,000.

—K. Strehlo

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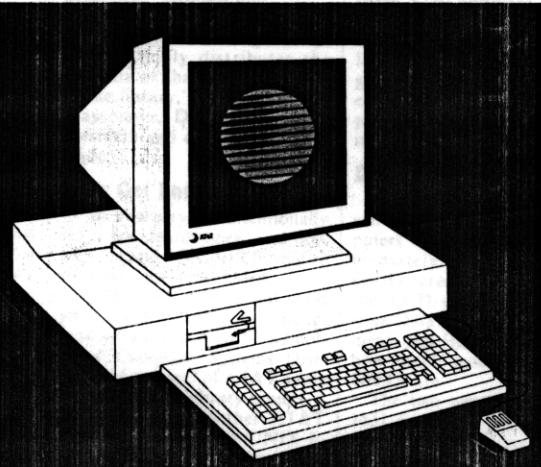
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AT&T's PC 7300 features a mouse, software to ease UNIX V use and a bit-mapped display with "Macintosh-like" resolution.

Optical Disks To Expand PC Mass Storage

By David Mc Gorry

NEW YORK—Hitachi Ltd. has released a read-only, optical-disk memory system that is one of the first such devices to greatly expand the PC's mass-storage capabilities. The unit can store 550 megabytes on a disk the size of a 45-rpm record.

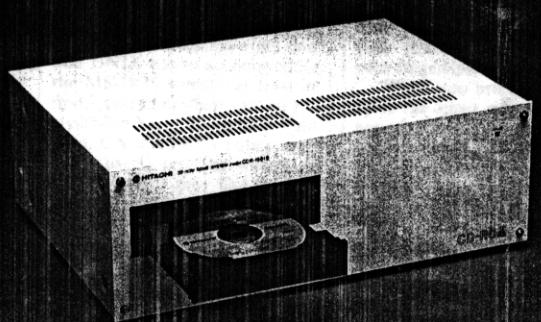
The introduction by Hitachi follows similar release by the Sony Corp. Other such products will soon be forthcoming from Panasonic Corp., Matsushita Ltd., Phillips Corp. of North

America and possibly IBM and Digital Equipment Corp.

The new Hitachi system, called the Hitachi CD-ROM, is designed to store color graphics and text in a read-only format. It runs on the IBM PC, XT, AT and 3270 PC, according to a company spokeswoman.

The new disk will be marketed in the United States to OEMs through Hitachi America Ltd., the American subsidiary of Hitachi Ltd., the spokeswoman said. The company plans to be producing the system at full steam by the middle of next year and will expand its marketing channels to include retail stores by the end of 1985.

Jeff Thompson, Hitachi America's national sales manager for (Continued on Page 8)



Hitachi's CD ROM can hold as many as 300,000 pages of text.

The PC 7300 Boosts UNIX V

By Sam Whitmore

MORRISTOWN, NJ—AT&T is preparing to introduce the PC 7300, a UNIX V microcomputer with a mouse and windowing user interface.

The machine is a Motorola 68010-based voice/data workstation built jointly by AT&T and Convergent Technologies, of Santa Clara, CA.

According to several sources, the PC 7300 will offer 512K bytes of standard memory expandable to 2 megabytes; a half-height, 5½-inch 10-megabyte hard disk; a 5¼-inch floppy-disk drive; a proprietary bus structure with three available expansion slots and a 12-inch, bit-mapped monochrome display with "Macintosh-like" resolution. An AT&T

source said the machine also contains a 1200-baud modem on a chip, telephone-management software and a network interface. (See related story, Page 6.)

Priced to Match AT

Most sources said the PC 7300 will cost about \$5,500, the approximate price of a fully configured IBM PC AT. They differed on AT&T's official announcement date, however. Some said the PC 7300 would be rolled out at next month's Uniforum trade show in Dallas; others said the date could be as late as March. An AT&T spokesman declined to comment on unannounced products.

Sources said the PC 7300 will be fully compatible with AT&T's (Continued on Page 6)

Unified Front Promotes Windowing Standards

By Kevin Strehlo

MOUNTAIN VIEW, CA—Microsoft, Digital Research Inc., Intel and other companies are beginning the process of creating an American National Standards Institute (ANSI) standard for graphically oriented windowing environments.

The effort is also viewed by some observers as the creation of a unified front to prevent IBM's *TopView* from becoming a de facto standard.

"It's obvious that windows are a feature needed to be competitive

now. And if ANSI doesn't come up with a standard, some de facto standard will give some large company [IBM] a significant advantage," said Don McCord, Intel's manager of software. McCord was one of several participants in a meeting here recently to discuss the move.

Other companies involved are Apollo, Masscomp, Sun Micro Systems, Olivetti, Motorola and Nova Graphics.

The benefit to personal-computer users from an ANSI standard is product differentiation (Continued on Page 4)

LATE NEWS

Graphics, Voice/Imaging Products Planned by IBM

The new year will bring IBM product introductions in graphics software and voice/imaging integration. Lynn Russell, manager of IBM marketing programs and application workstations, told a meeting of the Personal Computer Professional Association in Long Beach, CA, last week to expect IBM to increase its use of graphics to ease the user interface. Announcements of voice/imaging packages are also forthcoming next year, Russell said.

IBM Tracking Down 'Gray-Market' Sales of PCs

At IBM's request, computer dealers are matching customer names with PC serial numbers to determine where its PCs are going. It's all part of a serial-number-tracking system to extinguish "gray-market" sales of IBM PCs. "I don't think anyone really knows how big the (Continued on Page 4)

UNIX V Library Program Stalled By Complexities

By Sam Whitmore

PACIFIC GROVE, CA—Uncertainty surrounds the UNIX V library, the AT&T/Digital Research Inc. (DRI) joint venture to develop and market UNIX V applications for AT&T and other microcomputers, including IBM's PC AT.

Representatives of AT&T and DRI said recently that the crop of UNIX V applications promised by year's end has been delayed, probably until next month's Uniforum trade show in Dallas.

They added that the administration of the UNIX V library program itself is being reevaluated.

When it is finally completed, the AT&T/DRI UNIX library program will yield about two dozen UNIX V applications for micros based on Motorola's 68000 series and the Western Electric WE32000 chip, as well as the PC AT's Intel 80286 chip.

Where's the Demand?

"I don't know any retailers who are crying, 'Give us UNIX and Xenix!'" Do you?" asked Kathy Lane, an analyst with Dataquest Inc. in San Jose, CA.

"I don't think either of those operating systems will make a dent in the established [PC-DOS] software base, at least not for a long time."

The delay in completing the UNIX V applications was unavoidable, according to Karen Kelman, DRI's marketing manager for the UNIX V library. "A lot of the library's [UNIX V] programs were written in C for [PC-DOS] and really needed some work," Kelman said.

"It took more time than we thought to whip the programs into shape," Kelman added.

The AT&T Strategy

According to a source close to the project, AT&T reportedly seeks to confine DRI's future role in the library project to distributing the UNIX V programs, an arrangement that would bring future UNIX V software development in house and route software revenues exclusively to AT&T.

The reason, the source explained, was that AT&T now has experience developing microcomputer software and no longer must rely on the expertise of Digital Research.

"There are some forces within AT&T who feel threatened by our existence," said Bruce Weiner, DRI's director of the UNIX V library. "They don't want a software publisher like us tied so closely with [AT&T] because we can influence how UNIX V is implemented on their machines. We also compete with AT&T's own software-development efforts, which proceed independently of

the [UNIX V] library," Weiner said.

AT&T and DRI spokesmen said that, to start, AT&T provided much of the working capital and DRI provided much of the engineering and marketing expertise for the library. How the programs ultimately would be sold and distributed was not firmly arranged, however.

Now that the program is about to announce its first group of products, AT&T and DRI are said to be bickering about the role each company will play in the "independent" business unit.

"One level of our discussions has been whether Digital Research simply distributes the software or shares in the profits of the library," explained Steve Maysonave, DRI's senior vice president and director of world trade.

Let's Get Formal

"In February, we intentionally left a few details open, and now we're saying, 'OK, let's formalize the next step,'" he added.

"[DRI has] done a real good job," said Dan Langford, manager of software for AT&T Technologies' Computer Systems Division and overseer of AT&T's role in the UNIX V library project.

When asked whether AT&T might try to keep the UNIX library business unit for itself now that AT&T has experience in the micro business, Langford said that people "should not oversimplify the issues [AT&T and DRI] are discussing."

"We know a lot more now; there's no question about it." ■

PC 7300

(Continued from Page 1)

System 85 private-branch exchange (PBX) telephone-switching system and the UNIX V-based 3B computer series. IBM PC users should be interested in the PC 7300, however, because later this year, the machine reportedly will be equipped with an optional add-on board that can run MS-DOS (and presumably, PC-DOS) software, and AT&T hopes its new window-and-mouse user interface will make the PC 7300 the first truly easy-to-use UNIX V micro.

Wade-and-See Approach

"[AT&T Computer and Workstation Systems Vice President] Jack Scanlon has often said that UNIX has to accommodate the MS-DOS world—at least at first," said James Sullivan, an analyst with Yates Ventures in Palo Alto, CA. "AT&T's policy is to [have users] test the waters of UNIX, and if they like it, they can migrate over."

"It's not in our interest to erode the installed base of PC-DOS machines," explained an AT&T source.

"We realize the 7300 needs additional boards for MS-DOS and Ethernet compatibility, and they're coming. But we designed

GRiD Units Get Bright, Sharp Screens

By Kevin Strehlo

GRiD Systems may have the answer to those dim, dim LCD blues: a 128-character-by-25-line electroluminescent screen, together with new tools to simplify custom programming of the first, and still brightest, of the briefcase computers.

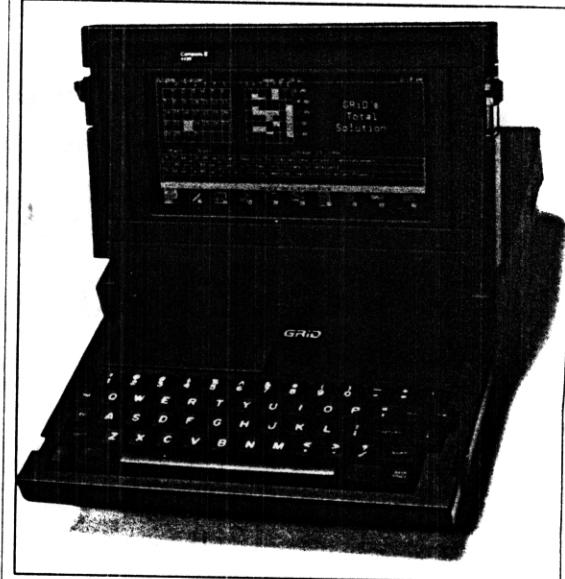
Last week, GRiD added two portables with larger, 8½-inch diagonal, bright amber screens and three \$250 software programs (*GRiDPaint*, *GRiDMaster* and *GRiDTask*) to bring its product line to 10 portables and 17 integrated-software packages. The entire line runs under GRiD's proprietary multitasking operating system.

Difference in Price

Anyone who has done comparison shopping for briefcase computers will notice two things immediately: how readable the GRiD screen is compared with the LCD-screen lap-top units from Data General, Texas Instruments and Hewlett-Packard, and how much more expensive the GRiDs are.

The two new GRiDs, Model 1131 and 1139, providing 384K bytes of bubble memory and 256K and 512K bytes of RAM, sport list prices of \$6,795 and \$7,995, respectively.

"But for sales presentations, just as one example, the cost can be justified easily because it's really the only lap-top that can do the job," said Alan Lekhof, GRiD's



GRiD is offering 128-character-by-25-line screen.

vice president of marketing. The brightness and high resolution of GRiD's monitors, compared with the dim, view-angle-sensitive LCD portables, closes the argument, he said.

Lekhof further defended the GRiD's higher price: The LCD portables are adjuncts to a desktop machine because of the screen limitations, while the GRiD portable's display "actually has better screen resolution

than a CRT, so it can serve as both a portable and desktop unit."

The GRiD executives expressed confidence despite the flurry of lap-top introductions. "They fit in a different product segment," President Sam Wiegand said. "I admit it was tough during all the rumor and expectation that preceded the DG/One," he said. "The actual introduction was a blessing." ■

this machine to support up to four users on UNIX V, and let me tell you, it can make a single UNIX user very, very happy."

A source at Convergent Technologies described the window-and-mouse user interface as "a shell on a shell," which means that the arcane inner workings of UNIX are covered by two layers of simpler, interpretive software. PC 7300 users see only the outer

layer of this software, which consists of the unintimidating pull-down menus and icons that can be manipulated either by a mouse or by keyboard function keys.

"I expect the user interface to be ported to the 3B2 and future UNIX V-based AT&T micros," said Dan Rosenbaum, an analyst with the Yankee Group in Cambridge, MA. "It's so complete that you won't have to use the

Phone Management Is Key Attribute

The AT&T PC 7300's built-in telephone-management software is the machine's most attractive feature, according to several sources who claim to have used it. "It's like having your Rolodex on line and at your fingertips," said one.

"When you bring the mouse up to the upper right-hand corner of the screen, you click a button and a 'call screen' appears in the top middle of the screen," said another user. "That facility contains an auto-dialer that can automatically connect to a remote PC, a terminal or on-line database."

The phone-management software has a database into which users can enter phone numbers. Through the call screen, a user

can dial a number simply by pressing a function key.

An AT&T source said that users can take notes in a window-based notepad during a phone call, while the 7300 logs the duration and the cost of the call.

The PC 7300 can support two telephone lines with voice and data communication, sources said. That means a user can attach the machine to a regular phone extension and a private line, or can have a "voice line" and a "data line."

Users reportedly must attach their own telephones to the RJ-11 jack in the PC 7300. The "phone company" has apparently chosen not to build a telephone into its own computer.

—S. Whitmore

keyboard at all if you don't want to; that's why they built a shelf for it."

Still unclear is how much new software will accompany the PC 7300 introduction. Representatives of the AT&T/Digital Research "UNIX library" have promised a series of business applications and programming languages for the 7300. AT&T also is known to have constructed its own independent software vendor (ISV) program for software development.

An AT&T source predicted that universities and software developers will be among the first buyers of the PC 7300. "It'll be a hacker's dream," he said.

Others are more reserved. "Having only a 10-megabyte hard disk on a UNIX system is absurd," said David Fiedler, editor of the UNIX newsletter *UNIQUE*. "UNIX itself takes up a good portion of [the hard disk]. And trying to support four users under UNIX could cause performance degradations that could turn users off to UNIX."

"There's several other voice/data workstations ... to compete against," said analyst James Sullivan. "... and none has sold especially well. Of course, if any company has sufficient clout to make a machine like this viable, AT&T has." ■