VOLUME 11 NUMBER 2 FEBRUARY 1985 **$2.95**

Creative Computing

THE #1 MAGAZINE OF COMPUTER APPLICATIONS AND SOFTWARE

4 NEW NOTEBOOK PORTABLES

IN-DEPTH EVALUATIONS:

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Lotus Symphony
Mindset Computer
NEC APC III
Amplot II
Ven-Tel Modem
DR Draw and DR Graph

Buyer's Guide To Color RGB Monitors

SPECIAL REPORT:
Choosing and Using Telecommunications Software

Tomorrow's Technology: Color LCDs

Double Hi-Res Graphics For Your Apple

Michael Crichton: Hackers Are OK

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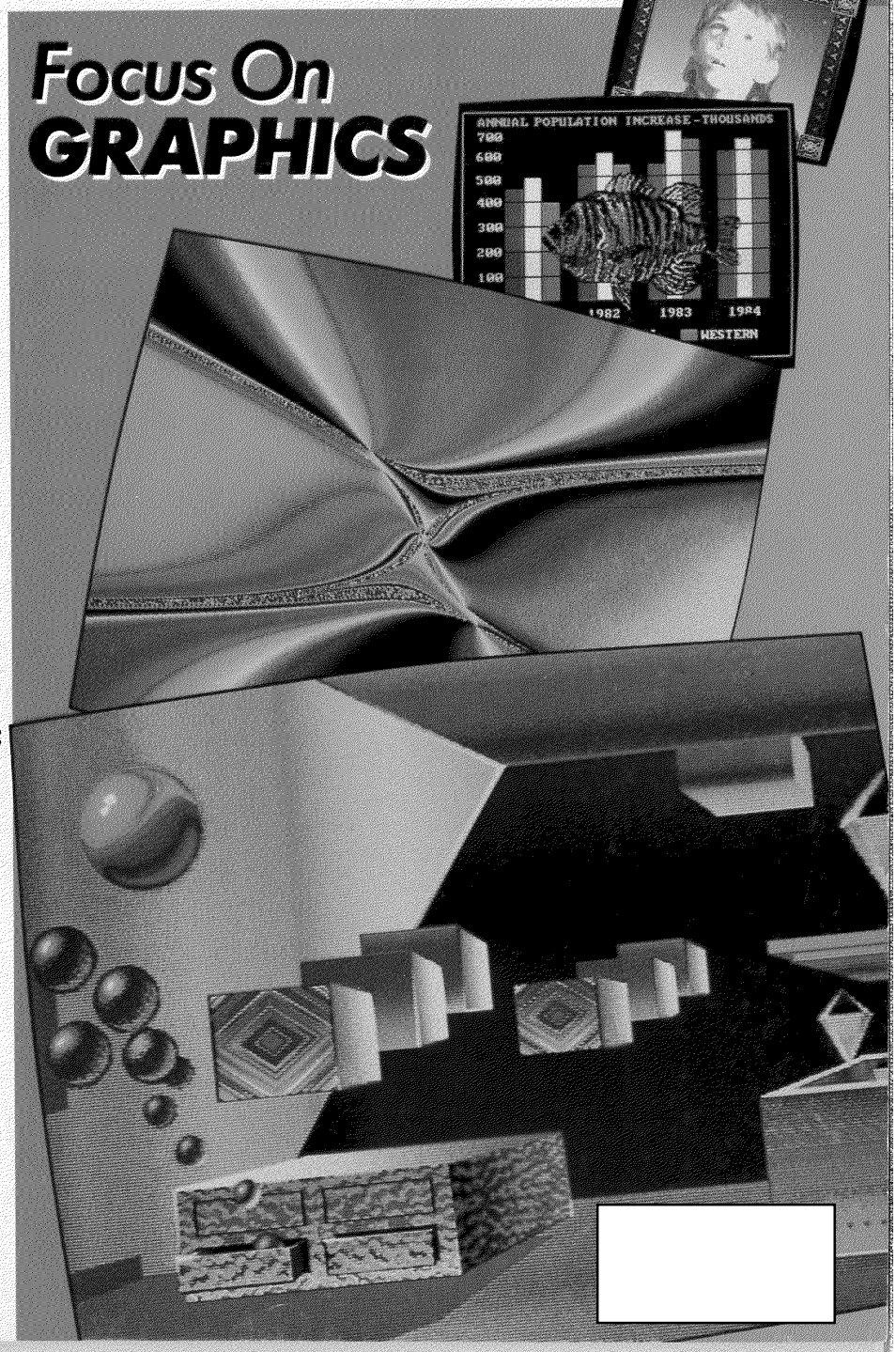

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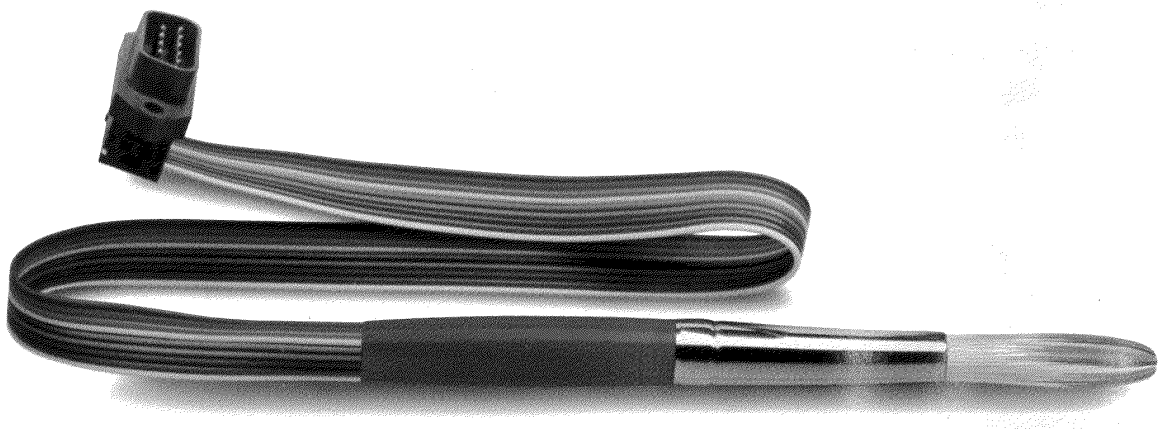

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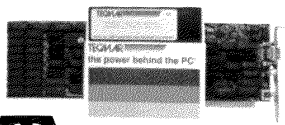

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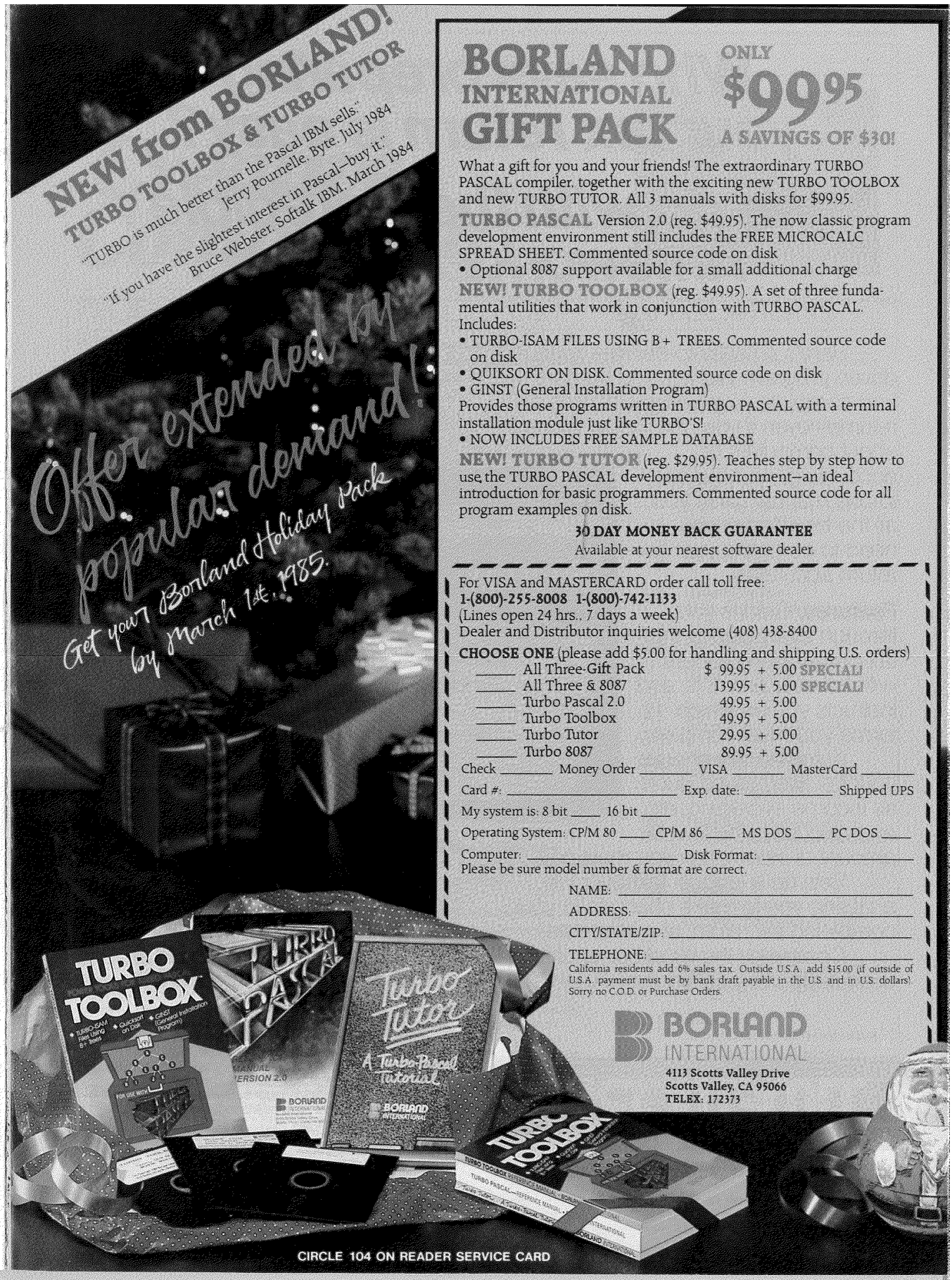

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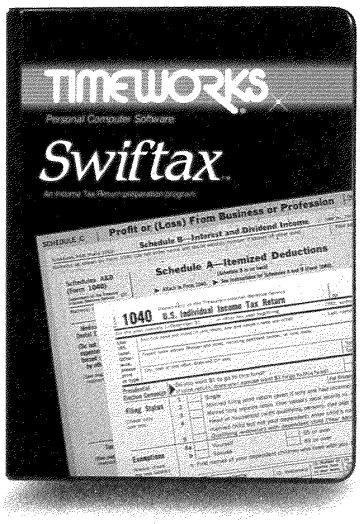

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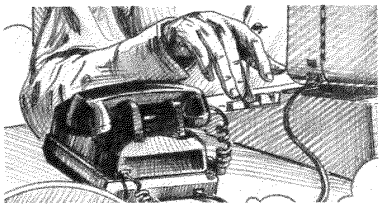

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Cover credits (top to bottom): Screens 1, 2, and 4 created with Lumena Graphics System. Copyright 1985 Time Arts Inc. A review of a subset Lumena system for the Mindset computer appears on page 52. Cover screens were created with the ultra hi-res Tesserac frame-buffered Lumena System. We will devote a feature review to this system in an upcoming issue. Screen 3 was created on an Apple II running a Vectrix 384 graphics system. The image is a plot of a three-dimensional function, inspired by an article in the December 1978 issue of *Creative Computing*. Copyright 1985 Applied Analytics Inc.

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INPUT/ OUTPUT

Revised Kids On Keys

Dear Editor:

I am writing in response to your October review of the Apple version of our product, Kids On Keys.

You are absolutely right. The version your reviewer, Penny Smith, used was far too difficult for the intended age group for the program, kids aged 3 to 9. The problem was identified by our staff two months ago and has been corrected. The corrected version is now available in stores across the country.

Consumers who have purchased the old, faulty version can send that disk to our customer service department and we will be happy to send them a new disk free of charge.

William H. Bowman, Chairman
Spinnaker Software Corp.
One Kendall Square
Cambridge, MA 02139

Tricks and Treats

Dear Editor:

Thank you for the tenth anniversary issue of *Creative Computing*. I saw myself in several of the now successful people who started large companies with little more than dreams—especially in the story of Forrest Mims parking cars with an engineering degree.

I'd like to offer a prediction for the future of computing. The twentieth anniversary issue of *Creative Computing* will contain an article by a computer snob—some kid now in high school learning Basic, who will state that to be a *real* computer, a machine must have 30Mb of memory, voice recognition, a 64-bit address bus, and artificial intelligence in ROM.

I also predict that the public will swallow the AI myth hook, line, and sinker, and fail to realize that AI is based on the same kind of magic used by Blackstone and Edger Bergen. (The difference between Blackstone and today's computer science magicians is that Blackstone knew that it was only a sophisticated trick!)

Steve McGrew
RAM-BAM Arts & Games
617 Constitution Dr.
Orlando, FL 32809

Selectricity

Dear Editor:

In one area of history, your publication has been deficient. I happen to be a strong fan of standard electric typewriter keyboard layouts for computers. However, I cringe when I read, for the umpteenth time, "why didn't IBM use its Selectric keyboard on the IBM PC."

For starters, the standard arrangement of keys on an electric typewriter (¢ over 6, * over 8) existed before IBM introduced the first Selectric typewriter back in 1961. In fact, it wasn't until the Selectric II that the IBM Selectric conformed to the standard completely, by placing the exclamation point over the numeral 1.

Lately, inexpensive daisywheel-based typewriters have been making inroads into the market for the good old IBM golfball. So, with the introduction of its Electronic Typewriters, models 30, 40, 50 and 70 (since superseded by the models 65 and 85) and the Selectric III, IBM decided to match the daisywheel in one area by increasing the number of characters per element from 88 to 96.

For mechanical reasons, the printable character keys on an electric typewriter, even a Selectric, must be grouped closely together. Thus, the offending key between the lefthand Shift key and the letter Z was born. To convince people to continue buying IBM typewriters, and that this new arrangement wasn't all that bad, IBM then copied the arrangement to its other products—the IBM 3101 ASCII terminal, new terminals in their 3278 line, and the Displaywriter. And, of

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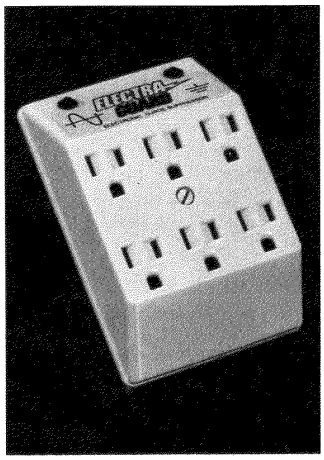

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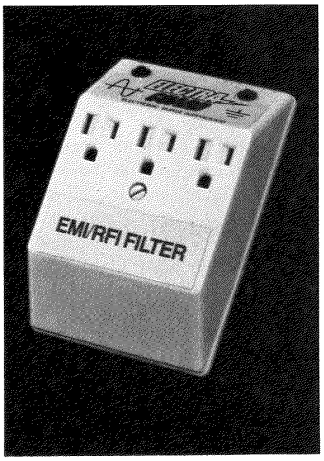

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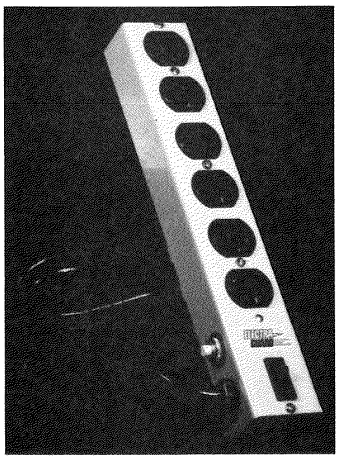

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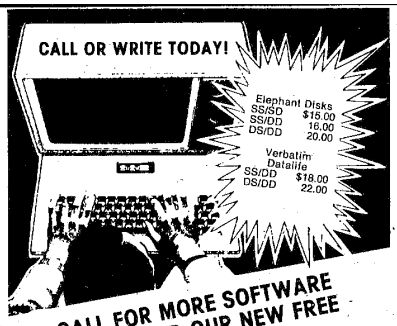

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course, when it came out, the IBM PC.

So, we don't have one unaccountable stupidity on IBM's part, but instead a series of little mistakes, each one of which seemed reasonable at the time.

John Savard
#1, 10737-116th St.
Edmonton, AL
T5H 3M3

Eei Ee I/O

Dear Editor:

For the past few days, I have been thumbing through your excellent magazine, admiring the interesting articles and drooling over the ads. You are to be congratulated for making an excellent magazine fly for ten years.

I have decided to start a user's group for farmers using computers. This would give farmers and agribusinessmen a means of exchanging information and a means by which newcomers in the farm computer field could get help with special problems that more experienced farm computer operators might already have overcome.

I would welcome correspondence from readers who might be interested.

Kelly Klaas
K-K Land & Livestock
Rt. 1 Box 4133
Twin Falls, ID 83301

NOTICES

Let Us Do The Typing

Many of the programs that appear in *Creative Computing* are available for direct downloading from the Creative Computing Special Interest Group (SIG) on CompuServe. In addition, the SIG features a public bulletin board, "mailboxes" for each of the regular columnists, a street price index, and regularly scheduled rap sessions with editors and contributors. To get the SIG quickly once you are logged on, simply type GO PCS 22 at any prompt.

Reach An Editor Quickly

Want to reach Betsy Staples, John Anderson, Dave Ahl, or another editor in a hurry? You can do so via MCI Mail. Send to BSTAPLES or account number 257-0077.

Innovative Educational Applications

A national conference, "Innovative Microcomputer Applications in School Programs" will be held March 31—April 2, 1985 at the Baltimore Plaza Hotel in Baltimore, MD. The program is designed for computer studies directors, K-12 teachers, and administrators. For information, contact Melinda Curtis, Friends School, 5114 N. Charles St., Baltimore, MD 21210. (301) 435-2800.

ACT Apricot Address

Since we ran our reviews and previews of the ACT product line, the company has moved to new quarters. You can contact them at ACT Computers, Inc., 3375 Scott Blvd., Suite 342, Santa Clara, CA 95954, (408) 727-8090.

Free Computer Handbook

Trends in Information Technology: 1985 is an excellent 80-page handbook for executives and others who want a grounding in the effects of computers—technological, social, and economic—as well as trends in information systems, network architecture, and system development. The book closes with a series of specific (and pragmatic) action recommendations for the coming year. The book is free from your local Arthur Anderson & Co. office, or write Arthur Arthur Anderson & Co., 69 W. Washington St., Chicago, IL 60602.

New Address for Hope Center

The current address for the Hope Center "Hands Off Program Experience" (see "Of Passion and Pet Projects" by Peter McWilliams, Nov. 1984) is Hope Center, Attn: Gerry Schwartz, c/o Voice Prints, Inc., P.O. Box 16171, Irvine, CA 92713, (714) 756-9099.

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SQUEEZE MORE OUT OF EVERY ON-LINE MINUTE.

WITH NEW VIDTEX™ COMMUNICATIONS SOFTWARE FROM COMPUSERVE.

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CompuServe's new Vidtex™ is compatible with many personal computers sold today (including Apple,® Commodore,® and Tandy/Radio Shack® brands). And it offers the following features*–and more–to let you communicate more economically with most time-sharing services (including CompuServe's Information Service).

Auto-Logon. Lets you log on to a host simply and quickly by utilizing prompts and responses defined by you. Also allows quick transmission of predefined responses to host application programs after logging on.

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Error-Free Uploading and Downloading. CompuServe "B" Protocol contained in Vidtex lets you transfer from your computer to CompuServe and from CompuServe to your computer anywhere in the country. Also provides error-free downloading from CompuServe's extensive software libraries.

Full Printer Support. Printer buffer automatically buffers characters until printer can process; automatically stops on-line transmission when full; and automatically resumes transmission when capacity is re-established. Also, lets you print contents of textual video screen or RAM buffer at any time.

Capture Buffer. Saves selected parts of a session. Contents can be written to a disk file; displayed both on and off line; loaded from disk; and transmitted to the host.

On-line Graphics. Integral graphics protocol displays stock charts, weather maps and more.

If you are already a CompuServe subscriber, you can order Vidtex on line by using the GO ORDER command. Otherwise, check with your nearest computer dealer; or to order direct, call or write:

CompuServe

P.O. Box 20212, 5000 Arlington Centre Blvd.
Columbus, Ohio 43220

1-800-848-8199
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*Some versions of the Vidtex software do not implement all features listed.

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Introducing the most powerful

The new IBM Personal Computer AT.

Hold on to your hat.

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It's got the power (and price) to surprise you. In many ways.

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With the IBM Disk Operating System, the IBM Personal Computer AT can use many programs from the fastest-growing library in the personal computer software industry.

The IBM Personal Computer AT is also available with up to 3 million bytes of user memory to run multiuser, multitasking operating systems such as XENIX™. Volume upon volume of information is available at your fingertips. You can customize your system to store up to 20,000 pages of information at one time. And its keyboard helps you use all of this computing power more easily.

This new member of the IBM PC Family is a powerful stand-alone computer that can also be both the primary file server and a station on your network. With the new IBM PC Network (which is so easy to connect you can do it yourself), the IBM Personal Computer AT can share information with IBM PCs, PC/XTs and IBM *Portable* PCs.

IBM Personal Computer AT Specifications

User Memory	**Diagnostics**
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Microprocessor	Parity checking*
16/24-bit 80286*	CMOS configuration table with battery backup*
Real and protected modes*	**Languages**
Auxiliary Memory	BASIC, Pascal, FORTRAN, Macro Assembler, COBOL, APL
1.2MB and 360KB diskette drives*	**Printers**
20MB fixed disk drive*	Supports attachment of serial and parallel devices
41.2MB maximum auxiliary memory*	**Permanent Memory**
Keyboard	(ROM) 64KB
Enlarged enter and shift keys	Clock/calendar with battery*
84 keys	**Color/Graphics**
10-foot cord*	Text mode
Caps lock, num lock and scroll lock indicators	Graphics mode
Display Screen	**Communications**
IBM Monochrome and Color Displays	RS-232-C interface
Operating Systems	**Networking**
DOS 3.0, XENIX*	High-performance, high-capacity station on the IBM PC Network*

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The new IBM Personal Computer AT has the power, compatibility and expandability many PC users need, at a very appealing price.

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personal computer IBM has ever made.

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XENIX™ is a registered trademark of Microsoft Corporation.

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INDUSTRY INSIDER

David H. Ahl

Red Ink and Layoffs

Latest casualities in the personal computer market: **Otrona Advanced Systems**, maker of a transportable IBM clone. The company plans to liquidate rather than try to reorganize under the protection of Chapter 11. **Franklin Computer**, now operating under Chapter 11, has been unable to find a buyer or merger partner, and also plans to liquidate.

In 1973, Archie McGill, the youngest vice president of IBM, left for the greener pastures of AT&T. Eight years later, the feisty McGill departed AT&T to assume the presidency of Rothschild Ventures, a venture capital firm. A major venture, of which McGill became chairman, was **Knoware, Inc.** of Cambridge, MA. The company, founded by two MIT professors, marketed a software package that purported to teach executives how to climb the corporate ladder by learning to use their personal computers. Purchasers weren't convinced, and after many months of going nowhere, the firm is now in liquidation.

At the Softcon show last year, **Ovation** was touting a new integrated software package. "It will run rings around *Symphony* and *Framework*," said enthusiastic booth personnel. But the product was plagued by delay after delay. Today, the firm is for sale. Ever optimistic, President Thomas Gregory hopes someday to see the product on the market.

Handwriting on the wall? Last June, Rodnay Zaks of **Sybex Computer Books** invited 20 notable computing pioneers for Pioneer Days in San Francisco. It was a gala media event. Then, three months later, each pioneer received a letter from the credit manager of the Hyatt Regency which said, "Sybex has not paid for your account and your charges have been placed on your personal credit card." Pretty shabby, Sybex.

CDs Invade Computer Field; Floppies Retaliate

Four leaders in audio company disc technology, **Denon, Philips, Sony** and **3M**, have announced the development of a CD-based optical read only memory (ROM) system for computers. A single 4 3/4"CD-ROM has a capacity of over 550Mb, about the equivalent of 500 double density floppy disks. In addition to offering efficient storage, this enormous capacity also provides the opportunity to store high-resolution graphics along with standard ASCII data.

* * * * *

Information Storage of Colorado Springs has introduced a 5 1/4" 100 Mb, write-once optical disk drive. The medium is supplied by Hitachi/Maxell and Sumitomo Chemical and is seen as a first move into the U.S. market by Sumitomo.

Evaluation units are priced at $3000; however, company president Steve Popovich expects prices to drop to $500 by 1986. Popovich feels the drive will satisfy "a real need for archival and audit trail data."

"Record Album" Diskettes

Memron, a San Jose floppy disk maker, has developed a process, Chromadisk, to print full-color images directly onto a diskette carrier. Says Bill Bollinger of Memron, "Of course it's not fair to judge a word processing package, spreadsheet, or educational program by the way it looks. Nevertheless," he added, "people will always tend to judge a book by its cover."

A secondary benefit of printed diskette carriers is prevention of commercial piracy; dishonest stores will have a difficult time selling a black copy of a disk that should be printed.

Random Bits

We hear from Japan that **IBM** ordered upwards of one million 3.5" microfloppy drives from Toshiba and Alps. For what you might ask? A new portable, perhaps? . . . **IBM** also bought a bunch of Japanese MSX computers, peripherals, and software from Qest Publishing, a group of former SpectraVideo employees.

Microsoft has developed a new operating system, HH-DOS (hand held DOS), which integrates common applications of notebook computers and is file compatible with MS-DOS . . . On the other hand, an apologetic letter from Vice President Steve Ballmer of **Microsoft** discloses a further delay in the shipment of Microsoft *Windows* from November 1984 to June 1985. Apparently the designers are having problems with speed, graphics capabilities, and reliability . . . Microsoft isn't alone. Gordon Mustain of **Rising Star** announced yet another delay in the release of Valdocs 2.0 for the Epson QX-10 to increase the speed of the word processing module and add additional features . . . And speaking of **Epson**, they recently proposed a standard coding scheme for printers called ESC/P. It seems sensible to us and perhaps with 40% of the dot matrix printer market, Epson can make it happen.

Having lost $3 million in the first nine months of 1984, **Management Science America** (MSA) has put **Peachtree Software** up for sale. So far, no takers. Peachtree recently bought two educational software publishers, **Edu-Ware** and **Design Ware** but killed off the Edu-Ware label. Now, Design Ware plans to re-introduce the label . . . Sherwin Steffin, founder of Edu-Ware, has filed an $11.6 million suit against MSA alleging securities fraud, conspiracy, and violation of agreements related to the acquisition. He claims that MSA deliberately depressed Edu-Ware sales after the acquisition was completed in order to diminish payments to Edu-Ware shareholders.

Doubleday paid one of the biggest advances ever for a computer book, $1.3 million, to Stewart Brand for the *Whole Earth Software Catalog*. To make money on the deal, Stewart figures Doubleday will have to sell more than 500,000 copies. *Infoworld* is betting they do it; I'll be surprised if they touch 100,000.

Troubled **VisiCorp** will merge with a new Sunnyvale-based company, **Paladin**. Founders Dan Fylstra and Peter Jennings will not have a role in the new company . . . We hear that **Apple** will discontinue the Lisa line in 1985 and concentrate on the larger Macs. After discussing the 16-bit Apple IIx on Compuserve, Steve Wozniak now denies any plans for it at all . . . In early November 1984, **Apple** built its two millionth Apple II. ■

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