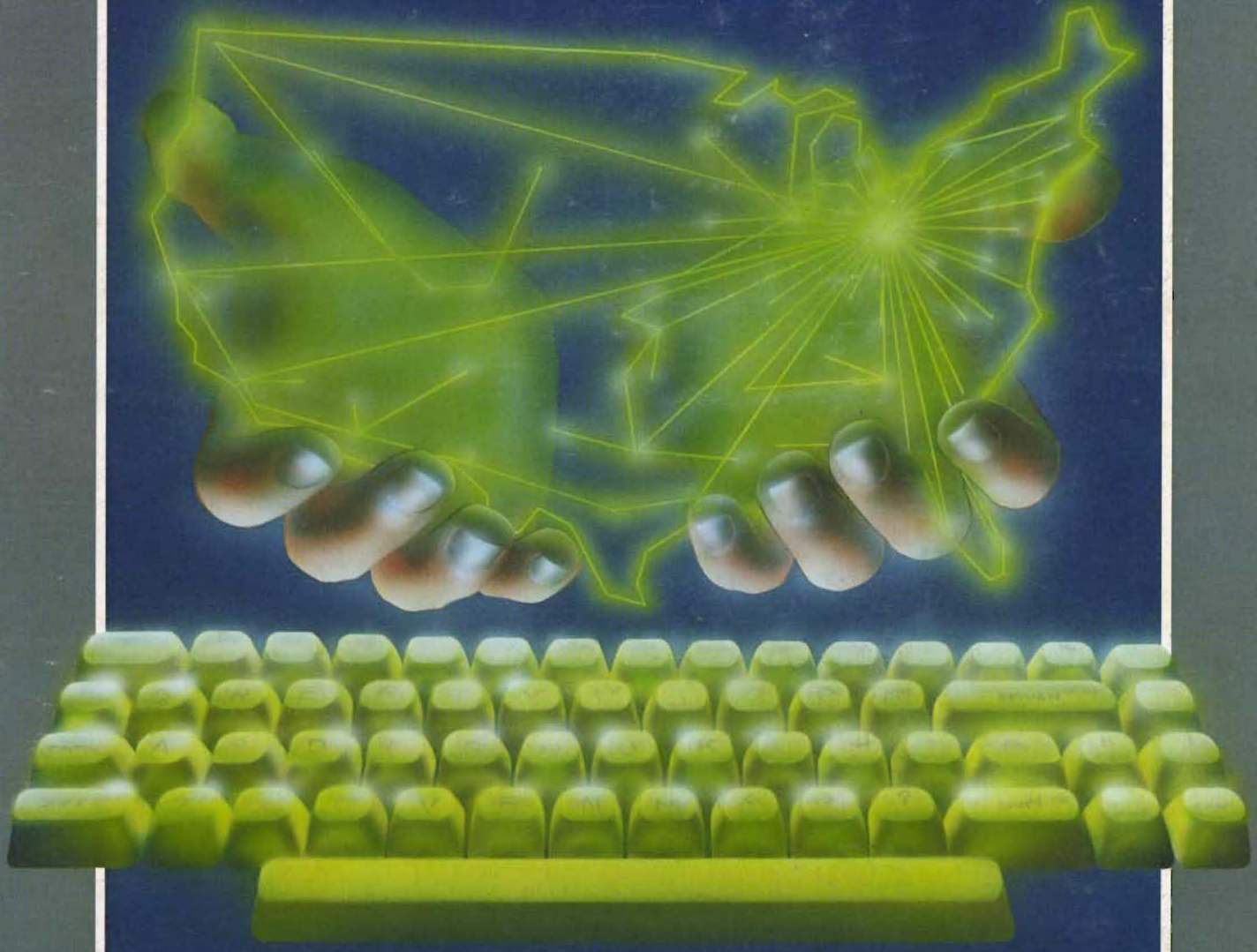
NOVEMBER, 1983 PRICE $2.50

TODAY

THE VIDEOTEX/COMPUTER MAGAZINE

Videotex Standards: Conformity or Chaos?
On-Line: A Smorgasbord of Services



Gift Giving in the Information Age

Modem, schmodem.

If you're thinking about getting a modem, you're thinking about getting information.

Dow Jones. The Official Airline Guide.℠ CompuServe.™ You want to access a computerized data base, and you think you need a computer to do it.

Wrong.

What you really need is a simple, economical way to get at the answers in the computers. But by the time you've bought a modem, software and the right connections for your personal computer, you've lost the use of your personal computer. On the other hand, you're 2/3 of the way to the price of something better. Give yourself a break.

Get Scanset XL,™ the Personal Information Terminal.

For a few more dollars, you'll get a lot more utility. At $895, Scanset XL eliminates the wait between passwords and answerbacks. And it makes data base access as easy as using an autodialer.

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Scanset XL is as easy to use as an autodialer. Because in addition to a modem, there's a 36 number programmable autodialer built right in. So instead of the 30 or so keystrokes it can take to access a data base, you press one button. Scanset XL takes care of the rest.

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THE PERSONAL INFORMATION TERMINAL FROM TYMSHARE

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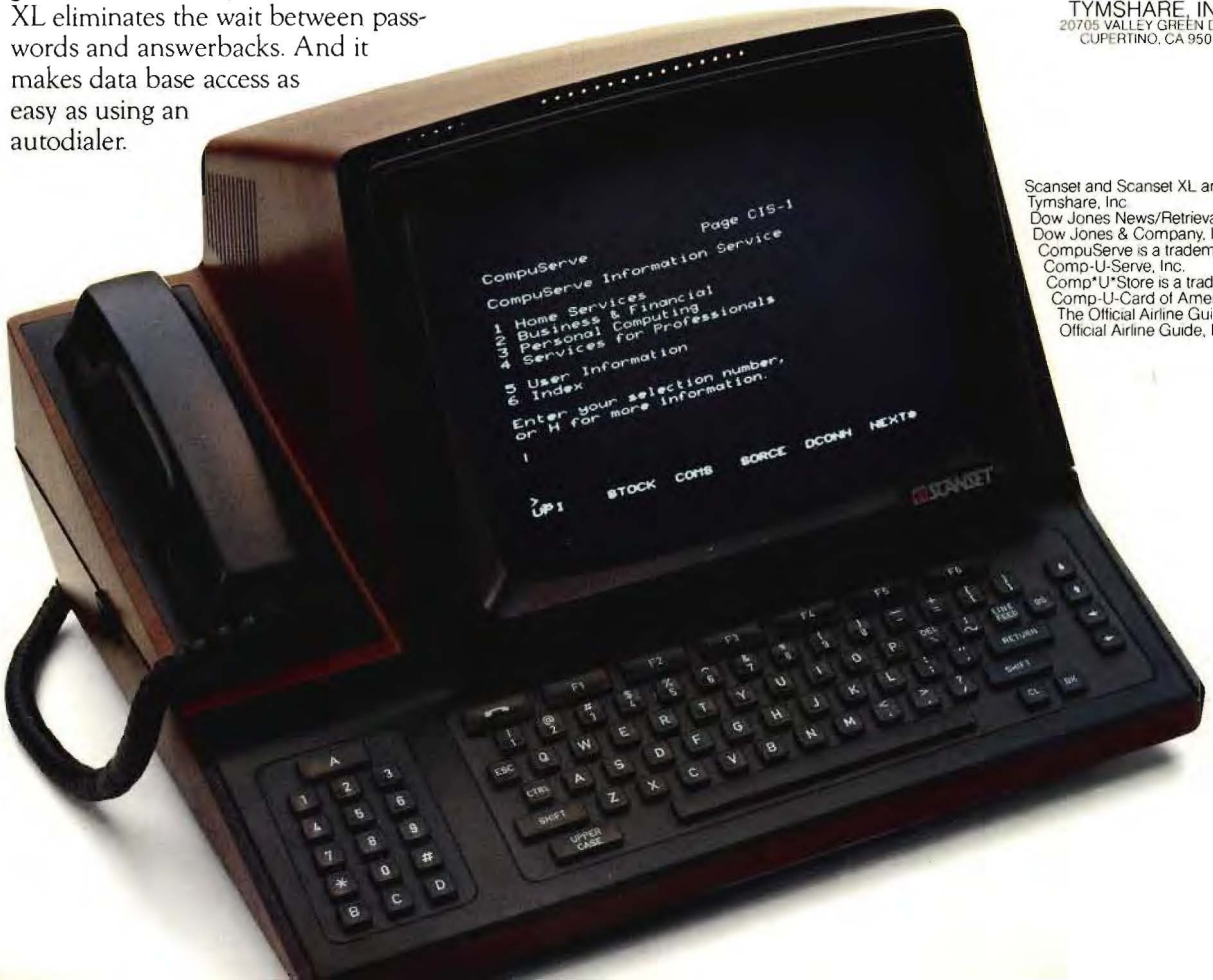

LAST NIGHT, COMPUSERVE TURNED THIS COMPUTER INTO A TRAVEL AGENT FOR JENNIE, A STOCK ANALYST FOR RALPH, AND NOW, IT'S SENDING HERBIE TO ANOTHER GALAXY.

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CompuServe

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800-848-8199

In Ohio, call 614-457-8650

An H&R Block Company

Electronic Bounce Back

Electronic Bounce Back is TODAY magazine's answer to the traditional reader service card. When you want more information about an advertisement in TODAY, simply use your CompuServe ID and access Electronic Bounce Back.

Instructions/Tips

Step 1
To enter the Electronic Bounce Back program, choose item 11, User Information, or GO EBB.

Step 2
After the introductory information, you will be prompted for your name and mailing address.

Step 3
A menu of available issues will then be displayed.

Example:

```
1 APRIL
2 MAY
3 JUNE
4 JULY
5 AUGUST
6 SEPTEMBER
```

After entering the issue of your choice, a list of advertisers will appear.

Example:

```
1 NEWSNET
2 UNITED COMPUTER SOFTWARE
3 COMMUNICATIONS ELECTRONICS
4 HEATHKIT
5 ELECTRONIC SPECIALIST
6 LEADING EDGE
```

Step 4
After choosing an advertiser, you will be shown the list of following options:

```
1 PRINT PRODUCT DESCRIPTION
2 REQUEST MORE INFORMATION
3 RETURN TO LIST OF ADS
4 SELECT ANOTHER MONTH
5 EXIT ELECTRONIC BOUNCE BACK
```

Step 5a
Selection 1 displays brief product descriptions.

Step 5b
Selection 2 sends your name, address and ID number to the selected advertiser. You will also be presented with a Comment option. You will be given three lines to make your request to the advertiser.

Step 6
After completing your request, the option menu (step 4) will be redisplayed.

Electronic Bounce Back puts you into direct contact with our advertisers.

When you respond to an ad in TODAY Magazine, you're "talking" directly to the advertiser. This means an end to the weeks of delay it takes for an ordinary reader service card to reach an advertiser (not to mention the additional time lapse for an advertiser to answer your inquiry once it is received).

EBB not only lets you respond to an ad with the usual name and address information, but it also allows you to ask for specific information, leave additional comments or in some cases even order a product. The advertiser in turn can reply, if so desired, through our electronic mail system, Email™.

TODAY is the first magazine to develop an "electronic" reader service and take advantage of the 2-way communications capabilities available through the use of videotex technology.

Electronic Bounce Back is easy to use. Just GO-EBB and follow the prompts. EBB will allow you to review an index of advertisers or go directly to the ordering section. Users of EBB will be able to request information from present advertisers in each issue of TODAY as well as from advertisers in past issues.

So GO-EBB and give it a try. We've cut out the middle man so CompuServe customers and advertisers can communicate directly with each other. This means a faster response to your inquiries and an added convenience for TODAY readers.

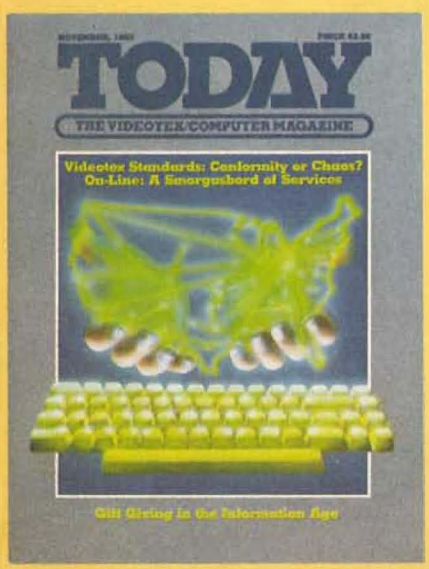
TODAY

THE VIDEOTEX/COMPUTER MAGAZINE

5000 Arlington Centre Blvd.
Columbus, Ohio 43220
(614) 457-8600

TODAY

THE VIDEOTEX\COMPUTER MAGAZINE



Cover
"Grasping Videotex Standards"
This month, TODAY examines the videotex standards controversy.
Cover art by Miller & Miller.

Clean up the computer clutter.

For less than $250 you can make your investment in yourself pay off!

Chances are you have spent a couple thousand dollars on setting up a computer system that gets a lot of your work done. But sometimes it gets to be work to work at it.

I know that when I have to move two program manuals and a pencil holder to boot up the disk drive, it is work. When there is an unlabeled floppy (that I am going to identify some day) on top of the monitor and the business checkbook is on top of the printer . . . and I will remember (I hope) before the next "report" comes through . . . that is work.

MICRO-OFFICE WORK CENTER

I found the annoyance of my own "computer clutter" was even worse than the extra work the disorder created. And that is when I started looking for some practical furniture for my computer set up. Since I had already spent a lot of money on the system itself, I was really dismayed when I found out how much it would cost to get a decent-looking desk or even a data table for my equipment. $400 . . . $500 . . . even more for a sleasy unit that looked like junk! In fact, it was junk! And it took a long time for me to find something that was really worth the money . . . and more.

A lot of my working day is spent with my computer, and I will bet a lot of your time is too. So I figure a "home" for my system—a housing that is good looking as well as efficient to work at—will pay off two ways:

1. Less work: an efficient and orderly layout will save me time and energy.
2. Personal satisfaction: good quality furnishings look better; they just plain feel better to work at too.

So imagine how good I felt to find the "Micro-Office" Work Center! These are fine pieces of computer system furniture that make my office-at-home as pleasant a place to work as it ought to be. And the biggest and best surprise is the low, low price for such good quality.

Here is what you get—all for only $249.50 plus shipping.

- Mar-resistant work surface. Your choice of oak or walnut grained. Work surface height is adjustable to your keyboard, your chair, your height.
- Two shelves plus work surface extender. Both shelves tilt to lock in position so that monitor faces you—in a position that does away with screen glare squinting and neck craning forever. Retainer bar keeps equipment from sliding off shelf. Snap-in bookends hold reference manuals and programs.
- Strong, sturdy and steady. All-steel welded frame construction is concealed by top-quality wood grain surfaces with finished trim. Adjustable floor levelers included. The work center is really a piece of fine furniture.
- There is no risk in buying from us either. We will make a full refund of purchase price plus shipping charges if you return the workcenter within 30 days for any reason whatsoever. In addition, the product is warrantied for any defects in materials or construction for a full year from date of purchase. This is a no-risk investment in your own productivity and work efficiency that will pay off for years to come—even if you do not yet have a microcomputer of your own.
- Take your choice for your own work center decor:

Order 48-inch unit in walnut, #2KPO-945, or in oak, #2KPO-947. Only $249.50 for each unit plus $20.00 shipping charge. On orders for two or more units at the same time, shipping charge applies to only the first unit ordered. Shipment made UPS, so we cannot ship to post office box. Illinois residents please add $15 per unit sales tax. Please allow 10 extra days for personal checks to clear. Sorry—at these special offer prices we cannot ship c.o.d. or bill direct.

CALL TOLL FREE TODAY WHILE SUPPLIES LAST: 1-800/323-8064.
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Letters

Gatekeepers

I want to respond to Charles Bowen's column "Online" in the September issue of TODAY.

Editors and publishers have the job of "gatekeeping" not because of authority that has been entrusted to them by the public but because they own the means of producing and distributing newspapers and magazines. They exercise choice in what they publish because they have a product to sell and they need to sell it as best as they can. No one has charged them with telling what is "fit to print"; something is seen to be fit to print because someone printed it. Do you think something is worth printing? Publish it yourself!

What is so frightening about the everyday citizen having access to a nationwide audience? Are we afraid they might say what they really think to each other, unhampered by Gallup and Harris Polls?

With regard to fraud and defamation, the everyday citizen has always had the opportunity (although she might not think about it) through common carriers like the telephone and telex. Suppose your basic troublesome whiz kid doesn't have a VIC 20 at home. He might not be able to start World War Three, but he still can phone fraudulent orders for pizza, or even (if he is really imaginative) place an order for Brazilian arms shipments over the wire. Kind of scary, huh? Let me tell you, I'm quaking in my boots as I write this.

Who will be CompuServe's gatekeeper? CompuServe, of course. There's not bloody much the rest of us can do about it, except hope that it either becomes a common carrier (I find it very disturbing that it is not) or that someone else comes along who is.

Alan L. Bostick
Seattle, Wash.

Thanks

As a subscriber, I would like to thank Fred Blechman for his accurate, straight-forward review of the Zorlof Word Processing system in the September issue of TODAY. Being a TRS-80 Model III owner, I have been searching for a powerful yet reasonably priced word processor — two usually exclusive characteristics in computer software. Until I read the review in TODAY magazine, I had not found what I was looking for.

After just a few hours — and with no previous experience with any word processor — I am well enough along to be composing letters and other short compositions with this well-documented program. I am also scanning back-issues of TODAY to assure myself that I haven't overlooked any other valuable material.

Melvin C. Wilton
Saginaw, Mich.

A Boo-Boob

I just received the current issue of TODAY magazine. As I looked at the cover I noticed that one of the feature articles was "Making Music on the Micro" (September).

I thought to myself, "I will bet any amount of money that those boobs again failed to mentioned the ONLY music synthesizer that is actually supported on CompuServe." Just as in the past, I was again correct!

My company, Software Affair, has been supporting the Orchestra-90 music synthesizers on CompuServe for a long time, yet you always fail to mention us in articles about music synthesis.

I am particularly baffled by this particular article. The author, John Edwards, recently published a similar article in the June issue of Popular Computing, page 104. The article compared different music synthesizers, but *features* Orchestra-90 which, in his words, was "the most sophisticated synthesizer." Yet, in this article there is no mention of our product.

In any case, someone should have at least checked to see if CompuServe offered any music synthesis support!

Bryan Eggers
President
Software Affair
Sunnyvale, Calif.

Please address your letters to CompuServe electronic mail, ID number 70003,1372 or to: Editor, TODAY magazine, 5000 Arlington Centre Blvd., PO Box 20212, Columbus, OH 43220. TODAY reserves the right to edit letters for length, content and clarity.

ULTRA Diskettes

Now...Diskettes you can swear by, not swear at.

Lucky for you, the diskette buyer, there are many diskette brands to choose from. Some brands are good, some not as good, and some you wouldn't think of trusting with even one byte of your valuable data. Sadly, some manufacturers have put their profit motive ahead of creating quality products. This has resulted in an abundance of low quality but rather expensive diskettes in the marketplace.

A NEW COMPANY WAS NEEDED AND STARTED

Fortunately, other people in the diskette industry recognized that making ultra-high quality diskettes required the *best* and newest manufacturing equipment as well as the best people to operate this equipment. Since most manufacturers seemed satisfied to give you only the everyday quality now available, an assemblage of quality conscious individuals decided to start a new company to give you a new and better diskette. They called this product the *Ultra* diskette, and you're going to love them. Now you have a product you can swear by, not swear at.

HOW THEY MADE THE BEST DISKETTES EVEN BETTER

The management of *Ultra* Magnetics then hired all the top brains in the diskette industry to make the *Ultra* product. Then these top bananas (sometimes called floppy freaks) created a new standard of diskette quality and reliability. To learn the "manufacturing secrets" of the top diskette makers, they've also hired the remaining "magnetic media moguls" from competitors such as Verbatim, Memorex, Dysan and many more. Then all these top-dollar engineers, physicists, research scientists and production experts (if they've missed you, send in your resume to *Ultra*) were given one directive...to pool all their manufacturing know-how and create a new, better diskette.

HOW ULTRA DISKETTES ARE MANUFACTURED

The *Ultra* Magnetics crew then assembled the newest, totally quality monitored, automated production line in the industry. We know that some of Ultra's competitors are still making magnetic media on equipment that is old enough to vote. Since all manufacturing equipment at *Ultra* is new, it's easy for *Ultra* to consistently make better diskettes. You can always be assured of ultra-tight tolerances and superb dependability when you use *Ultra*. If all this manufacturing mumbo-jumbo doesn't impress you, we're sure that at least one of these other benefits from using *Ultra* diskettes will:

1. **TOTAL SURFACE TESTING** - For maximum reliability, and to lessen the likelihood of disk errors, all diskettes must be totally surface tested. At *Ultra*, each diskette is 100% surface tested. *Ultra* is so picky in their testing, they even test the tracks that are in between the regular tracks.
2. **COMPLETE LINE OF PRODUCTS** - For a diskette to be useful to you and your computer, it must be compatable physically. *Ultra* Magnetics has an entire line of 5¼-inch and 8-inch diskettes.
3. **SPECIALLY LUBRICATED DISK** - *Ultra* uses a special oxide lubricant which is added to the base media in the production of their diskettes. This gives you a better disk drive head to media contact and longer head and disk life.
4. **HIGH TEMPERATURE/LOW-MARRING JACKET** - A unique high temperature and low-marring vinyl jacket allows use of their product where other diskettes won't work. This special jacket is more rigid than other diskettes and helps eliminate dust on the jacket.
5. **REINFORCED HUB RINGS** - Standard on all *Ultra* mini-disks, to strengthen the center hub hole. This increases the life of the disk to save you money and increase overall diskette reliability.
6. **DISK DURABILITY** - *Ultra* disks will beat all industry standards for reliability at well over millions and millions of revolutions. They are compatible with all industry specifications as established by ANSI, ECMA, ISO and JIS.
7. **CUSTOMER ORIENTED PACKAGING** - All *Ultra* disks are packaged 10 disks to a carton and 10 cartons to a case. The economy bulk pack is packaged 100 disks to a case without envelopes or labels.
8. **LIFETIME WARRANTY** - If all else fails, remember, all disks made by *Ultra* Magnetics, (except bulk pack) have a lifetime warranty. If your *Ultra* disks fail to meet factory specifications, *Ultra* Magnetics will replace them under the terms of their warranty.
9. **SUPERB VALUE** - With Ultra's automated production line, high-quality, error-free disks are yours without high cost.

SAVE ON ULTRA DISKETTES Product Description	Part #	CE quant. 100 price per disc ($)
8" SSSD IBM Compatible (128 B/S, 26 Sectors)	**81726**	1.99
8" SSDD IBM Compatible (128 B/S, 26 Sectors)	**81701**	2.49
8" DSDD Soft Sector (Unformatted)	**82701**	3.19
8" DSDD Soft Sector (1024 B/S, 8 Sectors)	**82708**	3.19
5¼" SSSD Soft Sector w/Hub Ring	**50001**	1.79
5¼" Same as above, but bulk pack w/o envelope	**00153**	1.39
5¼" SSSD 10 Hard Sector w/Hub Ring	**50010**	1.79
5¼" SSSD 16 Hard Sector w/Hub Ring	**50016**	1.79
5¼" SSDD Soft Sector w/Hub Ring	**51401**	1.89
5¼" Same as above, but bulk pack w/o envelope	**00096**	1.49
5¼" SSDD 10 Hard Sector w/Hub Ring	**51410**	1.89
5¼" SSDD 16 Hard Sector w/Hub Ring	**51416**	1.89
5¼" DSDD Soft Sector w/Hub Ring	**52401**	2.79
5¼" Same as above, but bulk pack w/o envelope	**00140**	2.39
5¼" DSDD 10 Hard Sector w/Hub Ring	**52410**	2.79
5¼" DSDD 16 Hard Sector w/Hub Ring	**52416**	2.79
5¼" SSQD Soft Sector w/Hub Ring (96 TPI)	**51801**	2.49
5¼" DSQD Soft Sector w/Hub Ring (96 TPI)	**52801**	3.49

SSSD = Single Sided Single Density; SSDD = Single Sided Double Density; DSDD = Double Sided Double Density; SSQD = Single Sided Quad Density; DSQD = Double Sided Quad Density; TPI = Tracks per inch.
For less than 100 diskettes, add 10% to our quantity 100 price.
For additional compatibility info call Ultra Magnetics at 408-728-7777.

The Small Print

To get the fastest delivery from CE of your *Ultra* computer products, send or phone your order directly to our Computer Products Division. Be sure to calculate your price using the CE prices in this ad. Michigan residents please add 4% sales tax or supply your tax I.D. number. Written purchase orders are accepted from approved government agencies and most well rated firms at a 30% surcharge for net 30 billing. All sales are subject to availability, acceptance and verification. All sales are final. Prices, terms and specifications are subject to change without notice. All prices are in U.S. dollars. Out of stock items will be placed on back order automatically unless CE is instructed differently. Minimum *prepaid* order $50.00. Minimum *purchase* order $200.00. International orders are invited with a $20.00 surcharge for special handling *in addition* to shipping charges. All shipments are F.O.B. Ann Arbor, Michigan. No COD's please. Non-certified and foreign checks require bank clearance.

For **shipping charges** add $8.00 per case or partial-case of 100 8-inch discs or $6.00 per case or partial-case of 100 5¼-inch mini-discs for U.P.S. ground shipping and handling in the continental United States.

Mail orders to: Communications Electronics, Box 1002, Ann Arbor, Michigan 48106 U.S.A. If you have a Master Card or Visa card, you may call and place a credit card order. Order toll-free in the U.S. Dial 800-521-4414. In Canada, order toll-free by calling 800-265-4828. If you are outside the U.S. or in Michigan, dial 313-994-4444. Telex 810-223-2422. Order your *Ultra* diskettes from Communications Electronics today.

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Computer Products Division

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Dear Reader,

There is an ongoing controversy in the videotex industry, and the industry's growing number of consumers would do well to acquaint themselves with questions the controversy poses: Should there be a standard by which all videotex services are measured? Should we adopt a set of "rules" that will standardize the commands used to navigate videotex systems? If so, who (if anyone) should determine what the rules should be? Should we have high-quality graphics, middle-level graphics or no graphics at all?

As with any controversy in which the outcome will determine where power resides and whether fortunes are lost or made, there are fiercely divided camps.

In one camp are advocates of the currently accepted and operational ASCII (American Standard Code for Information Interchange) — a code that allows transmission of alphabetic and numeric characters. ASCII-based systems place the emphasis on information delivery with no graphics. The CompuServe Information Service and Dow Jones News Retrieval are examples of ASCII systems.

Proponents of ASCII argue — and with considerable justification — that ASCII is egalitarian, inexpensive and can be received by any microcomputer on the market.

In the other camp are advocates of the North American Presentation Level Protocol Syntax (NAPLPS) who emphasize high-resolution graphics and other advanced features that require tailor-made hardware.

NAPLPS supporters argue that the protocol will stand tall in the face of currently expensive but rapidly-dropping hardware costs. To accept less, they claim, would be tantamount to offering the public a model of videotex that will go the way of fuzzy dice and tail fins.

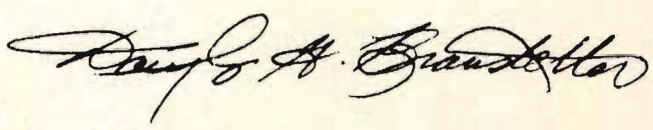
Across the Atlantic, the Europeans are divided into a crazy patchwork quilt of differing standards loosely bound under the CEPT (Confederacy of European Panels on Telecommunications) standard. Although a standard exists, European videotex is still effectively in the Middle Ages. Each European nation protects its individual fiefdom of government-controlled videotex for both political and economic reasons.

Some say the market should determine what the standard should be while others say a standard should be set by a government or some other body. What is the bewildered consumer to think?

We agree with videotex market research expert William Shrimpton (see "Videotex Standards" on page 14) that videotex isn't ready for standards yet. It's simply too early to worry about it. The currently operating ASCII videotex systems offer the least expensive conduit for home and business services that videotex was designed to supply. ASCII-based systems flourish in the real market while NAPLPS and CEPT systems remain as rigidly-controlled experiments or government-subsidized white elephants.

We also agree with Mr. Shrimpton that there should be an evolutionary approach to any form of standardization. The videotex industry can continue to develop and mature using ASCII and eventually upgrade to a NAPLPS-level standard. One of the evolutionary steps may be to offer consumers the choice of a basic ASCII information service or an enhanced service with NAPLPS-style graphic capabilities.

In the meantime, we urge more cooperation among videotex services for uniform navigational commands. Active participation in industry forums such as the Videotex Industry Association will help both videotex businesses and information providers and the consumers for which both were created to serve.



Douglas G. Branstetter
Editor

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For over 17 years, Wabash has been making high quality and dependable computer products. Wabash diskettes are made to provide error-free performance on your computer system because every diskette has been totally and hypercritically tested. Since you can now buy Wabash computer products directly from CE, the world's largest distributor of magnetic media, you can now get maximum savings on every order. You can even order toll-free.

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The quality of Wabash diskettes is stressed throughout the entire manufacturing process. After coating, all Wabash diskettes go through a unique burnishing process that gives each diskette a mirror-smooth appearance. Wabash then carefully applies a lubricant that is specially formulated to increase diskette life. Then, to keep out foreign particles, a unique heat seal bonds the jacket and liner together to help prevent contamination. After 100% hypercritical testing and certification, Wabash then packages each diskette, (except bulk pack) in a super strong and tear resistant Tyvek® evelope. The final Wabash product is then shrink-wrapped to insure cleanliness and reduce contamination during shipment. Wabash diskettes are so very reliable that Wabash now offers a six year warranty in case of defects in materials or workmanship on all diskettes purchased directly from Communications Electronics.

New...Wabash Diskette Duplication Services

Communications Electronics has teamed up with Wabash to provide a single-source solution for the diskette duplication requirements of software developers, OEM's and distributors. All service is in-house, to give you fast, dependable service. In most cases, delivery can be completed in five days. Whether you require 100, 1,000, or 10,000 copies per week, call CE first for a no obligation price quote. For additional information, please write us on your letterhead with your requirements.

SAVE ON WABASH DISKETTES Product Description	Part #	CE quant. 100 price per disk ($)
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ELECTRONIC SMALL GROUP

Psychologists and communication researchers have long recognized the enormous potential of small group interaction. The small group is an excellent forum for lengthy debates, complex discussions or difficult problem solving. Members often draw their chairs close together in a circle so that everyone participating can see and touch one another. But what happens when the members of the group live thousands of miles apart and are drawn together by their computer terminals and modems?

According to Dr. Del Dobyns, who is conducting weekly on-line conferences on CompuServe that deal with love and friendship, there is enormous potential for the electronic small group.

Illustrated Alaskan Moose

"These conferences could be called an informal group process or class. I present some data from the professional literature regarding human relationships, and we kick them around," says Dobyns, who has a doctorate in clinical psychology. About 15 CompuServe subscribers participate in the weekly conferences, which can last as long as six hours.

Dobyns says one of his purposes in conducting the sessions is experimentation. "What sort of discussion about meaningful topics can evolve on the electronic medium? Will it be superficial or in-depth? Perhaps a bit surprisingly, it is quite in depth. Being able to carry on a real-time dialogue with people all across the country is in a way like the old-time notion of sitting on the front porch and interacting with the parade of life on Main Street in front of you. It is just a very exciting, meaningful, stimulating, provocative kind of activity."

Nonverbal communication, which normally accounts for about 80 percent of any message exchange, is lost in the phone lines. Says Dobyns, "I was very skeptical that this medium could compensate for that in any meaningful way. It seems, however, to do more than compensate. In some ways I think electronic communication surpasses face-to-face, just by virtue of the candor. The nuances and the other kinds of things that nonverbal communication says somehow do get communicated online through word choice, typing speed and those kinds of things that we really don't know that much about yet. I've had people pick up on my mood with just a very few lines across the screen. It kind of amazes me."

A formal protocol has been established so that each person can "talk" without being interrupted, and meaningful discussions can develop with everyone being able to participate. "Some of the conferences are actually as powerful as any face-to-face group I have led, especially in terms of people being candid, open and sharing their feelings," explains Dobyns, who also teaches at Spokane Falls Community College.

Dobyns says that the electronic medium is most successful in that "people who are new to each other let down more layers of superficiality than is common in the first two hours of discussing a particular topic together."

There are disadvantages, though, to leading an electronic small group. "When a group is meeting in person, it is easy to get down to business and keep the group on the topic at hand. With this medium, though, it is not easy. I can type the words 'Let's get down to business,' and I use exclamation points, but it isn't effective until enough of the others are willing to do it. The fact that I am the leader saying it is just not sufficient," he acknowledges.

But Dobyns is confident the advantages outweigh any disadvantages and plans to continue his Monday night electronic small group conferences in NIPSIG as long as interest is strong.

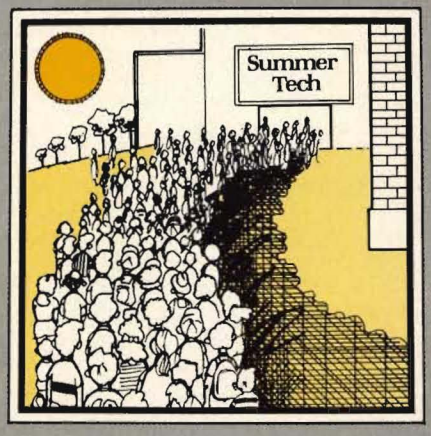
COMPUTERS FOR ALL?

According to a report issued by the University of Minnesota, opportunities for computer learning in our nation's schools are increasing, but "ominous inequities" based on social status and geographic location continue. While access to and use of computers is rapidly increasing in schools, substantial instruction in computer programming remains limited primarily to those attending large urban, computer-rich schools, the study notes.

Based on research by Dr. Wayne W. Welch, professor of education, and Dr. Ronald E. Anderson, director of the university's Center for Social Research, the study surveyed over 18,000 students. Three independent samples

SUMMER TECH

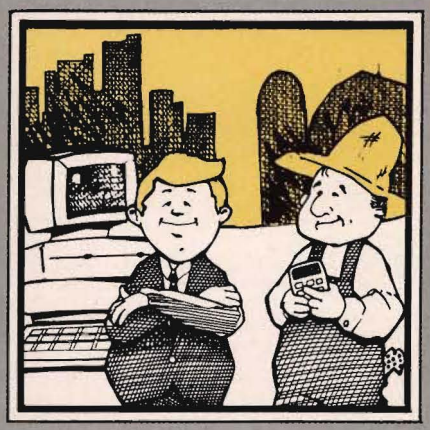
It was billed as the largest and least expensive computer training program ever launched. With Summer Tech, the Columbus (Ohio) Public Schools and the Ohio State University may



have just succeeded in bringing the computer revolution to an entire city.

Nearly 11,000 individuals, ranging in age from 3 to 85, registered for the $2-an-hour classes that covered everything from how to buy a microcomputer to authoring software.

Classes, which were held in July and August, attracted businessmen, housewives, teachers, senior citizens, the unemployed and others. More



were taken from U.S. students aged 9, 13, and 17. In addition, information was obtained from school principals on computer-related resources in their schools. When students were asked if they had ever used a computer or computer terminal in school, 33 percent of the 17-year-old students (senior high) and 23 percent of the 13-year-olds (middle school-junior high) said they had. These figures represented a more than two-fold increase over data garnered in a similar 1978 study.

But while the basic numbers appeared encouraging, regional disparities disclosed in the report highlighted a growing problem. For instance, 13-year-old students in the west were twice as likely to have computer school experiences than those in the southeast, 25 percent and 12 percent, respectively. Even more disturbing, the level of computer exposure was very low in rural areas (12 percent) and disadvantaged urban areas (16 percent), with significantly higher numbers in medium-sized cities (22 percent) and suburban and well-to-do urban areas (31 percent).

Anderson says that policy changes must be made if inequities in computer opportunities are to be alleviated. "To check the growing disparity between the haves and have-nots, explicit educational computing policies need to be established and implemented at all levels," he says. "The implications are not just ethical and social, but they are economic as well. If differential opportunities for computer literacy continue to grow, large segments of the labor force will be rendered increasingly less productive as a consequence of not being able to function effectively and comfortably with the computers around them."

— *John Edwards*

than 50 courses were offered at $20 a class, with each class meeting two hours a day for a week. Computers for Kids, Introduction to Microcomputing, Programming in BASIC, Word Processing and VisiCalc were the most popular.

The courses provided more than a superficial explanation of computers, according to Suzanne Damarin, an Ohio State faculty member who coordinated the curriculum development. "It's surprising how much you can learn in 10 hours. We tried to make learning fun, too, so people would get over their fear of computers."

Assistant school superintendent Howard Merriman, who came up with the idea, says, "It was an unparalled, unqualified success."

The school system and university worked together to develop the idea into a reality. Instructors from Ohio State University trained the Summer Tech teachers and developed the curriculum. The Columbus Public Schools organized the program. Corporate donations of more than a half million dollars enabled the school system to purchase 260 Apple computers.

"Both institutions had been getting requests from all over for more computer training," says Columbus School Superintendent James Hyre. "Parents want computer training for their kids, and many business leaders want it for their employees. Meanwhile, teachers have been pounding on the door at Ohio State, asking for help in using computers in their classrooms. We decided to provide as much computer training as the community wanted."

Ohio State University president Edward H. Jennings says that officials launched such a large program because Columbus is an information center.

When the 1983-84 school year began in late August, the computers were moved from their summer location at Mohawk Middle School to the district's 16 high schools.

The computers are used by public school students during the day; community instruction continues in the evening in a program called Compu-Tech. Officials expect more than 25,000 students in this winter session, including many returning from summer classes. Merriman says there are plans for another Summer Tech in 1984.

One of the goals of the program was to make Columbus computer literate. "We got a good start on it, considering how large the community is," says Merriman.

— *Cathryn Conroy*

REACH OUT AND GAME SOMEONE?

AT&T's consumer products division hopes to bring yet more space aliens, monsters and other creatures into millions of American homes through a proposed joint venture with Coleco, the video game, computer, and toy manufacturer. The two companies say they expect to begin piping video games into homes through ordinary telephone lines sometime in 1984.

According to Michael Tarpey, an AT&T spokesman, the venture would supply hardware enabling "a variety of home computers and video games systems — not only ColecoVision — to connect with the service and display the games it supplies." The system will bill customers, via a major credit card, for each game played and for time connected to the system. There will also be a $100 charge for the hardware.

AT&T expects some games would let players in different locations compete. "If the customers happen to be in different cities," Tarpey says, "long distance charges, in addition to game costs, would be involved." The system will also allow users to compete against the computer.

PMMI DISCONTINUES MODEM SALES

PMMI Communications, suppliers of S-100 bus plug-in modem boards, has withdrawn from the modem market. For nearly five years, the company has been providing the MM-103, a 61 to 600-baud unit that has approached the status of a "standard."

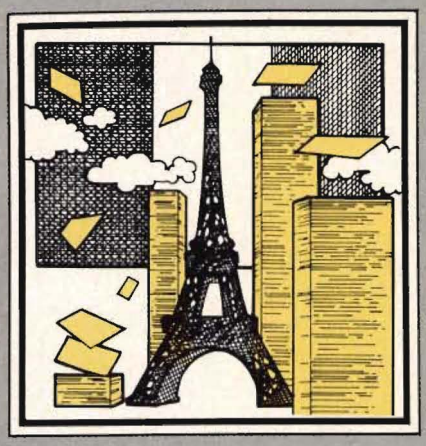
Earlier this year, PMMI announced and started advertising a new board. The MM-212 was to be compatible with both Bell 212A and Bell 103 standards, plugging directly into an IEEE 696/S-100 bus and providing communication rates from 45.5 to 1200 baud.

However, according to company representatives, their supplier was unable or unwilling to provide units on a reasonable basis. Resulting delays allowed U.S. Robotics to introduce a 1200-baud S-100 bus modem earlier and at a lower price. To prevent "damage to the company," PMMI executives decided to cancel the MM-212 product completely. This is said to be a permanent decision, not a temporary one. A PMMI spokesperson indicated that there are no plans to reintroduce the product in the future. Deposits or payments already received from computer users eager to acquire the new modem are being returned.

Meanwhile, an earlier decision to cancel the older MM-103 modem remains in effect. Again, PMMI representatives have indicated that the current trend is toward 1200 baud communications, making the market for slower units economically unfeasible for them. This effectively eliminates a modem that has received unparalleled software support both in commercial and public-domain programs. PMMI's products will be sorely missed by devotees of S-100 bus computers.

The company does intend to remain in business, though under a different marketing plan. They continue to supply the MM-VT1 Speech Synthesizer with IEEE/S-100 compatible Touch-Tone® transmitter and receiver.

— Ernest E. Mau



FRANCE TO ISSUE SMART CARDS

The French Ministry of Post and Telecommunications will issue one and a half million multi-service Smart Cards in 1984 to French citizens.

Smart Card, a French invention, carries a computer chip in a plastic charge card. The chip is programmable and has intelligent abilities.

The Smart Cards will be used as charge cards for pay telephones, to pay for telebanking and telepayment of products ordered electronically through the French videotex system, as decoders for France's pay television channel and as a payment mechanism for delegates attending conferences and special events at permanent convention sites.

The cards will also be used by some savings account customers of CCP, the French Postal Bank, which has 7.6 million accounts, and the French Post Office Savings Bank, with 16 million accounts. These customers will be able to use the card for transferring funds and paying bills.

The new program is a major expansion of the present experimental use of Smart Card in France. Several experiments, including use of the card in point-of-sale situations in stores in place of cash and its use as a debit card for making toll telephone calls from special public telephones, have been going on in France for more than a year.

Recently the U.S. government and several major U.S. banks have announced plans to try Smart Card in various uses.

— G. Berton Latamore

THE EUROPEAN CONNECTION

Doctors on CompuServe's MEDSIG received bulletins online from an important medical conference in Europe this summer provided by MEDSIG's system operator, Dr. Gordon Black.

Black called CompuServe directly through the European Packet Network System and the International Gateway to the United States to test the system's usefulness for long range communications. What he found was that it worked very well.

Black used CompuServe as a means of reporting events at the Fourth World Conference on Computers in Medicine held in Brussels, Belgium, to members of MEDSIG. He also used it as a means of communicating between the central office of AAMSI, the group that sponsors MEDSIG, and its members at the conference. He was able to keep in contact with his private office and staff while at the conference through CompuServe as well.

The success of Black's experiments was demonstrated by the messages that appeared on MEDSIG regularly from Brussels.

Black is a constant experimenter in computer communications in medicine. Besides helping to run MEDSIG, he is setting up a network for the organizing committee for the upcoming medical conference, MEDSIG '86. Black is also involved in helping doctors and other medical professionals exchange software online and is working on Osugeri-Net, a network for nursing homes.

Black's experiment is significant, he points out, because it demonstrates the practicality of using modern computer communications over long distances.

— G. Berton Latamore

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VIDEOTEX

CONFORMITY OR CHAOS?

"Everyone in the videotex industry agrees we should have a single standard; then each agrees that that standard should be his."

Jack O'Grady

This is the slightly cynical assessment of Jack O'Grady, writer for Young and Associates, the public relations firm for the French Intelmatique videotex organization in the United States, and an observer at the American National Standards Institute (ANSI) hearings on videotex standards.

The statement is not inaccurate. The videotex standards issue has raged through the industry for three years and has developed into a standoff between the Confederacy of European Panels of Telecommunications (CEPT) and the North American Presentation Level Protocol Syntax (NAPLPS), which is promulgated by AT&T and supported by the Canadians. The French, who claim the capability to work with either, wait in the wings.

The issue is seen as very important to the development of videotex. Normally established by a national government or international committee, standards ensure that all members of an industry go about things in the same basic technical fashion so that each system is compatible with all other systems. The U.S. television standard established by the Federal Communications Commission (FCC) ensures that the same television set can receive ABC, CBS, NBC and PBS. Europeans use a different television standard. U.S. television sets cannot receive European stations and vice versa.

Standards are a necessity to manufacturers. A television set maker wants assurance that his sets will receive programs and that they will not be made useless next year by a change in technology. Networks need a guarantee that large numbers of sets are available that can receive their signals. The question is not whether the standards are the most technically advanced as long as they do not actually interfere with broadcasting. Stereo AM radio, technically feasible for 20 years, is still not adapted into the U.S. radio standard, but the AM radio industry is thriving. The issue is one of making sure that everyone in the industry is pulling the same way.

Market dominance

Market dominance is also key in establishing a standard for a new mass medium industry such as videotex. Three standards are presently operating side by side in the infant U.S. videotex market, two of which are linked closely to major players in the industry. If either of these becomes the accepted U.S. standard, that player will gain an immense advantage over the other.

The first standard is ASCII (American Standard Code for Information Interchange) code. This is simply an eight-bit code that allows transmission of alphabetic and numeric characters. Established by ANSI, it is the basis for computer communications worldwide. Videotex services that use ASCII include CompuServe, The Source and the Dow Jones Information Service, all of which are characterized by a lack of graphics and an emphasis on information delivery. These are also the most successful videotex systems thus far, partly because they are relatively inexpensive to maintain and

STANDARDS

by G. Berton Latamore

can be received by any of the increasing number of personal computers.

While these databases provide the kinds of easily accessible electronic services that videotex is designed to offer, there are those in the industry who argue that they do not really meet the minimum technical definition of videotex — not because of a lack of graphics, but rather the lack of screen control. One reason ASCII databases can be received by any microcomputer is that ASCII allows the computer to determine how many lines of text will appear on the screen and how many and what size characters those lines will contain. A CompuServe screen will look very different on an Apple II than it will on a TRS-80 Model III simply because these two computers display a different number of lines on the screen.

True videotex technology, however, puts controls over screen appearance in the central database. This allows the information provider to determine what his information will look like on every terminal that receives it. These screens are commonly thought of as electronic magazine pages, and they can be numbered and referred to as such. This system allows easy organization and retrieval of information, an important attribute in a service designed for computer neophites. It also allows an advertiser to create display ads similar to those in newspapers and magazines. This system requires a user to have a special terminal or computer and software that conforms to the screen size the videotex database is using. The only variations would be between black and white and color reception and between different physical sizes of receiving terminal screens.

The number of lines on a screen has become a critical issue between Prestel, which has 24, and NAPLPS, which has 20. While NAPLPS screens would fit on Prestel, Prestel screens would lose four lines on an NAPLPS terminal. AT&T shows no willingness to compromise on this issue. If NAPLPS becomes the North American standard, as seems likely at present, Prestel will not be able to compete in the U.S. market.

Prestel and NAPLPS

The second videotex standard and the first that conforms fully to the above definition of videotex, is Prestel. Developed by the British, it is well established in Europe as the Prestel World Service and is a major part of the CEPT standard created in 1981. CEPT recognizes both Prestel and the French Antiope as standards and agrees that signatories will use one or the other as the basis of their national videotex systems. The Germans, for instance, are using an enhanced Prestel technology for their service.

The highest level videotex standard is NAPLPS, a definition of videotex calling for alpha-geometric graphics that are independent of the resolution power of individual terminals, the capability to display 16 colors on a single screen and other advanced features. NAPLPS, in fact, is criticized by opponents for being too advanced and too expensive. AT&T's NAPLPS home terminal costs about $900 — a price many observers believe home users simply will not pay.

"In many ways NAPLPS is a second generation standard aiming at a first generation market that isn't sure it wants the service at all," says Fred Maderos of Boston's Torch Computers and a promoter of Prestel. He argues that the potential U.S. mass market has not heard of videotex and does not see it as a necessity. Therefore, the initial service must be as inexpensive as possible. Once videotex is established, standards can be raised gradually to provide enhanced services.

Prestel, Maderos argues, is designed to be inexpensive. A black and white Prestel terminal costs about $100. The price difference is not entirely in receivers either. Creating an NAPLPS database is much more expensive, and this expense must be paid by either consumers or advertisers.

AT&T made NAPLPS sophisticated purposely, though. One of the dangers of the very early establishment of a technical standard is the possibility that it will be outmoded by new developments. The FCC, for instance, had to change its television standard soon after it was written because it became outmoded. This experience may be one reason the agency has refused to establish a U.S. videotex standard at all and has declared that it will "allow the market to decide" what videotex standard should be used.

"We made PLP very sophisticated because we believe costs will drop dramatically, and we want to still be on the leading edge of the technology when they do," claims John Soltes, supervisor of AT&T's Resident Engineering Group and an ANSI member.

"To attract advertisers, a videotex system needs a large base of terminals in homes that receive it," Soltes says. "If you have a variety of terminals with different levels of capabilities, the database will only implement those capabilities common to all, the lowest common denominator. This market pressure militates against upgrading existing low-level systems."

This, according to Soltes, is the problem Prestel is beginning to face. The present Prestel system has several major drawbacks including the low resolution graphics and black spaces that appear between blocks of different colors. It is technically possible to upgrade the database, but this would render the thousands of Prestel ter-

minals already in service unable to receive it.

Soltes argues that NAPLPS is designed to avoid this problem by encompassing the highest level technology possible now, even though that technology may be economically unfeasible. Furthermore, NAPLPS is device independent in its graphics resolution; that is, the same videotex page can have different resolutions on different receivers, depending on its capabilities. On a very high-level graphics generator, NAPLPS can appear photographic in quality. While receivers with this capability cost several thousand dollars today, the continuing rapid fall in the price of computer power in general may bring them within the range of home users sometime in the future. When this happens, NAPLPS databases will not find themselves outmoded.

A defacto standard

"Once a standard starts sweeping in, the others are lost," Maderos says. "Manufacturers, unwilling to make terminals until a trend is established, jump on the bandwagon and enforce the new standard."

That appears to be what is happening in the United States with NAPLPS. More and more home videotex services are being announced throughout North America that conform to NAPLPS. Both ANSI and the Canadian Standards Bureau, which are working together on a joint videotex standard, seem near accepting NAPLPS as that standard. The Videotex Industry Association in New York, while not officially endorsing any standard, addresses NAPLPS most of the time. The French, who have a standard that can be upgraded to NAPLPS compatibility, have recently announced the manufacture of NAPLPS systems for the U.S. market. Only the British, who cannot conform to the standard because of basic differences in technology, have not joined.

In Europe the picture is very different. There the dominant standards are Prestel and Antiope. While NAPLPS operates as a goal and definition of the future, CEPT is merely a listing of the different choices available. In fact, NAPLPS may be adopted as a subset of CEPT.

The Europeans, however, prefer this approach for political reasons. Unlike North America, Europe is divided into many small nations, each fiercely independent. Europeans are concerned with control of data flow across national borders, protection of markets for videotex equipment and international copywrite of material in videotex databases. The best way to meet these nationalistic concerns is to purposely create national systems that are not completely compatible with one another. CEPT defines ways to allow "gateways" that translate between the different standards. These gateways allow the French Teletel systems, for instance, to communicate with Prestel-based systems in England and Germany. However, they also provide a bottleneck through which all such information exchanges must pass and where they can be monitored.

Market protection is also very important. French officials say one reason the Germans chose Prestel was that they did not want French manufacturers grabbing a significant part of the German terminal market from German companies, as they might have done had the Germans chosen Antiope.

Are standards needed?

Not everyone agrees that videotex is ready for standards.

"The sense we have is there has been a significant change in the videotex marketplace," says William Shrimpton of BVT/Logica, a videotex market research firm in New York. "Two years ago there was much concern with the two rival standards (NAPLPS and Prestel). Today the concern is over why you will buy videotex, not the beauty of the buttons on the beast. In the last two years acceptance of ASCII services such as Dow Jones, CompuServe and The Source has grown considerably. This deflates most of the standards issue."

Shrimpton sees this developing for practical reasons. ASCII offers the least expensive route to immediate delivery of the home and business services that videotex is supposed to supply. It can reach a large and growing audience — everyone with access to a microcomputer or simple terminal of any kind and a telephone modem. Even when NAPLPS services do appear, as they are scheduled to do in 1984, these services are likely to only increase the audience for ASCII databases. The AT&T terminal can also receive ASCII.

"I really think the field has changed for the better," Shrimpton says. "People don't buy standards; they buy services. Two years ago the debates on graphics were going on in a vacuum. Because people are close to making money on videotex, they are becoming more pragmatic and less purist."

Shrimpton argues for an evolutionary approach to standards development. The industry, he claims, is already developing rapidly using ASCII. These services will eventually upgrade to NAPLPS, possibly in stages, as the price of receivers drops and as microcomputers and television

sets with NAPLPS capability appear. Shrimpton envisions companies such as CompuServe offering two levels of service: (1) a basic information available in ASCII code that is receivable by everyone, and (2) an enhanced database with Prestel or NAPLPS-type capabilities available for those who want it. CompuServe already offers a small database section containing high-level graphics for those who can receive it.

The future

Nearly everyone agrees that high-level graphics are in the future. The price of computer power continues to fall dramatically, bringing such services into the financial range of an increasing number of people. Many observers predict that eventually television sets will contain computer chips that allow them to act as videotex terminals; others predict that the next generation of home microcomputers will have the same capability. A Canadian firm, Norpak, has already announced a chip set for NAPLPS, which, along with a keyboard for use with a color television, is estimated to cost about $300.

No one expects videotex to appear overnight. Technical problems still have to be overcome before any database can efficiently handle large numbers of users. Soltes points out that today's timesharing services are usually only accessed by a hundred or less subscribers at a time. They would become completely input/output bound if they tried to handle the thousands of people who turn on television at 7 p.m. every night. Marketing also has a long way to go to attract a truly mass market for videotex. Prestel has been available in Britain since 1970, and it is only beginning to find the home market it originally aimed for.

"It's not going to take off like a rocket," Soltes predicts, "but I'm convinced it will happen. The banking applications alone will drive it as the banks find it less expensive to underwrite terminals for their customers than to continue to handle the huge amounts of paper involved with present checking methods. It probably will take five or six years to gain millions of subscribers, but it will happen."

G. Berton Latamore is a free-lance writer from Providence. His CompuServe User ID Number is 70007,426.

USER-FRIENDLINESS:
A Possible Dream?

by Byron T. Scott

Videotex today reminds me of why my mother doesn't drive anymore. My mother learned to drive on a Model A. She endured the frequent breakdowns of a noisy, incomprehensible new machine; she endured the deep-rutted and muddy roads, and she endured the cries of "Get a horse!" That is, she endured for a while. Then she gave up driving once and for all. What came later hasn't changed her mind.

The metaphor of a computer-driven, technology's edge medium against the early days of the "infernal combustion" engine may be obscure at first, but it contains a lesson that deeply concerns the multi-billion dollar videotex industry:

If you don't make it "user friendly," the early adopter may go away, never to return.

Not that the leaders of the videotex industry are panicked about their relationship with the consumer. As one systems executive said recently: "My problem is that our projected curve of new users turned out to be wildly pessimistic. It's a happy problem." But these same services recognize a new generation of users, many less sophisticated about computer usage than the innovating first users of a couple of years ago. For them, user friendly means something different and, perhaps, more demanding than they have faced before.

Timesharing services "have been around long before the term 'videotex' was introduced," points out a report to be released this fall by a committee of the Videotex Industry Association. (See accompanying story.) However, traditional timesharing is designed for those with substantial training, time and money to invest in maximal usage. "Videotex services, on the other hand, use similar techniques and software technologies, but should not require their end users to be highly trained. The data processing is transparent to the videotex user . . ."

VIA standards committee chairman Sam Berkman: "For videotex to be viable, it will need some consistency . . ."

User friendliness is a concern wherever the user contacts videotex:

- At the terminal
- In the documentation
- In trying to explain it to self and friends

With an estimated 20 percent of current videotex users subscribing to more than one service — and an increasing additional percentage encountering videotex in the workplace — the industry's increasing concern is for user friendliness across system types: If you can drive a Ford you can drive a Chevy, but if you subscribe to CompuServe can you also get around in The Source, Dow-Jones and other information services? Not without grinding some mental gears, at least for the moment.

Capitalism, the democratic spirit of letting "free market competition" work differences out, complicates it all. In contrast to videotex in England, West Germany and elsewhere, where a watchful and sponsoring government can dictate standards, the U.S. videotex industry is alive with "players" who frequently regard differences as part of the competitive edge. "Everybody in the industry right now — networks, databases, terminal manufacturers, everybody — is trying to tell everyone else what to do," says Sam Berkman, chairman of the VIA committee looking at the matter. Berkman's Applications Level User Interface Committee (ALUIC) was formed because, "although we're doing pretty well at the levels the user doesn't see such as systems and data presentation, the important and only thing left is the applications level . . . The user should not have to relearn videotex when moving from one database to another . . . For videotex to be viable, it will need to have some consistency at the user interface level." (Berkman is a division manager for consumer products in AT&T's consumer information product division, itself a major character in the videotex drama.)

The VIA's ALUIC committee surveyed 34 videotex "players" on their current display (user interface) commands. They found little agreement. For example, to get assistance or information, some videotex users press a special key, others type "HELP," others are referred to documentation, still others just have to muddle through without a help function.

Most bets are that cross-system similarities will be voluntary, and evolutionary — which is to say, a little slow in coming. Nevertheless, to avoid government-dictated "standards" and to encourage the young medium's growth, some compatability will grow. The ALUIC committee report cites an historic example: America's railroads agreed on a standard gauge for tracks, rather than unload and reload cargo at each line's juncture with another.

At least five "generic functions" are being recommended by Berkman's ALUIC: data entry and transmission, information storage and retrieval, interaction control, key navigational functions and sign on/sign off. "An ap-

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plications level protocol that's the same within and across all systems? That will never exist," Berkman declares. "You just have to look at the industry and what's going on within it to see that will never happen. But similarities at critical functions . . ."

Consensus is something that grows with experience. "We don't have enough operating experience," points out William Lucas, a vice president for The Source. Videotex itself is a decade-old medium, and most U.S. companies have been online for less than half that time. "No one yet has the wisdom to say what should be the 20 or 25 common commands," Lucas says. "There are too many types of services, growing too rapidly. And some always will be more powerful than others, able to do more things for the user."

Friendliness is a behavioral, as well as a technical problem. "It's a balancing act," comments Lucas. "What's easy to use for the beginner becomes inefficient for the experienced user." The problem is evolving with the sophistication of the user. The Source uses "string-ahead" commands, which allow multiple requests in the same entry, bypassing menus and prompts.

The "paradox" of satisfying beginners and experienced users also concerns CompuServe, notes Alexander Trevor, executive vice president of Computer Resources. Advanced users on CompuServe can bypass the menu structure with the "GO" command and a page specification. "When we went over to England to look at Prestel, we all were impressed by the menu-driven system," Trevor recalls. "But experience has proven that much information is not accessed efficiently in this manner." Other methods, such as keyword searches, must be used. This adds further complexity to the underlying software and may confuse the inexperienced user; further building the case for industry-accepted commands.

The Aviation Weather Service, available on CompuServe, includes more than 4,000 reporting stations. Each of these airports is identified with a three-letter code, similar to those seen on baggage tags, specified by the FAA, Trevor explains. "But one of those stations has the initials HEL (the letters for our HELP command), and another has TOP. We had to solve that by preceding display commands in this service with a slash (/)." It seems the exceptions will always be around to break the rules and potentially confuse the users.

Another "nightmare" that sometimes results in user-unfriendly directions, is the trend toward "gateWaying" one system with another. Incompatabilities between operating systems containing various databases may make movement like traveling from one culture to another. "It's still easier to move the user than to copy the database and convert it, like Prestel has done," Trevor says. "But often, at least for now, the user interface is going to look different."

Despite these problems — and without "despites" both users and the industry might be in deep, future trouble — there is evidence that videotex will mature into an easier-to-use, technology-transparent medium that consumers will employ with the same comfort and confidence as their automobiles. (And with less cost and per-

VIDEOTEX PRIVACY

Could the IRS or your ex-wife's lawyer get a look at your home banking records without your knowledge?

Could your database provider sell information about your electronic shopping interests to another marketer?

Can you obtain copies of the individual records being kept on you by a system operator?

The answers are: No, No, Yes. At least, if the videotex service you subscribe to follows the Model Privacy Guidelines released late this spring by the Videotex Industry Association. The VIA standards are voluntary, but most major services belong to the body (see accompanying story).

Among the provisions of the privacy guidelines:

- System operators will not disclose individuals' information, without customer consent, unless there is a court order or subpoena. Under such legal requirements, they will release the information only after the subscriber is notified and has opportunity to object — "unless a court orders otherwise."
- Bulk or aggregated information about subscriber usage can be released, but cannot contain individual identifications.
- Subscribers have a right to obtain and review copies of their individual records, although they may be charged for the service. If errors are found, subscribers can have them corrected, although documentation may be required.
- The rights of system operators to examine individual records are confined to: 1) providing responses to subscriber requests, 2) technical maintenance considerations, 3) preventing illegal or unauthorized entry and use, 4) accounting and billing, 5) and market research.
- Individual information cannot be used, or released, for any other purpose without the user's written or electronic permission. Refusal to give consent cannot exclude the subscriber from access to the service.

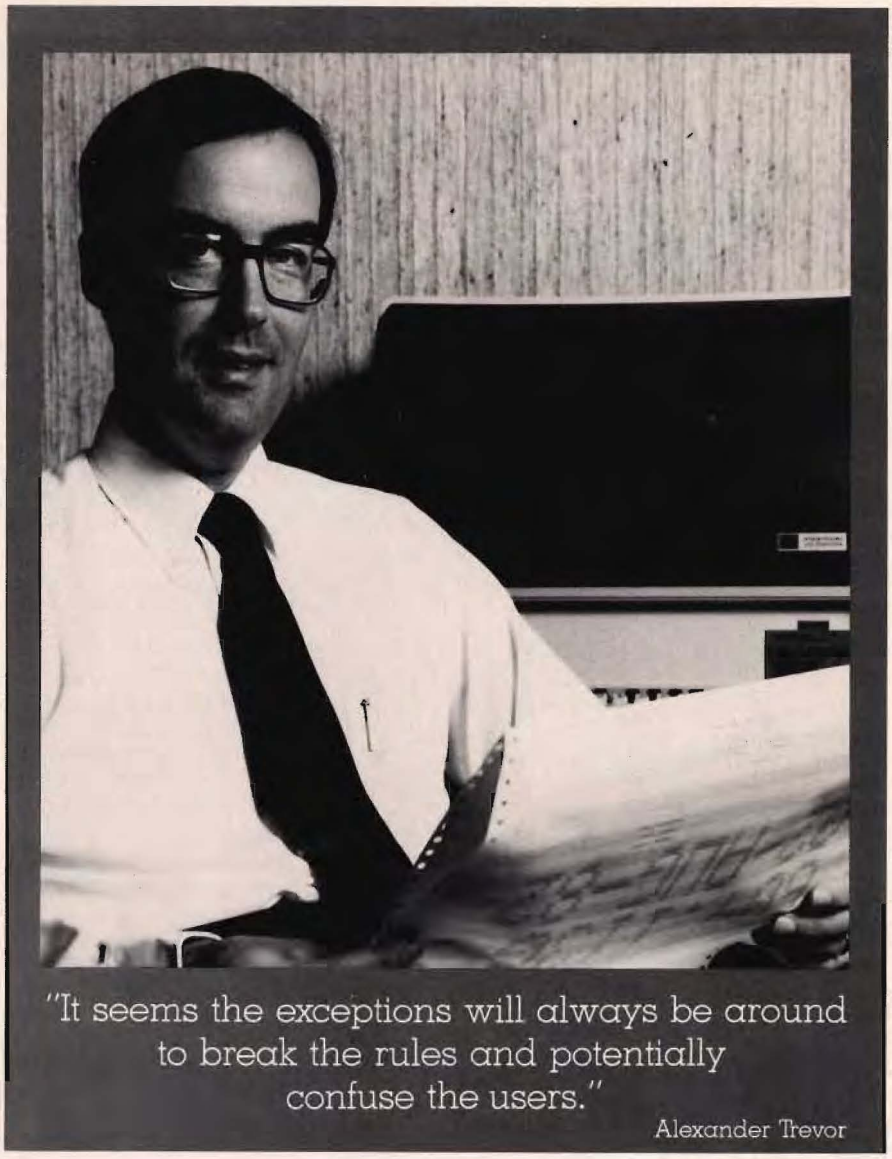
The guidelines also include an industry pledge to "make all reasonable efforts to safeguard individual information against unauthorized access."

Presented by the VIA's Fair Practices Committee, the model standards ". . . represent a commitment by the videotex industry to a basic principle — that subscribers should be told what information about them is being collected and how it will be used."

"There have been no privacy abuses in the videotex industry to date," claims the accompanying statement by John Woolley of Knight-Ridder's Viewtron and Richard Neustadt of Wiley, Johnson and Rein, the committee chairs. The guidelines are intended to "keep the industry pure and should help inspire consumer confidence," they state.

Copies of the full guidelines are available in pamphlet form from major system operators and the Videotex Industry Association, 1901 N. Fort Myer Dr., Suite 200, Rosslyn, VA 22209.

— *B.T.S.*



"It seems the exceptions will always be around to break the rules and potentially confuse the users."

Alexander Trevor

sonal danger).

- The influence of the Videotex Industry Association and the obvious interest in user command compatabilities by the major "players" should smooth some intersystem problems.
- Addition of graphics to videotex systems should add other nontechnical prompts and guides. Most systems expect to use graphics for navigation and for other functions such as better data presentation (airline seating charts, stock price charts). They are likely to be more conservative about more elaborate, less important graphics, which might slow down transmission of requested data.
- That very frustration, the waiting for data as phone charges pile up, is being eased by the inexorable conversion from 300 to 1200 baud transmissions. Users appear more willing to experiment and work with directions at quadruple the current common bit rate. Although most major systems, including CompuServe, accommodate 1200 baud now, many home users will continue to use their less expensive modems for several years, Trevor believes.
- Other methods of system architecture are being explored. At Videotex '83 a group of Canadian invesigators, from the universities of Toronto and of Waterloo, reported on a "forest concept" of multiple, cross-linked menu trees. Users, in their experiments, found these multiple trees, linked with Tarzan-like vines of prompts, easier to use than the traditional, single "inverted tree" used in most services' menus. "Videotex is not a browsing medium, and we should not force users to do so," emphasized professor Frank Tompa, a University of Waterloo computer scientist.
- Future navigational tools will include icons and special keypads, such as in the Knight-Ridder Viewtron systems debuting this fall and the CBS Venture One experiment just concluded in Ridgewood, N.J. Further in the future, "mouses" on sensitive screens and voice recognition will allow users to move through systems in a more individualized way. Artificial intelligence? Much further away and probably not the complete answer, industry spokesmen indicate. "I think people can look forward to reading documentation for many years to come," one systems supervisor notes.
- Systems are becoming more "consumer conscious" as their individual subscribers outnumber the traditional industrial, timesharing customers by factors of thousands. This includes rewriting and supplementing documentation, never a strong point of the industry. ("You have to write the best documentation you possibly can, then assume the user isn't going to read it," the rule is emerging.)

In the case of videotex, "the medium is a big part of the message that the consumer is getting," Nancy Goguen, director of consumer database development for American Bell, commented at Videotex '83. Human engineering goals are being added to assure "that traditional but little understood phrase, a user-friendly environment." These include better response times, consistency of commands and using the mainframes to give the user more power to make choices, mistakes and changes of mind, she said.

The title of the Videotex '83, where Goguen made her comments, indicates the industry's unreached but aspired-to goal:

"The User-Friendly Database: It Can Be Done."

Byron Scott is associate professor at the E.W. Scripps School of Journalism, Ohio University. His CompuServe User ID number is 70007,421.

THE VIDEOTEX INDUSTRY ASSOCIATION

In the Virginia suburb of Rosslyn, a thickening palisade of high-rise buildings seems to peer across the Potomac. The visual illusion is caused by a rolling countryside, but in fact, many of the buildings are occupied by professional government watchers, intent on the federal goings-on just across the Key Bridge in Washington.

On the second floor of one of these buildings, the Videotex Industry Association (VIA), not yet two-years-old, is setting up shop.

Why should the videotex user care if there is a VIA? "Because if it is to succeed, the videotex industry has to have intense consumer orientation," answers Bob Smith, the Association's director of administration since last November. "Many of the old-line industries — people often mention the railroads, for example — had difficulties seeing what consumer interests were. VIA needs to foster a consumer point-of-view in a very diverse and rapidly growing industry." Smith, who holds an MBA in science and technology management from George Washington University, is a former deputy director of the Office of Technology Assessment.

More than 50 companies and communications consultants joined VIA when it was incorporated in December 1981. There are now over 150 members, covering the gamut of the industry: videotex, teletext, cabletext, manufacturers, service providers, universities. "We want to give videotex a very broad definition to create the best possible forum," Smith says.

VIA is estimated to include about three-quarters of the current "major players." The current president, Larry T. Pfister, is an executive for Time Video Information Services. Other officers represent American Bell, The Associated Press and IBM Corp. All members share a major need to keep an eye on "the feds."

"Every industry, no matter how new or small, no matter how promising or unpromising, needs a voice," explains Gary Arlen, a Washington-area communications consultant instrumental in founding VIA. It was Arlen who called a meeting of "17 or 18 people who had good ideas," during Videotex '81, the first major industry show in North America. Over breakfast at the Royal York Hotel in Toronto, they found many similar concerns. "At the time we didn't know how much of a regulatory factor there would be. That was a major thing," Arlen recalls.

Communications consultant Gary Arlen: "Every industry needs a voice."

Art Longmore

VIA director Bob Smith: "The videotex industry has to have intense consumer orientation."

The resulting ad hoc committee called a larger meeting for September of that year, appropriately in Washington, D.C. Over 50 representatives voted to form the VIA, which was incorporated late that year and held its first official board meeting in February 1982.

While vigorous and growing, VIA is a cautious newborn. Its board appears to have set up early, specific boundaries. "In general we're taking a broader, long-term look," says administrator Smith, "We will tend to stay away from areas that could be better worked out in the marketplace." That includes such issues as technical and applications level standards (see accompanying story) in which members have major financial stakes. Although the consumer may be impatient with a "marketplace approach," a major task of the new trade association is to create trust and communication within the industry, Smith points out. This might pave the way for later cooperation as proprietary barriers are lowered.

VIA's impact is being felt, however, in both the videotex industry and in political and regulatory arenas:

- Testimony by VIA officers helped strengthen the privacy provisions of the Cable Telecommunications Act, passed by the U.S. Senate. Many videotex services will, in the future, be carried entirely, or in part, on cable systems.
- VIA helped scuttle in committee another Congressional proposal to deny research and development tax deductions to U.S. companies using Canadian videotex technology, such as Telidon.
- A VIA committee urging generic standards in certain areas of videotex systems used by consumers will report this fall.
- VIA's "Fair Practices Committee" issued a set of model guidelines for videotex privacy during Videotex '83. Another committee is working on a similar set of recommendations for home banking, scheduled for release by the end of this year.

"There are so many things happening in videotex that we need to be realistic about what we can and cannot do," says Smith, who runs the VIA central office with the aid of a secretary. "Our pattern has been to identify an issue, form a working group and begin talking to each other."

The Videotex Industry Association is located at 1901 N. Fort Myer Drive, Suite 200, Rosslyn, VA, 22209. Phone 703/522-0883. VIA's Public Information Committee is developing literature to answer public and press questions about videotex.

— B.T.S.

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B. Adventure 350 Map: Conducts players through adventure game maze; not guaranteed to bring success in video version. Black-ink-on-white-paper. Size 17" x 25". Cost $2.95.

C. Adventure 751 Map: Advanced version for Adventure aficionados; size 23" x 35". Black-ink-on-parchment. Cost $4.98.

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F.

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ONLINE:
A SMORGASBORD OF SERVICES

by Steven K. Roberts

One of the first things you are likely to discover upon investigating the on-line field is a bewildering variety of available databases. Most are excellent — but many overlap, some are virtually useless, and others are so difficult to use effectively that they are best left alone.

A look through the 1,242 pages of the 1983 *Encyclopedia of Information Systems and Services* (a directory published by Gale Research Co.) reveals detailed information on over 2,500 information providers. A recent issue of *Learned Information's Online Review* listed pricing updates on 276 separate databases, and in the process of researching a recent book, my coauthors and I accumulated a stack of user's manuals and sales literature over six feet tall.

That is a lot of information. How can you possibly assess your needs and intelligently take advantage of unfamiliar resources in such a rapidly-changing and dynamic industry? It is easy to be misled by an overzealous vendor of something that you don't really want, only to suffer a rebound effect wherein you conclude that the whole technology is inappropriate to your operation. This has happened time and time again with microcomputers, and is now occurring in the on-line information field as well.

This article is intended to demystify the on-line business somewhat — first by explaining the three database classes, and then by noting the steps you should take to match your needs to the services that exist.

The Three Major Database Classes

If we seek distinctions that can be used to create manageable categories from this profusion of available services, we quickly discover that there are three distinct "styles" of database: full-text, bibliographic, and what we might call "just the facts." Let's have a look.

Full-Text Databases

The most obvious form of on-line database would seem to be that of the "full-text" variety, wherein the complete text of an article or other document exists somewhere in the system and is just available for recall. After all, that's what you are most likely to be seeking when you sign on and start spending money — the information itself, not just references to it.

Unfortunately, however, full-text databases are relatively uncommon. There are a number of good reasons for this.

First, from a purely economic standpoint, the storage of all that text would require thousands of times the disk capacity now available to the on-line vendors. This would be unreasonably expensive in light of anticipated usage levels and thus difficult to amortize.

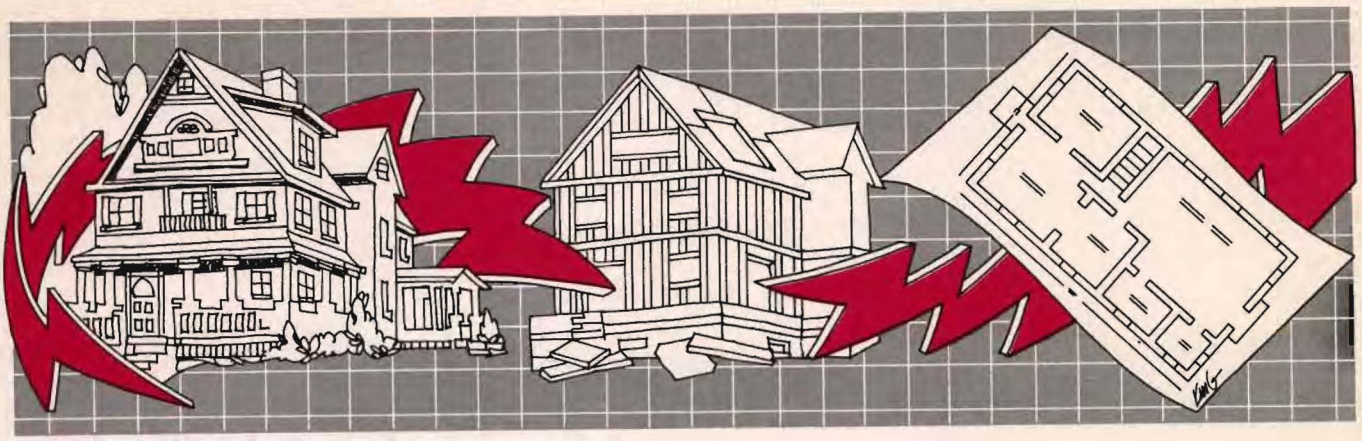
Second, you probably wouldn't really want everything to come over the phone to your terminal in full-text form, not when you are paying a dollar or more a minute for transmission time. A typical 4,000-word magazine article would take roughly 13.3 minutes to arrive in full at your 300-baud terminal — which at the rate of a typical database would cost you about $18. That may be a perfectly acceptable cost for the final result of your search, but not for all the extraneous material that you are likely to pick up in the process.

Third, an abstract of an article generally includes some features that are not found in the original text itself. One of the jobs of the abstractor is the selection of key descriptor phrases from a controlled vocabulary, which then become part of the on-line record. This enables you to find an article about the consumption of hominy grits in Alabama during your search for information about grocery marketing in the southern United States. It also allows you to browse through a number of records with a fair degree of cost-effectiveness (something that would be hard to do at $18 and 13 minutes apiece).

But the fact remains that full-text is generally considered the ultimate objective of one's research activity, and it is to this end that document delivery vendors exist in the industry. These folks will provide full-text copies of original source material — often accepting orders via the on-line services themselves and shipping the results within a day.

There are some significant full-text databases out there that you should know about. On the DIALOG system, you can search their monthly Chronolog newsletter, another journal called the *Online Chronicle*, and the *Harvard Business Review*. You can also access the full text of UPI News and the PR Newswire.

The best known of the full-text databases, however, are probably the ones offered by Dayton-based Mead Data Central: LEXIS and NEXIS. The former is a legal and accounting research service that has been available since 1973; the latter is a news service. Consisting of the full text of all articles appearing on AP, UPI, Reuters, PR Newswire, Kyodo, Jiji, and



King Associates

other news services, as well as various newspapers, newsletters, and magazines, NEXIS provides five or more years of background on virtually every subject that makes it into the news. Records appear on the screen in KWICK (Key Word In Context) style, with search terms that you specified highlighted in reverse video.

The value of full-text can be attributed to more than the convenience of having the whole story at your fingertips. While it is certainly pleasant to receive information immediately instead of having to wait for document delivery, there's something even nicer about full-text databases.

There is no abstractor involved.

This translates into free access to all of the information that was in the article, whether or not a third party happened to consider it important. This allows you to search for named people with a greater chance of success, and to track events that may not have been considered very important at the time the article was indexed (but became so later). In short, you decide what you see.

Other on-line services offer full-text news as well, with items such as the following routinely available within a day of original publication:

0000720
SECTION: International news
STORY ID: Egypt
DATELINE: PARIS (UPI) January 08, 1983
TIME: 08:42PS CYCLE: bc
PRIORITY: Deferred WORD COUNT: 0254

Senior Iraqi and Egyptian officials met in Paris Friday night, the first meeting between the two countries since Egypt was ostracized by the Arab world after signing a peace treaty with Israel in 1979.

Tareq Aziz, Iraqi deputy prime minister, and Boutros Ghali, Egyptian minister of state for foreign affairs, met at Ghali's request at the home of Iraqi Ambassador Mohamad Al Maschatt, Iraqi officials confirmed today.

Ghali stopped in Paris en route to Nicaragua for a meeting of non-aligned countries.

Aziz told a news conference Friday that Iraq felt "one must take into consideration and encourage the positive attitudes adopted by (Egyptian) President Hosni Mubarak, otherwise the designs of Israel to isolate Egypt from the Arab world" will succeed.

Iraq became the fourth Arab country to officially mend fences with Egypt since Mubarak became president. Jordan, Morocco and Lebanon already have resumed ties with Cairo but have stopped short of restoring formal diplomatic relations.

All Arab states except Oman and Sudan severed diplomatic relations and recalled their ambassadors after the Israeli-Egyptian peace treaty.

Iraqi officials indicated Baghdad hopes to resume buying arms from Egypt and receiving other Egyptian aid for Iraq's continuing war with Iran.

Using simple "free-text" searching techniques, you could retrieve this story by any combination of words you can think of, including:
"war" and "peace"
"Arab states"
"Oman" within 2 words of "Sudan"
"Mubarak" but not "Moscow"
"Egypt" and "diplomatic relations" and "news"
"fences" and "affairs"
any word beginning with "bag"
"January 8, 1983"

and so on. But let's turn now to a more universally available class of databases.

Bibliographic Databases

The information you are most likely to see as you begin using on-line services is not the complete text of the items that you turn up, but instead bibliographic citations to them (usually accompanied by abstracts). This is occasionally frustrating, of course, since you are probably looking for the "source" information and might thus view bibliographic citations as only an annoying intermediate step. They do, however, allow you to scan a substantial collection of articles and other documents without having to actually read each one to discover its main points.

The potential problem here is that the content of a bibliographic record in a database — with the exception of such "factual" items as the title, date, and so on — is determined by some anonymous abstractor who works for the database producer. While these abstracts are generally of high quality, their sophistication can vary widely from one file to another. Since much searching is done on the basis of terms that appear somewhere in the abstract ("find all articles that mention used computers"), you depend for your searching effectiveness upon the abstractors' choices of wording. In the used computer case, for example, you might miss a perfectly-targeted article about the changing market for "used data-processing equipment" while spending good money to print out an abstract that reads, in part: ". . . BASIC is still the most commonly used computer language." (This calls for a certain finesse in searching technique.)

Bibliographic citations vary widely in style from one database to another.

The Magazine Index of over 370 popular publications only rarely includes abstracts, requiring that all subject searching be done on the basis of the title and some assigned "descriptors." A 1981 article by this author, for example, appears in this database as:

Online information retrieval.
Roberts, Steven K.
Byte v6 p452(7) Dec 1981
CODEN: BYTEDJ
SIC CODE: 7374; 8231
DESCRIPTORS: information storage and retrieval systems-evaluation; Magazine Index (database)-usage; computer networks-usage; database management-technological innovations; Information Access Corp.-services; information services-innovations

You could only locate this by including the author name, the title, or at least one of the descriptor phrases in your search strategy. It is interesting to note that the database publisher, Information Access Corporation, saw fit to include themselves as one of the descriptors — even though they were never explicitly mentioned by name and others were! Ah, marketing.

The same article is referenced in other databases as well, and the comparison is interesting. In the Microcomputer Index, for example, it appears as follows:

Online information retrieval: promise and problems
Roberts, Steven
BYTE, Dec 1981 , v6 n12 p452-461 , 7 pages ISSN: 0360-5280
Languages: English
Document Type: Article
Geographic Location: United States
Describes how an information search is done on the Dialog Information Service. Also includes some comments on the five prerequisites that were needed to develop the Dialog system and comments on future problems in this field.
Descriptors: *Online Systems; *Online Information
Identifiers: Dialog Information Services Inc.

It would not be immediately obvious to a casual observer that these two database records refer to the same article. Further compounding the confusion, here's the same thing in INSPEC:

ONLINE INFORMATION RETRIEVAL: PROMISE AND PROBLEMS
ROBERTS, S.K.
BYTE (USA) Vol.6, NO.12 452-61 DEC. 1981 Coden: BYTEDJ
Treatment: GENERAL,REVIEW
Document Type: JOURNAL PAPER
Languages: ENGLISH
The on-line, storage capabilities described in the article seem to presage enormous changes in the library of the future. One can only assume that mass storage of all types will continue to grow cheaper as human time becomes more expensive; it follows that ever-better tools for information seekers will continue to develop.
Descriptors: INFORMATION RETRIEVAL SYSTEMS; INFORMATION SERVICES
Identifiers: INFORMATION RETRIEVAL; ONLINE; LIBRARY; FUTURE
Class Codes: C7210; C7250

A bit confusing, eh? The first is a nuts-and-bolts piece about some specific information storage and retrieval systems, the second tells how to perform a DIALOG search, and the third consists of philosophical commentary about future libraries. The authors, Steven K., Steven, and S.K. respectively, had to be quite versatile to say all that in one 7 or 9 page article (depending on which citation you believe)!

Of course, the article could be found in all three databases by searching for the term "online" — but so would hundreds of others. The point we are making is that while bibliographic references offer great flexibility, they are not guaranteed to reflect the content of the article in any predictable fashion. Since there is a level of interpretation between the original text and what appears on your terminal, you can never be absolutely certain that what you see is what you'll get.

All that notwithstanding, however, bibliographic citations make it possible to access the masses of published information that continue to become available at a rate that has been estimated as high as 200,000,000 words per hour. We are still quite a few years away from having the full text of all material available on-line — even ignoring copyright and legal problems, the costs of data storage and transmission are prohibitive. It is therefore worthwhile to become comfortable with the form of a bibliographic citation and the kind of information it can yield.

"Just the Facts" Databases

Our third major "class" of databases is the huge and diverse group commonly known as "non-bibliographic." Since we have considered full-text databases to be a category all their own, this one consists of every kind of on-line information except articles, books, conference papers, and the like.

If you are interested in knowing how many young turkeys have been departing our shores, for example, you can quite easily locate the following table in the U.S. Exports database:

0000185
TURKEYS, LIVE, IN THE DOWNY STAGE (BC = 1000260)
U.S. Exports to: All Countries (CC = 000)

Year	Quantity in NO	Value in $
1981	1,544,894	1,436,724
1980	634,584	748,976
1979	1,568,258	1,320,039
1978	1,065,754	962,792

Source: U.S. Bureau of the Census DIALOG File 126.

Unlike the records we have already viewed, this one is not an abstract of an article about something, or even the article itself. Instead, as they say, it's the facts.

There are a number of databases of such time series available. The on-line "supermarkets" offer 30-40 such collections, providing easy access to historical economic data of almost every description. But the real performer in this business is Massachusetts-based Data Resources Inc. (DRI), whose databases include nearly 10 million time series going back as far as 1929. The best-known of their expensive but robust offerings is the U.S. Central database, with annual, quarterly, monthly, and weekly time series of virtually all information available on the U.S. economy — employment, productivity, interest, price levels, and so on. Others focus on energy, specific regions, demographics, etc.

Time series are not the only form of non-bibliographic database, however. Anything that you might find in a directory, handbook, reference guide, schedule, cross-reference, stock-market report, encyclopedia, or dictionary is fair game. CompuServe, for example, is in the process of introducing a substantial collection of databases covering market research and demographic information — including product use data, media consumption, census data, and other material of interest to product marketers.

One of the most dramatic data-

bases, in terms of overall awesomeness, is the Electronic Yellow Pages, available on DIALOG. This, in short, is a combination of all the Yellow Pages directories in the United States (some 4,800 in all), cross-indexed in a fashion that lets you find all the drywall contractors in Topeka or all the bookbinders in area code 612. You can also track individuals or companies (what ever happened to Dr. Parenteau?), produce zip-code sorted lists by SIC code, and so on. A typical record looks like this:

1396
3/a/139
D S DOG TRAINING
512 W HELM WAY
CASSELBERRY, FL 32707
TELEPHONE: 305-831-7096
COUNTY: SEMINOLE
SIC: 7393B .(GUARD & PATROL SERVICES)
ADVERTISING CLASS: DISPLAY AD
CITY POPULATION: 4 .(10,000-24,999)
THIS IS A(N) FIRM

Another impressive non-bibliographic database is Books in Print, corresponding to the printed directories from Bowker that occupy about two feet of shelf space. If you are trying to find a book by a given author, find the author of a given book, locate ordering information, or find all books in a given subject category during a certain range of dates, this index to the entire U.S. publishing industry's output can be of help. If you find yourself interested in bicycle camping, for example, a quick search on the terms bicycl? and camp? yields the following:

Harsh-Weather Camping: How to Enjoy Backpacking, Canoeing & Bicycling under Any Conditions
Curits, Sam
224p.
Arco 10/1983
Trade $14.95; pap. $7.95
ISBN: 0-668-05833-1; 0-668-05840-4
LCON: 83-007240
Status: Active entry
Illustrated
SUBJECT HEADINGS: CAMPING (00069772); CAMPING-OUTFITS, SUPPLIES, ETC. (00571416)
PBIP SUBJECT HEADINGS: HEALTH AND PHYSICAL EDUCATION-RECREATION (00001284)

Of course, it also yields a few others, including this one:

0235542 2280310XX
Theatre: Avec: Guernica, Le Labyrinthe, Le Tricycle, Pique-Nique en Campagne, La Bicyclette du Condamne
Vol. 2
221p.
French & Eur 1968
Trade $9.95
ISBN: 0-686-54464-1
Status: Active entry

The use of a $65/hour database (plus another $8/hour for communications) may seem absurd in comparison to a couple hundred dollars worth of books that you could explore to your heart's content at no additional cost. But the printed volumes are constantly being updated — and like dictionaries, you have to know what you are looking for to find what you are looking for. In the on-line version, you can search on any combination of terms and even generate an output that is sorted by title, author, publication year, Library of Congress number, or ISBN.

Another directory of interest is one known as the Encyclopedia of Associations. If you wanted to find more information about those exports of young turkeys, for example, you could log on to this database, ask for associations that have something to do with "turkey" and "market," and be rewarded with the name of an industry association that could probably tell you more than you ever wanted to know about the subject:

NATIONAL TURKEY FEDERATION (Poultry) (NTF)
Reston International Center, 11800 Sunrise Valley Dr., Suite 302, Reston, VA 22091
(703) 860-0120
G.L. Walts Exec.V.Pres.
Founded: 1939. Members: 2500. Staff: 5
State Groups: 48. Turkey growers, hatcherymen, egg producers, processors and marketers. Works to increase consumption of turkey; promotes favorable legislation; collects and distributes news material, marketing information, and other data about the turkey industry; promotes turkey research, makes information available on turkey breeding, raising and marketing. Publications: (1) Newsletter, monthly; (2) Promotional Brochure, annual. Convention/Meeting: annual - always January. 1983 Jan. 12-14, New Orleans, LA.
Section Heading Codes: Agricultural Organizations and Commodity Exchanges (02)

This database can be of tremendous value (much more than the printed directory of the same name) in locating groups of almost any conceivable common interest for marketing, professional, or personal reasons. You'll find, among others, the National Lubricating Grease Institute, the Association for Mexican Cave Studies, the Fantasy Association, and the International Association of Professional Bureaucrats (whose motto is, "when in doubt, mumble").

If you are interested in doing business with the federal government, you already know about *Commerce Business Daily*, issued by the Department of Commerce to announce products and services wanted or offered by the government. If you have ever tried keeping track of everything in there with the hope of landing a government contract, you'll probably agree that it almost calls for a full-time person — especially if you include the associated paperwork of maintaining a presence on bid lists.

The Commerce Business Daily database will help change all that. Updated — you guessed it — daily, it gives you instant access to the full content of the printed publication, with the added benefit of requiring you to look only at the portions that are directly associated with your interests. If you perform biochemical analysis of sex hormones, for example, you may be interested in this item:

0208915
CONDUCT BIOCHEMICAL ANALYSIS
Sole source negotiations to be conducted with Texas A&M Research Foundation to conduct additional biochemical analysis of sex hormones from turtles captured at Cape Canaveral and Indian River, FL. See note 46.
Sponsor: U.S. Department of Commerce, NOAA, National Marine Fisheries Service, Duval Building, 9450 Koger Blvd., St. Petersburg, FL 33702, Jean B. Martin, Contract Specialist, Tel 813-893-3788
Subfile: PSE .(U.S. GOVERNMENT PROCUREMENTS, SERVICES)
Section Heading: A Experimental, Developmental, Test and Research Work
CBD Date: FEBRUARY 16, 1983

The file is divided into categories (RFPs, Solicitations, Surplus Property Sales, Contract Awards, etc.) that allow you to restrict your search as necessary to minimize the amount of extraneous information retrieved. This can reduce your on-line time to a few minutes and make this approach much more cost-effective than working with the printed publication.

There are other databases that are

useful in the attempt to find a market. If you yearn to sell Frisbees in Australia, a quick search in the Trade Opportunities database would yield the following:

206842 DATE: 820526 AUSTRALIA
EXCLUS. AGENCY/DISTRIB.
Frisbees for advertising & promotional use. AMF function primarily as marketing consultants who also import & nationally distribute range of giftwares & advertising premiums. Firm seeking exclusive agency or distributorship for promotional products called "Flippy Flyers". These are nylon flying discs with weighted edge, similar to Frisbees, & used in advertising. Product literature & prices requested.
REPLY TO —
Mr. Garfield Wells, Mng. Dir.
Australasian Market Force PTY. LTD. (AMF)
P.O. Box 4
Milsons Point, NSW 2061, Australia
CABLE: MARFORCE SYDNEY
TEL.: (02) 436-2188
Please send copy your response to —
American Consulate General
Sydney, Australia
T&G Tower, 36 FL, Hyde Park Sq
APO San Francisco 96209
PRODUCTS (SIC): 9950018
BUSINESS CODES: A (BN = AGENT;I (BN = IMPORTER); D (BN = DISTRIBUTOR);
COUNTRY CODE: 602
TYPE OF OPPORTUNITY CODE: 114
NOTICE NUMBER: 332441

It becomes clear that this could go on and on. The economics of doing business dictate, inflexibly, that human time is the critical resource. Spending $10 to get a computer 2,000 miles away to tell you something that is printed in a directory on your desk might actually make sense — in fact, when you consider the combined effects of timliness, scope, and searching flexibility, it sounds like a pretty good idea.

Let's look at one final non-bibliographic example — this time from the realm of chemistry.

One of the largest database producers in the world is Chemical Abstracts Service of Columbus, Ohio. In addition to the abstracting and bibliographic service that the name implies, the firm produces databases of millions of substances indexed by molecular structure, names, registry numbers, and so on. If you were researching ergot derivatives and their synthetic cousins, for example, you might locate this typical entry in the Chemsis file of "singly indexed substances":

CAS REGISTRY NUMBER: 81019-63-8
FORMULA: C21H29N302
CA NAME(S):
HP = Ergoline-8-carboxamide (9CI),
SB = N,N-diethyl-2-methoxy-6-methyl-,
ST = (8.beta.)-
HP = Indolo(4,3-fg)quinoline (9CI),
NM = ergoline-8-carboxamide deriv.
SYNONYMS: 2-Methoxy-9,10-dihydro-N,N-diethyllysergamide; 2-Methoxydihydro-LSD

With that bit of light reading, we come to the end of this introduction to the three broad classes of databases. Let us now consider the problem of fitting these resources to your needs.

Your Information Requirements

No single person, with the possible exception of a professional database intermediary, could conceivably need all of the available on-line services. They are as diverse as human knowledge itself.

One of the first decisions you must make as you begin delving into all this is which databases will be useful enough to justify the expenditure of your time and money. The answer will gradually emerge as you survey the available options, but the issue can be more than a little confusing at first. Consider the following advertising claims made by various information vendors:

Predicasts: "PTS — unequalled databank with computerized speed — is the most complete business information service available to companies involved in making or marketing a product or service."

PAIS: ". . . the database covers just about every subject that has to do with people interacting with other people — and with their institutions and businesses."

Dow Jones: "It's a convenient, easy-to-use service that can help you or your company make money and manage your investments better. What's more, it provides just the information you want, at your fingertips."

FIND/SVP: "We are your Total Business Information Resource."

DIALOG: "Only the DIALOG Service provides such comprehensive coverage of information on virtually any subject . . . DIALOG is the most powerful retrieval system in the industry."

SDC: "SDC's exclusive features on the ORBIT Information Retrieval System assure the fastest, most flexible search of the widest range of databases . . ."

All of these claims have considerable justification: the information resources being advertised are indeed as valuable as their producers say. But from the standpoint of a new user, this is a bit confusing; you must somehow extract from the deluge of marketing copy a subset of the world's databases that are relevant to your operation.

This problem has begun to receive attention in the on-line industry press. As with any new technology, there is a profusion of unfamiliar terms with meanings that have yet to be universally agreed upon; even the word "database" suffers from a surfeit of valid interpretations.

Viewing on-line information services in the light of your own needs can start with this article — I have attempted to segment the available databases into three major categories. But this is only a small beginning. Your next step should be the acquisition of literature from all the vendors of interest. Along with this, it is recommended that you sign on with one of the database "supermarkets" and get in line for their introductory seminar — typically a day and a half of intensive exposure for $100-200. This approach will give you access to a wide range of databases, even though you may ultimately settle upon only a half-dozen or so for regular use.

It is important to note at this point that you have another option. It is not at all necessary for you — the ultimate user of information — to become conversant in the details of on-line searching. As you may have already guessed, there is a fair amount of detailed technique involved in learning to search effectively, and not everybody has the time, inclination, or analytical skill to carry that off. It is comparable to any other kind of computer use: You certainly don't have to become a programmer in order to make effective use of a personal computer system. If you did, microcomputers would still be primarily marketed to hobbyists, as they were in the mid-1970s.

You may relegate the actual searching tasks to an intermediary — handing him or her a request for information and receiving, hours or days later, a thorough answer replete with executive summary. This is easier, al-

though more expensive and considerably less satisfying than doing it yourself.

So let's consider a typical applications area (assuming, now, that you are in the mood to do your own on-line work) and consider the approaches you might take to equip yourself with appropriate database resources.

Company Information

There are a number of good reasons for wanting to keep track of goings-on in other companies, and this universal desire is responsible for a significant percentage of business database use. Consider some of the motivations you might have for wanting to research details about other companies:

- Merger and acquisition research
- Credit investigations
- Investment opportunities
- Finding venture capital sources
- Market research and analysis
- Legal information for precedent or litigation
- General corporate planning
- Personnel — finding people or jobs
- Mailing list preparation
- Company investigations

and so on. No business can healthily operate in an information vacuum.

Should you decide that you need the ability to perform such searches, you will discover a surprisingly large number of sources that will be of value. Let's look at a few . . .

Disclosure II. One of the more visible databases of company information, this file contains significant extracts of reports filed with the Securities and Exchange Commission (SEC) by over 9,000 publicly-held companies. These are primarly 10K reports, and they include income statements, balance sheets, names of key personnel (with their ages and salaries), segment data, five-year summaries, accounting methods, subsidiaries, filing dates, and recent management discussion. The database is heavily cross-indexed, and can provide immediate, detailed information for $6-12 per company. It is accessible through DIALOG, Dow Jones, and Mead Data Central.

Dow Jones News/Retrieval Service. This system provides a number of company investigation tools in addition to Disclosure II. One that is of particular value is knows as Media General — updated weekly, this database includes earnings, dividends, trading volume, ratios and so on for 3,200 publicly-held companies. In addition, it provides composite information on 180 industries. A typical report costs $1.00.

Other files of interest on Dow Jones include historical and current market quotes, full-text transcripts of *Wall Street Week*, and a corporate earnings estimator for 2,400 companies.

CompuServe. Offering a variety of services at very low cost, this Columbus-based system provides securities information, the Value Line database, and other company-specific data. It also hosts "Business Wire" (a wire service of news releases) and numerous other compilations of material that can be of value in a company investigation. On-line time for most CompuServe services costs $22.50/hour, or $5/hour during evenings and weekends.

Standard & Poor's News. More current but less complete than Disclosure II's summaries, this database covers over 9,000 public companies and provides not only standard financial information, but interim statements as well. Searches run anywhere from $1 to $10.

Economic Information Systems files. These comprehensive files — one for industrial plants and the other for non-manufacturing establishments, provide information on firms that account for nearly 90 percent of the U.S. economy. In the industrial database, for example, companies having over 20 employees and annual sales of over .5 million are included — with information on parent companies and subsidiaries, market share, products, sales, employment level, address, and so on. This database, on DIALOG, runs $90/hour plus an incremental charge for each record displayed — yielding an average search cost of $5-8.

Dun & Bradstreet Business Information File. This database overlaps the others quite a bit, but offers reports on subsidiaries of public companies that are difficult to find elsewhere. A typical report is $10.

Spectrum. This database, the most expensive of the category, will cost you about $100 per full report. As such, it is seldom used, but it does possess the distinct advantage of providing complete ownership profiles of public companies.

Electronic Yellow Pages. Although it offers no significant financial data, EYP is still an excellent value in company investigation because of its scope. It has no cutoff for assets or number of employees and includes over 10 million listings. This is a good way to find all companies operating under a given name, or all those listed under a specified SIC code in a particular geographical area. $60 per hour on DIALOG.

PTS PROMT. There are a number of bibliographic resources that can be of considerable utility in tracking the goings-on of a particular company. Including abstracts from about 800 journals, studies, and prospecti, PROMT allows searches on the basis of company names, trade names, events, dates, product codes, and so on.

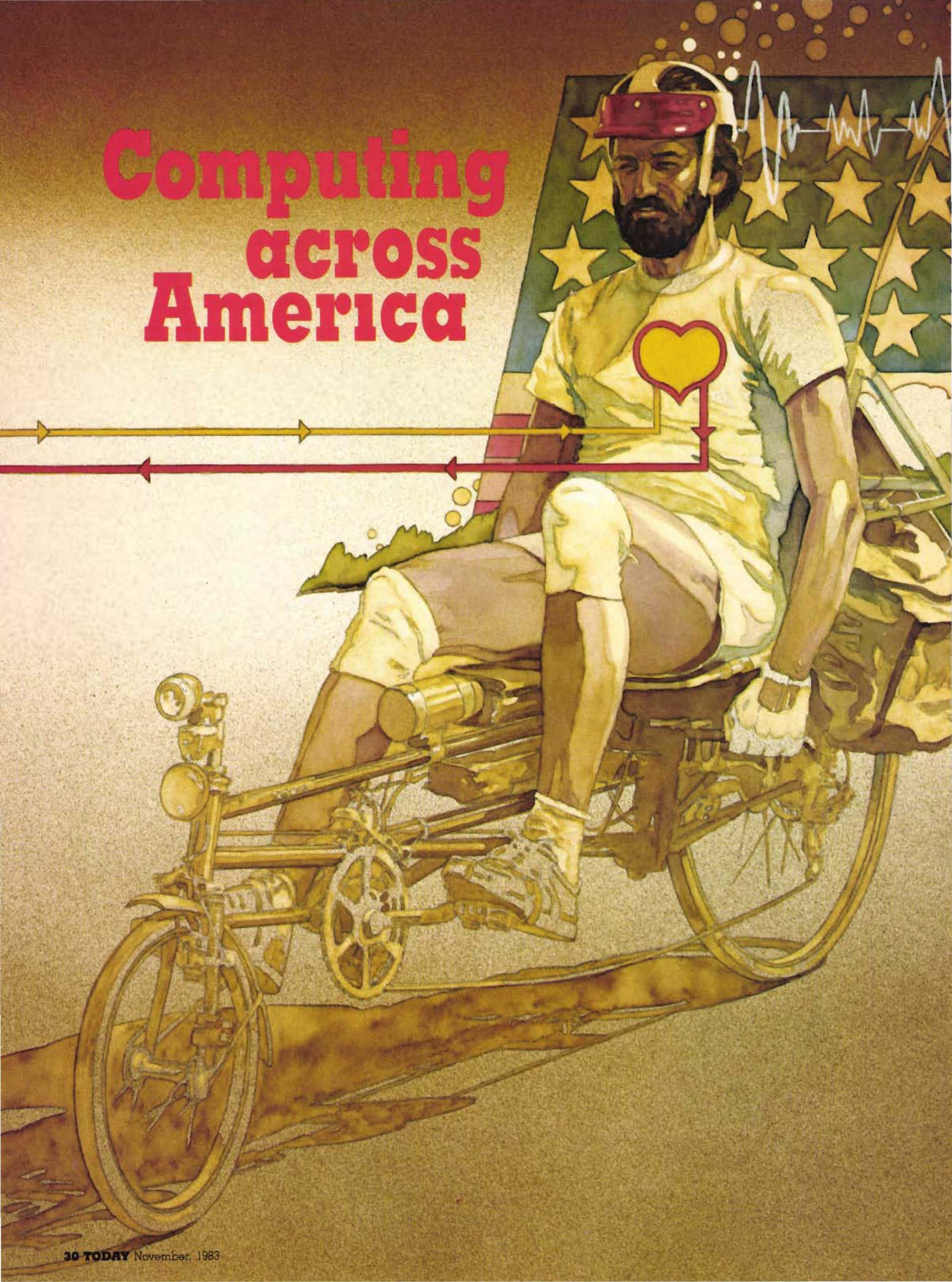
Other bibliographic databases. There is no single bibliographic database that can stand fully alone as a source of company research information. There are dozens of news databases (UPI, New York Times Information Bank, National Newspaper Index, Dow Jones News Retrieval, etc.) and even more industry-specific databases (Coffeeline, INSPEC, Pollution Abstracts, Weldasearch, Metadex, Insurance Abstracts, and so on) that should be used to track events in the field of interest. The diversity of these and the need to use more than one or two form the basis for my suggestion that you turn first to a "supermarket" vendor.

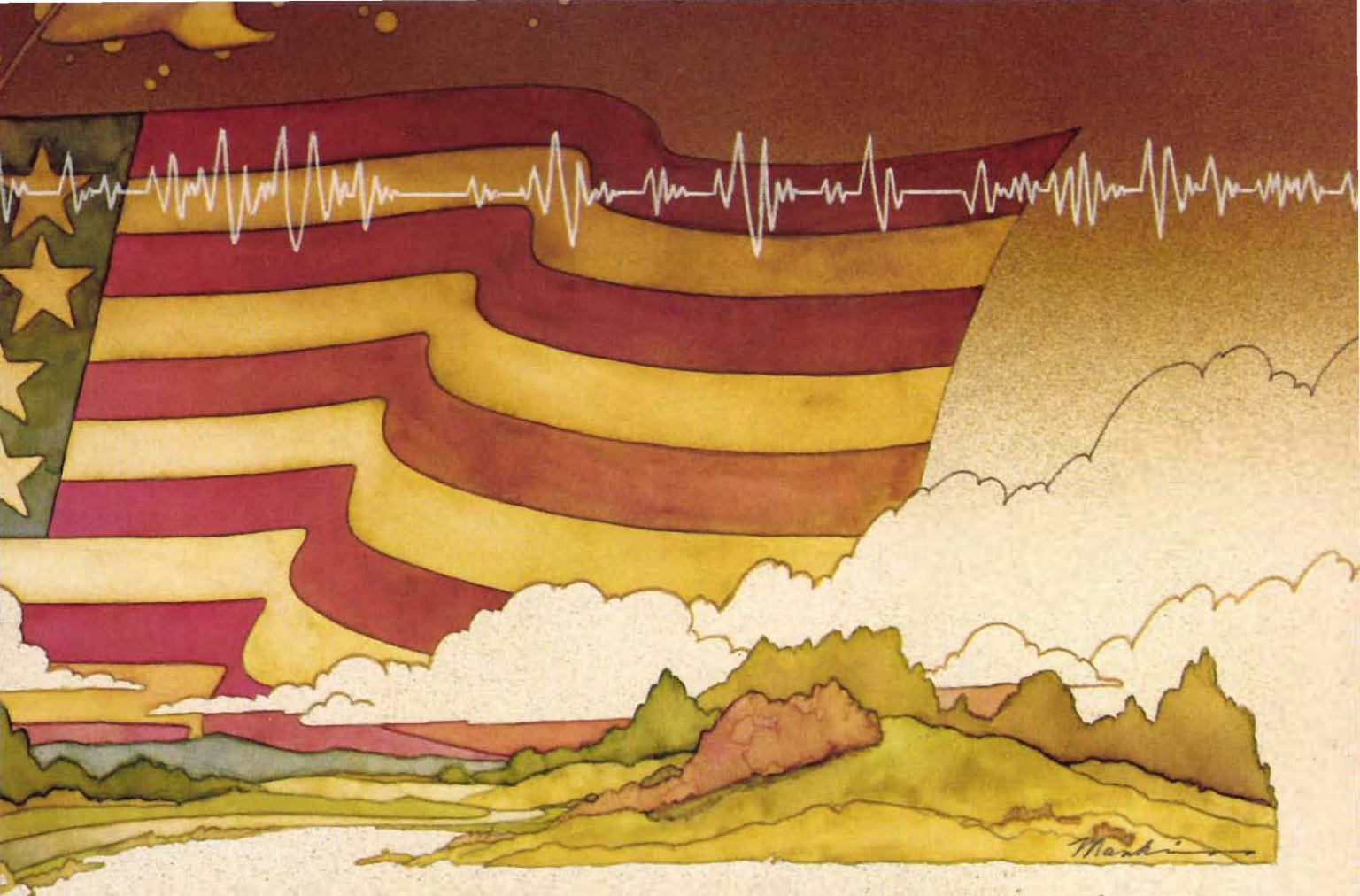
Other files. In addition to all the above — even the last "catch-all" category — there are numerous databases which, in certain circumstances, can help considerably in a company investigation project. It is possible with the Adtrack database, for example, to see who is buying ad space of ¼ page or more in about 150 major consumer magazines, and the Career Placement Registry can reveal the names of people at a given firm who are getting restless. Commerce Business Daily lists those companies that have successfully bid on government projects, and corporate sources are listed in the U.S. Patent files and the Conference Papers Index. The Congressional Information Service database can be searched for the corporate affiliations of witnesses. The list goes on and on.

As you can see, the process of re-

Continued on page 48

Computing across America





Part 1: The technology

For years, it seems, we've all been hearing about the Information Society — computers in every home, the world wired with data communications networks, information on any subject only a few keystrokes away.

This is exciting, of course, but those long-promised liberating effects of the technology have been a while in coming. The truth is that computers simply haven't had much relevance to the general public — those people who aren't particularly enchanted with the machines for their own sake. Wonderful tools, sure, but the claims made by '60s futurists have failed to materialize. "Freeing our minds for loftier pursuits," indeed. Most people who work with computers find them every bit as restrictive and demanding as traditional assembly lines.

So, to some extent, do I, even though I would be helpless without them. I make my living with words — and, of course, a word processor is *de rigueur* in this enlightened age. So are a couple of desks, 10 file drawers, boxes of paper, a photocopier, endless shelves of books, piles of magazines, and other clutter. This is the information society, all right, but the resources necessary to work in it are every bit as cumbersome as were those of the typewriter era.

Or they were anyway.

TODAY readers may recall the "Computing Across America" story by Carole Houze Gerber that appeared in these pages two months ago. The title of this series is no accident — the journey is now underway. September 28 marked the beginning of my high-tech bicycle odyssey, which is expected to last a year or more and take me 12-14,000 miles in a clockwise loop around the United States.

Not being independently wealthy (alas!), I find that such an adventure must somehow be funded. What better way than through the continuation of my writing business? All I have to do is hang the word processor, the file cabinets, the desk, and the rest of it on the back of my bicycle.

No problem.

In this, the kickoff of the "Computing Across America" series, I would like to take you behind the scenes. This adventure wouldn't be possible without the combined capabilities of network communications, CMOS microprocessors, solar power conversion, and the latest in human-powered vehicle design — not to mention a very competent support team.

Breaking the chains

The utilization and manipulation of words shouldn't require tons of equipment and support materials, for words don't weigh much at all. On the bicycle, the process centers on a Radio Shack Model 100, that wondrous 4-pound computer that has made briefcase data processing a reality.

Unfortunately, 32K of memory doesn't go very far when the fingers start flying in earnest. And while it is possible to save files on cassette tape, it is an unaesthetic and impractical method of dealing with text. The writing process is too dynamic — numerous articles and books are in progress at any given time — and a file-management nightmare would result from trying to do with cassettes what is already a nuisance with floppy disks.

Enter CompuServe.

Armed with a work area on the TODAY Writer's Network, it is a simple matter to upload and download files with the Model 100 whenever a pay phone comes into view (or when I find myself enjoying the hospitality of one of the many CompuServe subscribers who have offered a shower and respite from the road).

This all translates into more file storage, with a temporary workspace inside the portable for whatever project happens to be currently in the works.

That, however, isn't enough to sup-

Continued on page 35

Dave Mankins

'Tis the season for computing

CHRISTMAS 83

'Tis the season for computing CHRISTMAS 83

It's sure to be a high-tech holiday in computer homes this Christmas. Santa is already looking over the season's hottest gifts — sorting the outrageous from the ordinary.

We've done a little shopping ourselves, to help you find some of the most interesting items for your computer buff. Priced from under $10 to well over $30,000, there's something for every pocketbook.

Make your list. Check it twice. And Merry Computing!

Clockwise from Santa: Dot Portable Computer, Armatron Robot, Swintec printer/typewriter, Taylor Woodcraft furniture, TOPO, HERO, Software and books, Model 100, Micro Color Computer, Light Pen, Mini Printer, Color Mouse.

Imagine dialing your information service with Oleg Cassini's $30,000 14-karat gold telephone. Each designer phone is individually cast, signed and dated. (Thank goodness. One DOES expect some personal touches for $30,000.) For the more budget conscious: try the same style in black acrylic for $90.00. From Diner's Club Corp. 212-888-9450.

Finally. A printer that's also a typewriter. Lightweight (22 lbs.), baby blue and compact, a mere 18" wide, 14" deep and 5¼" high, Swintec's letter quality printer is just $749. Ours from Dawson & Co. 614-261-6153.

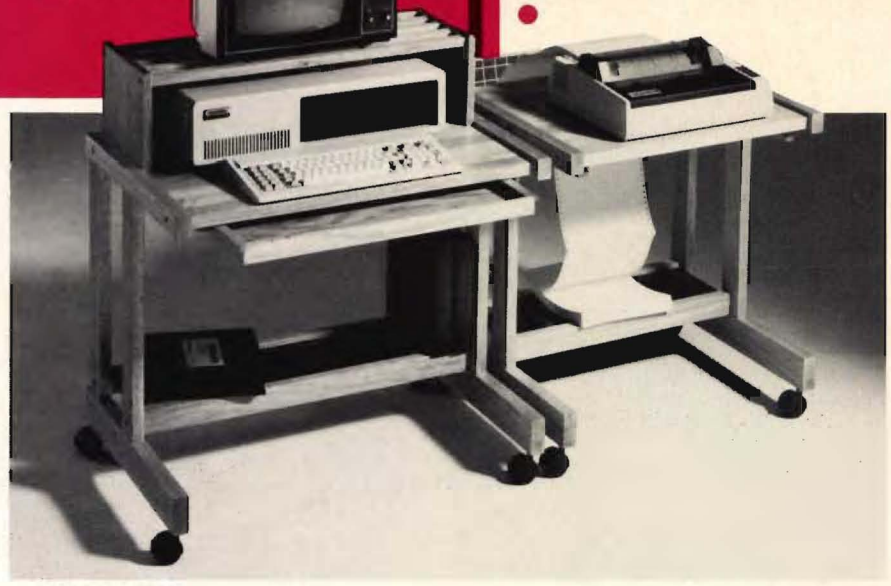
For compact printing needs, try the Radio Shack Thermal Matrix Printer with graphics, just $ 99.95.

With CompuGift's banks (right), planters and pencil holders, you can always say you gave someone a "new computer" for Christmas. Priced at just $9.99 plus $2 shipping, they are just the thing for the person in your life who is totally committed to computers. In beige, gray, magenta or yellow, 4½" x 6" x 4½". From CompuGift. 714-768-8223.

Light pens (below, left) to act like joysticks or to activate programs on your monitor are all the rage this season. Prices vary, but start as low as $29.95. Others cost up to $165.95.

'Tis the season for computing CHRI S

One creature that will be stirring in the house this holiday season is the "mouse." This one, Color Mouse from Radio Shack is just $49.95. It moves your cursor like a joystick or simulates the rolling ball action from arcade games.



The best way to "move" your terminal off the dining room table is to give it a home of its own. Your computer can be rolled conveniently from one part of the house to another with this system on wheels. Computer table, $210. Riser, $40. Printer stand, $160. All in solid oak from Taylor Woodcraft, 614-962-3741.

You can take it with you! The Model-100 is probably THE hottest electronic gift for those with money to spend. If you have $800 (8K RAM) or $1,000 (24K RAM) you'll wonder how you ever got along without it. Ours borrowed from filmmaker Bill Sattelmeyer's briefcase. You can find one at Radio Shack. Or, if you can carry a bit more equipment, try the DOT Portable (see page 32), 128K, 16 bit, 8 bit optional, double disk drive (3½" Sony), 9½" screen, detachable keyboard machine. All this for just $4,495. From Computer Devices, Burlington, Mass. Ours from DATA-TRON. 513-891-8421.

Move over Rover. Man's best friend now has stiff competition. Starting at prices as low as $31.95, robots can be "trained" to dunk your donut, fetch your slippers, even sing you a lullaby. And they even walk themselves. TOPO Androbot $1,595, courtesy RMS Inc., Columbus, Ohio. Hero ($1,499.85 in kit, $2,500 assembled) courtesy HeathKit. Armatron courtesy Radio Shack, $31.95. Others such as new Tasman Turtle Tot, (Harvard Associates, 617-492-0660) $299, also available.

Fight back with byte bat. Frustrated by bugs in programs? Annoyed at a new software manual? Know someone who is? For a mere $12.95 you can give the foam rubber "Byte Bat," a harmless way to strike back at the aggravations of computer ownership. Features 12,675,432 B.A.U.D. — Basic Aggressive Units of Dissatisfaction. From MicroTie, order toll free (less irritating and costly) 1-800-227-3900.

BEGINNER'S CORNER By Alex Krislov

The notice comes in the morning mail. "Your rental application has been approved. Please enter by the front door and leave by the rear. Rent need only be paid on rooms you use. Entrance constitutes use. A blueprint is enclosed. If you do not follow these instructions, you may find it difficult to leave the house."

Confusing? Of course. Many people feel the same way about computer networking. What *is* a network? How do you join? How do you find the areas you can use? What kind of equipment do you need? It does look like a lot of trouble to the neophyte.

A computer network uses your telephone to connect your computer or terminal with other computers. Members of the network are no longer limited to their own software and data, but instead gain access to the "host" computer's information. In other words, the network turns your little computer into part of a much bigger computer.

Is it worthwhile? Let's take another look at that letter from the rental agent. The postscript says, "All of the rooms hold treasures. Many contain pots of gold."

A good network is filled with treasures. Electronic mail systems deliver messages in mere minutes. Free programs for your computer spill out of the database like presents in a Christmas stocking. Public bulletin boards provide new information on topics from economics to music. The latest news comes to you, fresh off the wires. Networks contain more wealth then you can readily use.

To get at that wealth, you need equipment that will act as a key to the electronic "house." Your computer terminal alone will not open the doors for you. You'll also need a modulator/demodulator — in computer jargon, a "modem." A modem connects your terminal to the telephone lines, allowing you to phone a network.

Like computers themselves, modems come in varying configurations, with varying capabilities. Reliable "direct-patch" modems plug directly into a telephone jack, providing you with a noise-free connection as safe and secure as any telephone connection. The more versatile acoustic modems let you use your computer in hotels and other places where you cannot unplug the telephone itself from the wall. The modem you choose will directly affect where you can use your networking computer — so choose carefully!

You'll also want a communications software package suited to your computer and modem. Telecommunications software ranges from very simple packages that do nothing more than turn your modem on, to complex "intelligent" software that saves the information you find on networks, transmits information from your computer to the networks, and even dials the network's phone number for you.

What number, then, will you call? A variety of different networks exist, covering the spectrum from small free local bulletin boards to nation-wide consumer systems, and from private club-oriented networks to costly professional services. There are over 1,500 networks in the United States alone. Which one is right for you?

Large consumer networks, such as CompuServe and The Source, offer the largest variety of services. Each requires a "sign-up" fee and charges you for time spent on the system. Membership applications, or even working ID numbers and passwords, are available at most computer stores. These networks are the easiest to locate and join.

Small bulletin-board systems are harder to locate and more limited in scope. A bulletin-board system might provide information on local computer meetings, a setting for members to exchange opinions on subjects ranging from technology to politics, or a marketplace for everything from computers to garage sales. Such boards are as varied as the individuals or clubs who set them up. Their access numbers are spread by other computer systems, by word of mouth, and through computer stores.

Last come the expensive profession-oriented services. With rates ranging from fifty to one hundred or more dollars an hour, these networks are dominated by, and exist for, business, not for fun. Luckily, unless you require the specific services such networks sell, you can find useful counterparts on "packet" networks such as CompuServe.

All these systems combine to provide a large, confusing maze, annexed to your own home by your computer and modem. "Beginner's Corner" is here to help you map the architecture of that maze, so you can make the best use of your new home — without getting lost in the attic.

Next month, we'll take a look at the first time online, and discuss how you can find what you need in this enormous electronic mansion.

Alex Krislov is a Cleveland-based free-lance writer. His works have appeared in various publications including Analog, F&SF, Playboy, Esquire and Ellery Queen. Krislov is systems operator of CompuServe's Literary SIG. His CompuServe User ID is 76703,243.

Computing Across America
Continued from page 31

port all the needs of a writing profession. So the file's on disk in Ohio. Now what?

Enter "Uniface."

Uniface (my "universe interface") is otherwise known as Kacy. Kacy downloads and edits the articles that seem to magically appear on the CompuServe network. She also handles correspondence, manages the money, schedules projects, throws away junk mail, and generally acts as a link between me and the rest of the world. But this not-insubstantial task also involves a lot of computing power.

Enter BEHEMOTH.

The third player in this high-tech comedy is BEHEMOTH, my computer system. It is not particularly unusual as computers go, being a Multibus-based CP/M machine, but it is dependable. Uniface puts it to work as the last link in the electronic pathway my text follows to get from a bicycle-borne computer to a printed manuscript. From that point, the article or chapter can be conventionally mailed — or if the publisher is plugged into the information age, as TODAY is, it can be telecommunicated directly to their typesetter.

The net effect of all this is the elimination of the traditional trappings of an office.

This has a sublimely liberating effect, breaking the chains that have bound me to my desk. That's the idea anyway. As this series progresses, I'll let you know how well it works. And now — back to the road!

If you would like to contact Steve Roberts, his CompuServe User ID is 70007,362. You'll also find him on CB Simulator as "Wordy."

MODEL 770 SERIAL/PARALLEL CONVERTER

Engineering Specialties
1501-B Pine St., P.O. Box 2233,
Oxnard, CA 93030; (805) 486-0817
$89.95

Reviewed by Fred Blechman

One of the great mysteries of computing is "interfacing" — connecting two pieces of equipment so they can "communicate." This communication is used for various purposes, but is most common from computer to modem or from computer to printer.

The so-called RS-232C Serial Output is one means of transferring signals out of the computer and is one of the most common standards. Installation normally involves connecting only a few wires, but the device has the disadvantage of being relatively slow because each "bit" transferred follows one after another at a specified baud rate. An advantage is that relatively long distances can be accommodated between equipment with little problem.

Most telephone modems use an RS-232 input. However, printers come configured with serial or parallel inputs — sometimes both. There are many more wires involved in a parallel connection, and the distance from computer to printer must be relatively short. The big advantage in parallel transmission is that all the bits that compose a character are transmitted at once, so it is a lot faster than a typical 300-baud serial rate.

At one time the serial interface was almost universal for printers, but in more recent years the so-called "Centronics compatible" parallel interface has become more popular, with the serial input usually optional — and often considerably more expensive.

Serial output

Recently I purchased a Radio Shack MC-10 Micro-Color Computer, which, for only $120, included a built-in serial interface. This is intended to drive a modem or printer using the RS-232 standard. Most (all?) Radio Shack printers have serial inputs, and all it takes to connect the two is a Radio Shack #26-3020 Serial Interface Cable, priced at $4.95. However, of the four printers I own (none Radio Shack), only one has a serial input.

Hooking up the MC-10 to the serial printer took some experimentation, but connecting it to the parallel printers was a whole new ballgame. Radio Shack does not make a serial-to-parallel adapter.

Just as I was about to build a do-it-yourself circuit adapter, I discovered the Model 770 Serial/Parallel Converter by Engineering Specialties. I ordered one with the Centronics-type plug attached for $99.95 (it is $10 less without the plug). It arrived in just a few days.

The 770 Converter is attractively packaged in a 4.37 x 3.25 x 1.5-inch two-tone brown plastic cabinet (it's too nice to call a "box"), with clear silk-screened legends. The serial input connector is a standard female DB-25, and the parallel output metal-hooded Amphenol 57-30360 connector is at the end of a one-foot ribbon cable. The eight-page installation notes are beautifully printed, including three helpful photographs.

Making the connection

Because this unit is a general-use serial-parallel converter, the documentation is very complete. The unit requires plus 5 volts on pin 18 of the parallel plug, usually available at the printer. If your printer does not have 5 volts on pin 18, the documentation covers the necessary modifications, which should be performed by a qualified technician.

The only modification I needed to perform on this unit was to move an internal jumper-plug to set the baud rate to 600, the regular MC-10 baud rate. This required removing four screws to take the case apart. Inside is a beautifully manufactured and marked printed circuit board — first class!

The circuit appears to be quite sophisticated — far more than the one I planned to build. There are seven 14- or 16-pin integrated circuits and one large 40-pin IC. There is also a crystal for clock stability, several transistors, plus a number of diodes, resistors and capacitors.

A photo in the documentation and clear markings showing the baud rates made moving the baud-rate jumper easy. The unit comes set to 9600 baud and can be set with the jumper-plug to any of eight standard rates from 150 to 19,200 baud. No problem, even for a non-hardware hacker.

The Serial Cable

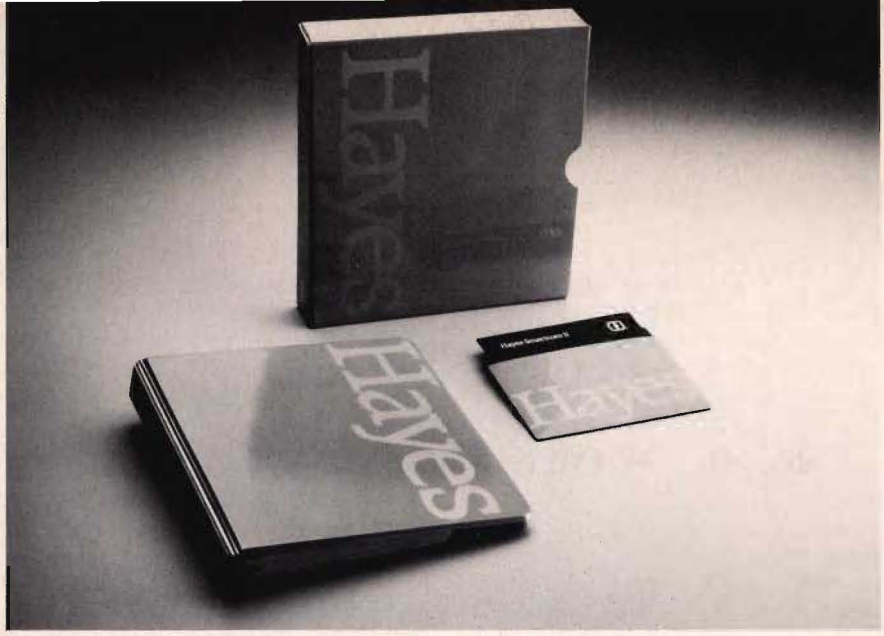
Both Radio Shack and Engineering Specialties offer a cable made to connect the MC-10 (or Radio Shack Color Computer) to the Model 770 Converter for about $20.

Because the 600 baud rate is slower than the speed capability of either my Microline 80 or Gemini-10X, I only have a throughput (overall speed) of about 25 characters per second. Using a computer with a parallel output, the throughput with most modern dot-matrix printers is 50 or more characters per second.

Other uses

The Model 770 can be used to couple the output of any serial device — some modems have serial printer outputs, for instance — to a Centronics parallel printer. Normally, if there is plus 5 volts on pin 18 of the parallel connection, all you need to do is set the baud rate, plug in the standard serial cables, and go. In the case of the Radio Shack computers, since they use a DIN plug for a serial output instead of the more common DB-25 connector, you need an adapter cable.

"I don't like this. It keeps saying 'your guess is as good as mine'."



HAYES SMARTCOM II

Telecommunication Software for the IBM Personal Computer

Hayes Microcomputer Products
$119

Reviewed by Mark Bernstein and Meryl R. Cohen

Hayes Microcomputer Products, manufacturer of the immensely popular Smartmodem, has recently announced Smartcom II, a sophisticated telecommunications program for the IBM Personal Computer. Smartcom II can be used with both the 300- and 1200-baud models of the Smartmodem and requires 96K of memory.

Smartcom is an easy-to-use, menu-driven communications program that has been carefully tailored for use with videotex, computer bulletin board, and database services. Indeed, as an introductory offer, Hayes includes free subscriptions to Dow Jones News/Retrieval and The Source. The program provides a host of handy shortcuts for frequent users of information utilities.

Smartcom keeps track of all the critical information about frequently used systems, such as phone number, communications protocol, and log-on procedure.

Calling your favorite information utilities with Smartcom is a breeze. When you wish to contact another computer, Smartcom displays a menu of up to 25 systems. You need only press a single key to make a selection, after which Smartcom will:

- Set your computer to use the proper communications speed and protocol.
- Answer the telephone.
- Dial the remote system.
- Hang up if there is no answer.
- Log onto the remote system using your account number and password.

You can also define 25 different "macros" or "user-defined keys" for each information service — a feature you might use to automatically log onto and scan a Compuserve Special Interest Group, or to get Dow Jones quotes on your entire portfolio, with only two keystrokes.

Smartcom II uses your computer's excess memory to store a transcript of an entire session (or as much as will fit in memory). While you're reviewing old information, Smartcom monitors the communications line and records all incoming information, storing it for you until you're ready to read it.

Using Smartcom's macro features, you can even arrange to have Smartcom conduct database searches while you review earlier results, or tell it to read your electronic mail while you compose your replies.

Information utility users often need to save information they retrieve or want printed copies of their on-line sessions. Smartcom II performs these tasks expertly. If, while saving incoming data to disk, the Hayes program fills a buffer in memory, it "asks" the remote computer to wait while it writes the data to disk. Smartcom's conservative design makes this procedure, often a tricky nuisance, completely painless. In our tests the program succeeded in saving long text files from both CompuServe and Dow Jones News/Retrieval without missing a single letter.

When using a slow printer, Smartcom is equally polite; it sends data to the printer only as quickly as the printer can accept it. If the printer falls too far behind, Smartcom asks the remote system to pause while the printer catches up. Smartcom always sends pause requests promptly, while it still has plenty of room to store information.

Smartcom can transmit or "download" disk files from your computer to a remote computer. Although it only provides error detection or correction when talking to another computer using Smartcom, the program does provide a good array of options for prompted transmission, which should simplify the often tricky task of moving your files to another machine.

Smartcom II is not without defects. The HELP feature is basically window-dressing, providing very little real information. This flaw isn't terribly serious, though, because the program is menu-driven and uses sensible defaults.

Smartcom won't normally send your messages at the same time it's receiving data, waiting instead for the remote computer to pause. This feature is normally harmless and even helpful, but on busy computer conferences like CompuServe's CB Simulator you may find yourself locked in silence for an unpleasantly long time.

The most serious flaw in this software is the way it handles the screen when the user has the color monitor option. Annoying little flashes appear randomly whenever Smartcom writes anything to the screen. Carriage returns briefly fill the screen with snow. Hayes knows this is a problem and includes a warning in the user manual that the color/graphics board is "designed for displaying graphics rather than text," and so is "not recommended for use with the Smartcom II."

The documentation provided with the Hayes Smartcom II is remarkably good, including a nice non-technical explanation of the way modems work. The eight-chapter manual is clear and complete, although most readers will likely regret the omission of an index.

Hayes Smartcom II will run on an IBM PC under MS-DOS. It requires 96K of memory, but its performance improves significantly if extra memory is available. The program is supplied on floppy disk, without copy protection, under a standard single-system license. At a list price of $119, database and videotext users will find Smartcom II to be a terrific package.

THE ELECTRIC BLACKBOARD:
Dividing and Conquering Your Screen

Santa Crus Software Services
1711 Quail Hollow Rd.
Ben Lomond, CA 95005
(408) 438-2360
$198.00

Reviewed by Ernest E. Mau

As a multi-window text editor, *The Electric Blackboard* offers unusual capabilities that can significantly enhance text processing. Notice this is a text editor, not a word processor. It allows information to be entered, changed, rearranged, and otherwise edited, but it does not provide a printout capability. Therefore, users wishing to have their work output on paper have to use a separate print formatting program or a word processor on the files created by *The Electric Blackboard*.

The key to this package is its ability to divide a screen into as many as 10 separate and independent "windows" or working areas. Each can view separate areas of a document or sections of different documents stored as individual disk files. Each is loaded, controlled, and edited independently of others on the screen.

What does that mean? Well, it's ideal for "cut and paste" or "boilerplate" operations where pieces of information must be drawn from separate files and reassembled as a new document or inserted into existing text. Moving from window to window, you can look at different things, move or copy materials from place to place, open holes, mask off and insert illustrations, and so on.

It's also handy for comparing data such as widely separated tabular columns or rows. By putting elements in adjacent windows and scrolling each independent of the others, pertinent details can be displayed and manipulated in parallel.

It's even possible to build "command files" that contain specific instructions to the program. Later, they can be executed against various files to accomplish specific tasks for display and modification automatically or with a minimum of keyboard operation.

There's also a mode of operation known as the "picture cursor" in which you can "draw" on the screen. It provides directional control up, down, left, and right, moving the cursor in the designated direction each time a character is typed. The operation allows block diagrams and other illustrations to be drawn and labeled quickly and easily. Labels like those on the vertical axis of a graph are a snap to enter without having to type, move down, move back a space, and type again.

All these features work well. Of course, they're not the kinds of things every computer user is likely to need. Yet the specialized operations can be useful for serious word processing, complex text handling chores, professional editing, and the like.

There also are limitations. As stated, this is not a word processor and lacks provisions for output to a printer. It also lacks some typical word processing frills like enhanced printing of boldface, superscripts, etc. However, it does accept literal or "quoted" command characters, so instructions can be embedded to drive virtually any print formatting program.

Unlike word processors, text entry requires using a carriage return much like a conventional typewriter. There is no right margin within the 254-character maximum width of a window, and lines break only when a carriage return is typed. Similarly, some editing cursor controls are limited, allowing immediate jumps to the beginning or end of a file, tabulation to selectable "stops" across the screen, and motion one line up and down or one character right and left.

Some commands tend to be cumbersome, often consisting of the ESCape key and the initial letters of a multiple-word instruction. For example, the command to set a tab stop uses the five keystrokes ⟨ESC⟩⟨O⟩⟨S⟩⟨T⟩⟨S⟩ for Option Set Tab Stop.

Perhaps the biggest drawback is the terminal installation procedure. Normally, the program is delivered preconfigured for a specific video terminal and keyboard. That's great if the terminal isn't changed. However, when a terminal is replaced, reconfiguring can be difficult.

The supplier does provide the assembly language listing of the terminal configuration used. However, there's a strong possibility that desired features of a new terminal may not be included in the original listing. A user would either have to go back to the supplier for a new configuration or would have to program his own using the current listing as a guide. Once licensed, however, the charge for a new disk with an alternate configuration is nominal — $35 if the supplier has already developed the configuration program.

The Electric Blackboard offers some interesting editing aids. My own applications frequently require some elaborate text manipulation, so this program offers advantages over typical word processors when those operations are needed during final stages of readying the work.

The Electric Blackboard requires a Z-80 microprocessor, at least 48K of memory, either the CP/M or CDOS operating system, and a CRT with cursor addressing. Versions are available for a wide variety of CRTs, and special releases can be provided for built-in or memory-mapped screens on the Apple II, Osborne 1, TRS-80 Models I, II, and III, and others.

THE ARRANGER II

Triple-D Software
P.O. Box 642, Layton UT 84041
$49.95

Reviewed by Fred Blechman

If you've ever been frustrated trying to find which disk has a certain program, you'll love Arranger II. This automatic disk index system is for Radio Shack TRS-80 Models I (double-density), III and 4 and is universally compatible with most (if not all) disk operating systems used by these computers.

What does the Arranger II do? Practically anything you can think of for a directory — and the detailed screen menu makes it so easy to use the Arranger that the excellent documentation is almost unnecessary.

The basic purpose of Arranger is to allow you to keep track of which pro-

gram is on which disk, and you do that by allowing Arranger to read each disk and (A)dd all the filenames on that disk into a master directory. It does this in about five seconds per disk.

With the (R)ename menu choice, each disk can be identified with any eight character name you want. If you rename the disk and want to (D)elete the old name, go ahead. You can (U)pdate the master directory to include new files on a disk already in the directory, print a label to identify each disk with the name and system parameters, or examine any disk directory without including it into the master directory. You can (B)ackup the Arranger II disk (which now contains the master directory) at any time.

Once you've got all the filenames in Arranger's master directory, (V)iew shows important facts about each disk in your library, including free space. Other menu choices allow you to: (F)ind any filename using full or partial name, (L)ocate which disks have a specified amount of free space, (S)can each disk directory with the filenames in alpha-numeric order. If you wish to isolate part of the library to show only certain disk names, DOS type, disk type or track numbers, the (C)hange Filter menu choice is used.

Arranger II uses the (P)roduce alphabetical list function to examine all or part of your filenames in alphabetical order. The scroll function works rapidly with the up and down arrow keys. And, best of all, you can get a formatted, dated, paginated, alphabetical three-column printout to save running the program every time you want to locate which disk has the filename you want. You can also get printouts with the Scan, View, Locate and Find functions. Except for the printouts, which are limited by your printer speed, the Arranger operates extremely fast.

Arranger's capacity is enormous: 255 disks with up to 255 filenames per disk — over 11,000 filenames. It will handle 35, 40 and 80 track single or double-sided disks. Arranger I, with the essential functions, but not all described above, is available for $29.95.

Most of the programs I use I have written myself. But of the many programs I've purchased over the years, I regularly use only two — Zorlof, the Magnificent Word Processor, and Arranger. I consider it a "10."

THE INCREDIBLE JACK

Business Solutions Inc.
60 East Main St., Kings Park, NY 11754
(800) 645-4513
$179.00

Reviewed by Ernest E. Mau

The Incredible Jack promises a four-in-one package for Apple II and IIe computers. Supposedly it's a word processor, personal filing system, numeric calculator, and mailing label processor.

No argument! Those features are present and functional. The program can prepare text, create a notecard-like filing system, perform calculations, and create and selectively sort information.

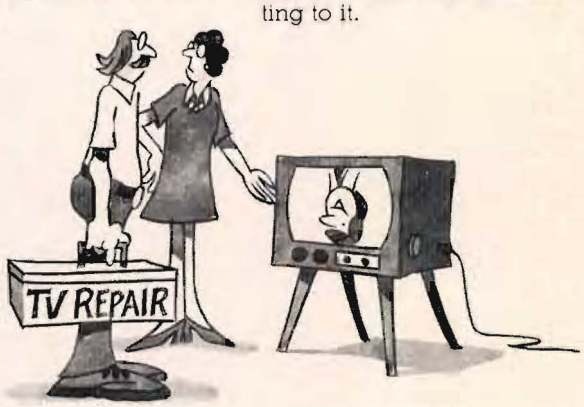
Most of those it does well. Calculations are quick and easy using formulas "footnoted" into data and text files. Filing and information sorting don't approach the capabilities of dedicated database management systems, but they work.

Word processing is marginal. Editing commands are limited, and cursor control is inconvenient, allowing movement of only one letter or line at a time. Moving, inserting, overwriting, deleting, justifying, and otherwise manipulating text are allowed. Yet functions for finding or finding and replacing text have been omitted.

Furthermore, this is an isolated system. Data files cannot be read by conventional spelling proofreaders, network communications software, and so on. Apparently, there's no way to store formatted text to disk, so even if a file could be read, it probably couldn't be transmitted to a network. In short, files cannot be brought into or out of the program, cutting it off from functions not built into the package.

One diskette is provided. The "official" price of a backup is $20, which seems high for a $179 purchase. My package had a coupon for $15 off the backup which helps, but doesn't change my aversion to high prices for backing up copy-protected software.

Prospective users are advised to approach this package cautiously, testing it thoroughly before committing to it.



SOUL OF CP/M
How to Use the Hidden Power of Your CP/M System

by Mitchell Waite and Robert Lafore
Howard W. Sams & Co. Inc.
391 pages, $18.95 softcover

Reviewed by John Edwards

CP/M is the operating system people love to hate. Thousands swear by the system for its wide range of applications programs and easy transportability. An equal number of users, however, swear at the system because of its arcane commands and stupefying structure. As operating systems go, CP/M may be the only one that can be classified as "user-nasty."

Soul of CP/M: How to Use the Hidden Power of Your CP/M System is a book that aims to take the mystery out of this immensely popular operating system. Written for BASIC and other high level language programmers, the book covers such topics as 8080 Assembly Language programming, CP/M I/O communication, and console system calls. Also included is information on CP/M disk operations, tips on modifying and customizing BIOS, and complete descriptions of those mysterious DDT, LOAD, and ASM programs.

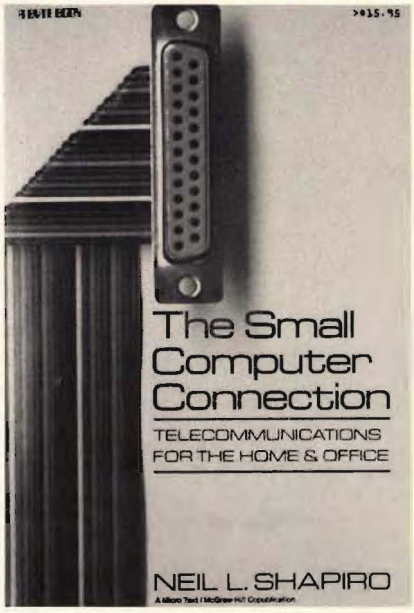
What authors Mitchell Waite and Robert Lafore have put together is a masterful compendium of CP/M information that works on at least two levels. First, the book is a fine tutorial for those just getting their feet wet in CP/M. Beginning with basic concepts and slowly escalating to more complex concepts, the book takes its readers by the hand and introduces them to the intricate world of CP/M in a painless and often lighthearted way.

Second, the book also makes a fine reference text for experienced programmers. Since no one can expect to know everything about CP/M (indeed, one sometimes doubts whether the folks at Digital Research, CP/M's developer, have ever fully understood their own system), *Soul of CP/M* deserves a place on every microcomputer programmer's bookshelf. The thorough appendices and handy utility programs alone justify the book's cost.

If there's any problem at all with this book, it's that it sometimes gets a little too thorough for its own good. Basic concepts are often repeated to death, and some rather trivial bits of programming theory are given more space than they actually deserve. On the whole, the book's organization could have been a bit tighter. These are relatively minor flaws, but problems nonetheless.

Soul of CP/M isn't a book for computer users who are more interested in a program's output than its construction. Those with a technical bent, however, should find it rewarding reading.

THE SMALL COMPUTER CONNECTION:
Telecommunications for the Home & Office



by Neil L. Shapiro
Micro Text/McGraw-Hill
190 pages, $15.95

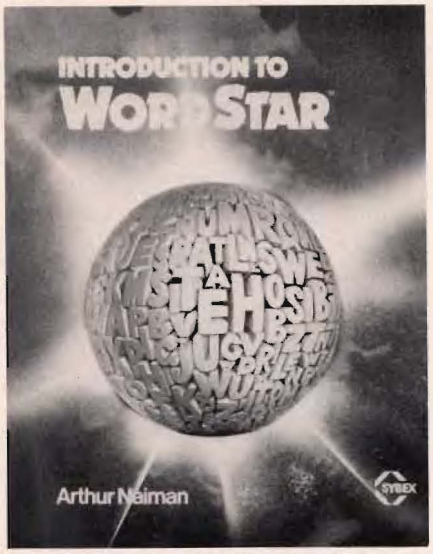
Reviewed by John Edwards

What do the acronyms SIG, BBS, PAMS, and RCP/M mean to you? If they sound familiar, you probably have a solid understanding of the world of videotex. If not, then you'll most likely want to read *The Small Computer Connection: Telecommunications for the Home & Office.*

Written by Neil Shapiro, system operator of CompuServe's Apple Special Interest Group and electronics editor of *Popular Mechanics* magazine, this 190-page work provides its readers with a complete guide to all aspects of the videotex revolution. Whether you're interested in using one of the major commercial videotex services, such as CompuServe or The Source, or any of the hundreds of local computer bulletin boards, *The Small Computer Connection* has the information you'll want to know.

In his work, Shapiro covers such varied aspects of the field as modem selection, communications software, electronic mail, computerized shopping, and electronic banking. Each of these topics and many others are described clearly and accurately with a minimum of buzzwords. In a decidedly non-technical tone, the book also manages to untangle such knotty problems as modem installation and configuration, data uploading and downloading, and on-line file storage. An extensive appendix lists the telephone number of every public bulletin board system in the country, and also provides a comprehensive rundown of each system's command structure. Complete descriptions are also provided for all of the major videotex services. Using over 50 illustrations and dozens of concrete examples, Shapiro actually takes us into the various systems and gives us a peek at what each of these services looks like on users' video displays.

The Small Computer Connection is, in every respect, the most thorough book on computer telecommunications aimed at a lay audience. If you're interested in learning all about the constantly growing range of information services, this is the book to read.



INTRODUCTION TO WORDSTAR

By Arthur Naiman
Sybex
208 pages; $11.95 softcover

Reviewed by Ernest E. Mau

WordStar is reputed to be a difficult word processor to learn — a reputation that may or may not be deserved, depending on your viewpoint. Arthur Naiman's book, *Introduction to WordStar* is intended to get the novice user past the first week or two of possible confusion.

Now in its second edition, this book takes a straightforward, commonsense approach to working through the basic functions of WordStar, the MailMerge option, and the SpellStar option. For the most part, the book is clearly written, and it's well supported with useful illustrations. Using the approach of setting off each new function with an illustration of the keys that issue the command, the book is easy to follow on a beginning-to-end read through or a scan of pertinent topics.

Introduction to WordStar seems better than most other introductory books that attempt to cover the same subject. With one exception! The tutorial provided by MicroPro with the recently released version 3.3 WordStar offers more information and a better basis in WordStar applications than this book. To verify that, I turned both over to a novice user who had no prior contact with WordStar. Monitoring her progress through both volumes, she seemed to learn more and faster from the MicroPro tutorial. She also complained less of confusion and asked fewer questions when working with the MicroPro material.

Therefore, *Introduction to WordStar* appears best suited to those users who acquire older revisions of the word processor, which are widely distributed as value-added packages with many small computers. Such systems often don't provide any tutorial, and users could benefit immensely from this book. However, people acquiring revision 3.3 WordStar probably will benefit more from the tutorial provided and could easily do without Naiman's help.

All readers must remember one thing: this book is for novices. It's an aid to overcoming initial frustrations, but it's not required. It can shorten the learning period for fundamental procedures, but it offers no revelations about practical applications and advanced methods of word processing. It's particularly lacking in the area of MailMerge applications, going only as far as the most easily accomplished uses for mailing lists and form letters. That's the common fault of novice-level books. They take you just so far and leave you on your own. Finding ways to apply or bend the normal procedures is strictly your responsibility.

The highly touted addition of IBM PC information is not particularly impressive. It's little more than a seven page appendix tacked onto the end of the book to identify function keys used in place of normal WordStar command sequences. In itself, it's not a reason to favor this book over any other.

In summary, *Introduction to WordStar* can be considered better than some other works on the subject. It could be valuable to those needing hand-holding during their first few weeks with a system. Beyond that, it could serve as a quick reference, but probably wouldn't be needed by anyone using WordStar on more than a casual basis.

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Industry Watch

INFORMATION MANAGEMENT SYSTEM

OMNIFILE, the first microcomputer-based information management system specifically designed to meet the special needs of professionals, has been introduced by SSR Corp.

The software, available for both floppy and hard disk systems, was developed to help professionals cope with the burden of ever-increasing volumes of information.

Among OMNIFILE's features is a "how to" section in the user's manual. The section includes examples of how OMNIFILE can be used to improve productivity and decision-making in a variety of fields, including business management, marketing and sales management, finance, law and medicine. Specific business applications, including case docketing for attorneys, client dossiers for insurance professionals, salesperson productivity reports for sales managers, appointment scheduling for doctors and dentists and personnel files for business managers are designed in this section.

OMNIFILE requires 128K of RAM and two disk drives and is available for the IBM PC and XT, Victor, Wang and other machines using MS-DOS or CP/M-86 operating systems. It sells for $425.

For information, contact SSR Corp., 1600 Lyell Ave., Rochester, NY 14606. (714) 254-3200.

MICRO LINK II GOES VICTOR

The Micro Link II, a popular communications and electronic mail program, is now compatible with the Victor 9000. With a telephone modem and The Micro Link II, personal computer users can bring the world of information to their homes and offices. Information bases, such as CompuServe and The Source, timesharing mainframes and other micros are only a keystroke away.

The Micro Link II sends and receives any text, data or program file up to the capacity of the user's disk drive. Simple menu selections make even the very advanced features of this program easy to understand and use.

Several file-sending methods are available, including prompted line-by-line transmission and error-checked sector transfer.

Other versions of the Micro Link II run on the Hewlett-Packard 125 and Morrow Micro-Decision as well as most computers equipped with CP/M 2.2, MS-DOS or CP/M-86. Because the Micro Link II comes customized for the user's computer, no installation procedure is required.

For information on the program, which sells for $99, contact Digital Marketing Corp., 2363 Boulevard Circle, Walnut Creek, CA 94595. (800) 826-2222.

TRS-80 III VIDEO UPGRADE

Holmes Engineering has released the Holmes VID-80, a plug-in, printed circuit board which expands the TRS-80, Model III display to 24 lines of 80 characters and allows operation of the CP/M 2.2 operating system.

No software drivers are required for the TRSDOS to run in this mode. Basic programmers and users will find that the 64 x 16 display limitations have been removed, offering access to a full 80 x 24 display screen.

The standard CP/M 2.2 operating system has been enhanced with eight inch disk drive capability if the user's system includes a disk controller capable of eight inch operation. Many different 5¼ inch disk formats are supported by the VID-80.

The VID-80 board retails for $279.50 and the CP/M 2.2 operating system sells for an additional $120.

For information, contact Holmes Engineering Inc., 5175 Green Pine Dr., Murray, UT 84107. (801) 261-5652.

DATABASE MANAGEMENT SYSTEM

Query! is a general database management system from Hoyle and Hoyle Software.

With Query! the user can create as many as 255 fields with 255 characters each. An added feature allows the user to select Screen Hold (on/off) so that records with more than 22 fields will no longer scroll off the screen. This ability to fill and hold the screen is automatically enabled in Create and Add where database design is established and record information is entered.

In addition, the user can select from several options when sending records to the printer.

The newly revised version of Query! is available for the TRS-80 Models III and IV, Apple IIe, IBM PC, all Heath/Zenith disk systems and Standard, eight inch IBM format CP/M. List price is $29.95.

For information, contact Hoyle and Hoyle Software Inc., 716 S. Elam Ave., Greensboro, NC 27403. (919) 378-1050.

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A companion shelf system, which fits on top of the desk, has storage for software. It also has a monitor opening of 21½" by 26" that will house virtually all size monitors. Two sizes of monitor platforms are also available.

Another component in the Woodbury Series is the printer stand. It is mounted on casters and is designed to accommodate virtually all front and rear feed printers.

For information, contact FineTech Furniture Inc., P.O. Box 280, Woodbury, TN 37190. (615) 765-5921.

CASE IT UP

The Computer Case Co. has introduced six new cases for the DEC and Victor computers and the new Epson printers.

The DE540 holds the DEC Rainbow or Professional computer along with the keyboard ($129) and the DE541 holds the monitor ($109).

The VR530 case holds the Victor 9000 computer with keyboard ($129) and the VR531 holds the Victor monitor ($109).

The P410 holds the new Epson FX80 printer ($109) and the P412 case holds the new Epson FX100 printer ($119).

The unique design of the cases provides controlled access without dismantling the set up, saving cables and plugs from damage of repeated connecting and disconnecting. By replacing and locking the case lid, the computer and software are protected from tampering and unauthorized use. The lid is easily removed, so that the equipment can be operated without removal from the case.

For information, contact the Computer Case Co., 5650 Indian Mound Court, Columbus, OH 43213. (614) 868-9464 or (800) 848-7548.

COMMODORE 64 FINANCIAL PROGRAM

Ever wonder how much a loan costs? Or just how close your monthly expenses are to your income? These are some of the questions that are answered by a new Commodore 64 program from Softsync.

The program, which is called Personal Accountant, uses the common accounting practice of double entry bookkeeping. With this system everything is entered twice, once in a debit account and once in a credit account. With Personal Accountant, the user simply enters one account, tells the computer which other account is affected and the computer does the rest.

The program provides professional financial reports, which will list assets and liabilities or a trial balance for a small business or the home. It will also prepare an income and expense report.

For information, contact Softsync Inc., 14 E. 34th St., New York, NY 10016. (212) 685-2080.

NO-ZAP SHOCKING SOLUTION

Static electricity that surges from your fingertips to your computer can cause your computer to lose data or even sustain damage. No-Zap is a small and inexpensive item that can solve this shocking problem.

Before using the computer, first touch the metal point on No-Zap and any static charge you have picked up will pass harmlessly through No-Zap to the ground. It is easily installed by placing it near the keyboard and running its attached lead and alligator clip to the ground.

No-Zap sells for $12.95 plus $2 postage and handling (with $.65 tax for Massachusetts residents) from KIS Engineering, Box 751-TO, Methuen, MA 01844.

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The Wire Tree, a four-outlet filtered power source, can offer reliable protection to your personal computer against voltage surges, spikes and radio frequency interruptions that can easily damage circuitry and affect computer memory.

The unit mounts on the computer work station and absorbs any dangerous spike energy before it reaches the computer by providing an extremely rapid decrease in circuit impedance. It sells for $69.95.

For information, contact NETWORX, 203 Harrison Pl., Brooklyn, NY 11237. (212) 821-7555.

CUSTOM REPORT GENERATION

Team Manager, a new product from Open Systems Inc., allows custom report generation as well as selection and formatting of data from the Open Systems accounting applications for transfer to mainframes and/or other popular micro-based products.

Team Manager allows the user to select from over 800 predefined data-dictionary elements to create simple or complex reports. It is designed to work with Open Systems' Software Fitness Program, a set of seven interactive multi-user accounting applications.

In addition, the product allows the data selected from the data dictionary to be reformatted for use by other applications. Through a menu selection process, selected data elements can be reformatted in D.I.F., S.D.I., SYLK and ASCII formats.

Team Manager is written Business BASIC and runs under CP/M, MP/M, CP/M-86, MP/M-86, MS-DOS and PC-DOS. For information, contact Open Systems Inc., 430 Oak Grove, Minneapolis, MN 55403. (612) 870-3515.

CONNECT DIRECTLY TO TELEX LINES

Teleface Corporation has introduced a series of new telecommunications devices that permit owners of most computers, word processors or printers to interconnect with domestic and international telex systems, without requiring bulky and expensive telex hardware.

The interface is called TelexPlug and is designed to adapt computer-related equipment as the transmission media for entering telex, TWX or DDD networks, thus by-passing conventional telex machines.

TelexPlug operates on a powerful microcomputer chip that permits the design of a low-cost gateway to various communications systems. The chip, similar in power to those used in larger computer systems, gives the interface the capability to do code and speed conversions up to 9600 baud, which are critical factors in providing flexibility and economies in connections between different telex types.

The new interface can be connected to a computer, word processor or printer even if that equipment only has a single port. Other features include multi-linking to a telex line, direct and exclusive access, unattended operation and repetition of message.

The basic cost for each unit is $1,270 with various options available at additional charge. For information, contact Interface Corp., 111 Rivington St., New York, NY 10002. (212) 477-6802.

PASCAL 80 GRAPHICS PACKAGE

New Classics Software has announced a high resolution graphics package for Pascal 80, which will allow TRS-80 Model III and Model IV owners to use Pascal for their graphics programs.

The package, which sells for $39.95, requires Pascal 80 and the Radio Shack high resolution graphics board. It includes a set of simple graphics routines, Pascal turtle graphics routines, a character generator, printer routines and demonstration programs.

The package is available from New Classics Software, 239 Fox Hill Rd., Denville, NJ 07834. (201) 625-8838.

HIGH RESOLUTION DISPLAY

A 12-inch, diagonal monochrome computer display, designed to meet the increasing needs of the personal computer and small business computer markets, has been released by Panasonic.

The Model TR-120MPDA features a direct etched faceplate to minimize glare and a sharp, high-resolution display. Boasting a wide video bandwidth of 20 MHz, the unit easily reproduces 80 x 25 character displays or computer graphics through amber phosphors. Additional features include a video looping connector and an integral audio system.

Suggested retail price is $240. For information, contact Panasonic Industrial Co., Information Systems Group, One Panasonic Way, Secaucus, NJ 07094. (201) 348-7183.

WAR GAMES

Am I the only one here who has the uncomfortable feeling that there's a witch hunt in the air? All of a sudden an awful lot of people seem worried about computers talking to each other.

This summer a group of Milwaukee youths made national news when they used their home computers and modems to break into a government computer system in Los Alamos, N.M.

For the media, stifled in the dull dog days of August, the story seemed heaven sent. The computer "raids" were patterned after the hit summer movie, "WarGames," in which a boy and his micro got into a NORAD computer and nearly set off World War III.

The Milwaukee incident was nothing so dramatic — the government acknowledged that nothing secret or sensitive was retrieved by the intruders. However, for a bored press, this was the best story of its kind since the sightings of great white sharks following the opening of "Jaws."

Everyone got into the act.

The trespassers, speaking through their lawyer, claimed responsibility for up to six dozen raids on government and business computers, and soon were talking of selling their story to television.

The embarrassed government promised a full investigation with the FBI hinting at prosecutions.

Attorney Paul Piaskoski, representing some of the accused, said, "I think it is a shame if they do under these circumstances. I think (the raiders) in a sense have done a service by exposing the chinks in our armor."

A preferable alternative, he said, would be a congressional inquiry.

It was about then that I started getting nervous.

Now, to me, computer hackers who access systems without authority are crooks, in the same category as software pirates. Both threaten the rest of us.

Unchecked piracy of programs undermines the software market, making it less profitable for talented programmers to do business with us. Unabashed computer trespassing might bring down on all of us blanket regulations from a frightened, angry government, unaware that its regulation does nothing to stop the intrusions, but hinders the thousands of us who legitimately use the networks.

Still, the idea of an election-year congressional investigation of computer raids is unsettling. We have the ingredients for a good old-fashioned witch hunt:

•There's fear and superstition. Despite the growing number of personal computers now in use, most people still are in the dark about them and many fear the machines' unknown power.

•There's a perceived threat. Some people feel their privacy already is vulnerable to government and Big Business. They're distraught that some of that awesome power may somehow be in the hands of their computer-owning neighbors.

•There's indignation. A resentment is building in some sectors by those who see computers as largely responsible for the automation that may have cost a loved one a job.

Add to all of this the possibility of a backlash among non-computer owners who have overdosed on all the news of the bright new machines in most newspapers and magazines.

My concern is that some politician, hungry for issues for the coming political season, might see this as a publicity gold mine. "What we need to do is regulate these people, get a leash on this power." Historically, some very bad decisions have been made when the atmosphere is charged with emotion and politics. In this case, the victim could be all of us who regularly participate in videotex.

As computer owners, many of us know what motivates electronic trespassers — it's the challenge. The same drive that makes a programmer sit up until three in the morning shaping his new game program can feed a darker side of computing. Most computer invaders and software pirates do what they do for the satisfaction of breaking the unbreakable code.

Most have no intention of stealing information or crashing computer systems. More often than not, they turn around and leave after they've proved they can get into a security area. It's similar to kids joyriding in a borrowed car or breaking into the school after dark.

The problem is, of course, that trespassers — physical or electronic — sometimes damage other people's property accidentally. That's possibly what happened when a hacker raided the hospital computer at Memorial Sloan-Kettering Center in New York. The administrators say the prankster almost caused the failure of a computer that was monitoring cancer patients.

Can't you just see a politician using that incident as the grounds for regulations on anyone who's capable of communicating with other computers? "Look at this — they're dangerous!"

When the government feels it must forge new weapons to deal with electronic intrusion, the legitimate networking public must try to influence those decisions. For instance, we should make the point that the people in charge of protecting information have some of the responsibility here too. If a man breaks into my house, he's guilty of trespassing. But if I leave the door standing open, I'm partly to blame.

Granted, there is no human code that can't be eventually broken. However, I think some systems people have taken that as grounds not to try. Those with information to protect should be accountable for constantly improving the security and regularly changing passwords, including the security of those "back doors" that allow quick access to the system.

What else should we say to a public that's nervous about what we do?

We should tackle the computer superstition head-on. I once interviewed a lovely 65-year-old woman who had spent more than half her life in the civil rights movement. Looking back, she had a simple message after all those years of struggle for minority rights: "I tell everybody I know — do more business with people who fear you. Often

COMING IN THE DECEMBER ISSUE OF TODAY

Computers in the Home
As computers are making their way into more homes, they are changing the lifestyles and values of not only the family, but of society. Relationships with family and friends, methods of education, work and play were once considered separate entities of our lives. With the advent of the microcomputer these elements are converging. Next month TODAY takes a look at these important psychological effects of computing.

Modem Wars
A few years ago few of us had even heard the word "modem" much less knew what it meant. Now the modem is the center of controversy in an economic struggle between network users, telephone companies and the Federal Communications Commission. Next month, TODAY takes an in-depth look at all sides of this complex issue.

Word Processing Add-Ons
You can make word processing even more valuable with the addition of programs that check spelling, look up synonyms and perform other time-consuming writing chores. TODAY Reviews Editor Ernest E. Mau will take a look at a series of programs designed to enhance the ever-popular WordStar word processing program.

people fear you because they just don't know any better. If I cut you off, I'm never going to find out all the good things about you. And you won't learn about me, either."

Our familiarity with microcomputers makes us a minority group and I think we need to help others understand what we're doing. The message to get across is that not all communications between computers is somehow sinister, that communications is a perfectly legitimate use for a computer.

The time will come when micro owners will want a united voice on the issues that affect them. Obviously, how government deals with abuses of data communications is something in which we all should have a say. But there are other issues too.

Out in Oklahoma right now, for instance, modem owners are dealing with a local phone company that wants to place extra fees on home computer owners who are capable of communicating with databases like CompuServe. What's decided in that case may eventually have ramifications to the rest of us.

And, of course, there's no secret that the nation's copyright laws will be changing radically, partly because of microcomputers — the protection of software is pressing the existing statutes to the limits. We, as the consuming public, should have a voice in how those laws are changed.

As a dyed-in-the-wool networker, I think the electronic communities like CompuServe and The Source will be the boroughs where we will find our national voice.

Until that happens, I think we must protect the open communication we have here and head off any thoughtless regulations. I think we as an electronic community can't afford to have a laissez faire attitude about unauthorized computer accesses. Just like the software pirates, they may not intend harm, but their lack of ethics could undermine us all.

Charles Bowen is a contributing editor of TODAY. His CompuServe User ID is 70007,411.

Online
Continued from page 29

searching company information is a complex one for which there are abundant on-line resources. The same can be said of engineering, general business information, legal work, life sciences research, news, and virtually every other major endeavor. The message here is that the claims made by advertisers in the information industry should be taken with every bit as much sodium chloride as those of other disciplines: there is simply no single source that can represent a "one-stop shopping" environment for anyone with complex requirements.

Of course, not everybody's information needs are as complex as all that. Perhaps you are an attorney specializing in patents and intellectual property in the microcomputer field — then you could probably do quite well with a few patent databases (CLAIMS, DERWENT, and PERGAMON), one on general law (LEXIS), another on patent law (PATLAW), one on trademarks (COMPU-MARK), a few on the technology itself (INSPEC, COMPENDEX, Microcomputer Index, International Software Database, etc.) the Congressional Record, Dissertation Abstracts, and a scattering of general files such as MARC, Magazine Index, Books in Print, and NTIS.

Summary

As the foregoing suggests, there is more to using on-line services than buying a terminal and signing a contract with a vendor. You must become familiar (and then stay that way) with a number of different databases and systems — few of which offer exactly the same command formats. It can be a little overwhelming.

I have already mentioned that you have the option of relegating all your on-line searching activity to your company librarian or other intermediary. But before concluding that this is a necessary approach, give searching a try. You may become hooked. Besides, nobody can ever know your own applications as well as you do, so why suffer through the process of explaining your needs to someone else? A truly sophisticated intermediary can "draw you out" and discover more about your requirements than you probably knew yourself — but such competence is rare and quite expensive in this young industry.

Perhaps the best way to resolve this trade-off is for us to explore, next month, the adventures of a small company coming to grips with the relentless need for information. It's a story of tough corporate decisions, of battles between engineering and management, of might egos, of the "not invented here syndrome," and of missed opportunity. It's a story of doing business in a changing world, with traditionally successful methods leading earnest managers smugly toward disaster. But it's a story of hope, if we can only get the company to listen to reason . . .

Steven K. Roberts is a free-lance writer from Columbus. Research for this article took place during his recent participation in a book project: INC's Databasics, Garland Publishing, 1984. Roberts' CompuServe User ID is 70007,362.

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