

# Inexpensive Computing For Business

23 Volume 6

Computer Faire, 333 Swett Road, Woodside CA 94062

(415) 851-7075

## Stockpak From Standard & Poor

Now available from Radio Shack for use on their TRS-80 microcomputer systems is Standard & Poor's Stockpak System, a complete stock analysis and portfolio management package.

Stockpak is said to combine the expertise of Standard & Poor's with the latest analytical methods of Wall Street to allow the personal computer owner to duplicate the professional investment strategies used in the financial community.

The system provides for evaluating and managing a stock portfolio of up to 100 securities with as many as 30 transactions on each issue. It also makes it possible to



analyze 900 New York and American exchange and over-the-counter common stocks, and generate reports to guide investment decisions.

In addition, the user is able to record buy and sell transactions, price and dividend information, and stock splits. This information may be retrieved instantly for record keeping and tax purposes.

According to Radio Shack, the user can also screen and select from among 900 companies meeting user-defined investment objectives, and compare and analyze companies by industry group. Yields, earnings, price ranges, capitalization and financial positions can be retrieved and ranked.

Another feature of Stockpak is said to be its ability to measure the actual performance of a portfolio and allow the user to create hypothetical situations prior to stock investment decisions.

Standard & Poor's Stockpak System for the TRS-80 is available from participating Radio Shack stores, dealers and Computer Centers. Price is \$49.95.

An annual subscription to the monthly update service, available from Standard & Poor's is \$200.

For more information: Radio Shack, 1800 One Tandy Center, Fort Worth TX 76102; (817) 390-3272.

## Telephone System Unbundled For Individual Rapping

Telephone Management Systems, Inc. recently announced unbundling of their ZAP-CALL/CCS telephone information systems designed for client chargeback in professional firms in law, accounting, engineering, consulting, and similar businesses. Available in three models that handle 125 to 1000 extensions and 10,000 to 41,000 calls, standard ZAP-CALL/CCS Systems include a 12-digit client and matter code - with the ability to isolate either in reports, the capacity for up to 2,000 client numbers, and self-generating client files. The systems are compatible with over 15 major computerized PABX's, a prerequisite for purchase, and designed for on-site, on-demand use.

Newly unbundled, optional features are multi-processing, direct computer entry, client number edit, individual call extraction, network manager, system expander, taskmaster, selective retrieval, multi-terminal access, and remote access.

John Dretler, president of TMS, explained the decision to unbundle ZAP-CALL/CCS Systems: "Every professional firm doesn't necessarily require or want to pay for each individual feature associated with all turnkey telephone chargeback systems. For example, firms with multiple sites would find multi-terminal access and remote access essential, whereas most single-location organizations would not. Similarly, firms with highly variable chargeback file volumes would benefit greatly by system expander, which allows a virtually unlimited storage capacity; yet firms with relatively constant storage needs would not. It's also critical," he continued, "that these options give professional firms the best price-performance for present requirements, while allowing room for expansion. But most important, ZAP/CCS Systems aren't just effective information tools; they're powerful solutions to a big problem. Firms with 40-50 employees typically sacrifice at least \$20,000 a year to lost client phone billings. ZAP/CCS Systems eliminate the problem."

For information: Telephone Management Systems, Inc., 180 Bear Hill Rd., Waltham MA 02154. (617) 890-6565.

Should the proposed new ZIP code be called a 'ZAP code,' based on effect on users?.

## Portable Electronic Typewriters

Portable electronic typewriters were formally introduced by Olivetti at the recent Consumer Electronics Show in Las Vegas. The two typewriters, the Praxis 30 and Praxis 35, are electronic typewriters designed for personal use.

Both models feature automatic correction of the last 10 characters via "memory" and an automatic relocate typing point key. A Praxis can use a variety of daisy wheel typefaces available for use with Olivetti's office electronic typewriters.

On both models, keyboards I and II offer a total of 100 printable characters,



including foreign language symbols for international correspondence.

A Praxis machine, including its carrying case, weighs 17.3 pounds. This compares with approximately 17-20 pounds for Olivetti's standard manual portables, and 25 pounds for Olivetti's electric portables.

These machines are designed for personal use in the home or to satisfy the intermittent typing needs (15-20 hours per week) of a small office.

The Praxis 35 has a suggested retail price of \$695. The Praxis 30 which offers only one typepitch - Elite or Pica - has a suggested retail price of \$595.

For more information: Olivetti Corporation, (914) 631-8100.

## Computer Summer Camp

This summer youngsters can again sign up for an overnight camp in Moodus, Connecticut, where the main activity will be computers. Directed by Dr. Michael Zabinski, Professor at Fairfield University, the computer summer overnight camp is the first offered in the USA, Dr. Zabinski states.

The camp is for kids of all levels of experience including no experience whatsoever. In addition to computers, the campers will enjoy the recreational facilities of the Grand View Lodge.

For further information: Michael Zabinski, (203) 795-9069, or: Computer Camp, Grand View Lodge, Box 22, Moodus, CT 06469.

## Time & Billing Seeks Counsel

Lifeboat Associates now distributes a time and billing system for the legal profession. It operates with most microcomputers under the CP/M operating system.

ESQ-1 is a completely-integrated, information system which was specifically written with the first-time, computer user in mind. It is functionally separated into several distinct modules for transaction entry (time incurred and disbursements), posting, file maintenance and inquiry, billing, receipts, reports, end of day backup, end of period updating, and client analysis.

ESQ-1 records billable and non-billable time, cash receipts and escrow receipts, and escrow transfers. Inquiries into all files can be made with numerous criteria such as by client/matter, responsible attorney, invoice number, etc. The system provides complete billing and payment ledgers and optionally allows the user to apply receipts to the oldest invoices first or to specific invoices.

ESQ-1 will print on continuous forms or single-sheet, letter-head paper. Some of the reports included are pre-billing worksheet, detailed aging of accounts receivable by client/matter or billing attorney, attorney productivity, mailing labels, etc.

For more information: Lifeboat Associates, 1651 Third Avenue, New York, NY 10028, (212) 860-0300.

## The Society For Computer Medicine

The primary purpose of the Society for Computer Medicine is to provide a neutral interdisciplinary forum dedicated to a better understanding of the health care system and to the application of computers and other automated devices to improve its functions. Toward this end, the Society has organized a yearly conference (this year at the 6th West Coast Computer Faire), and also provided a framework for discussion of the various subsystems of the health care system.

"The organizational approach of the Society is toward subject matter rather than specific academic discipline," says past Society president Neal Koss. "In this manner it hopes to nurture the best interdisciplinary communication and foster the application of joint efforts to the solution of health problems."

"We invite all who are interested to join us in this quest for improved systems of medical care."

### Conference Session

### How Do You Like Them Apples?

A graphic utility that gives the user over 4 billion colors and patterns, fills irregular objects with any of these colors or patterns, allows the user to choose the size and shape of the 'paintbrush', or even make a pattern and 'stamp' it repeatedly on the screen, is discussed by program author Steve Dompier in his 6th Faire talk, "4 Billion Colors on the Apple??"

## 6th WEST COAST COMPUTER FAIRE

the Conference & Exposition  
on

Inexpensive Computing for Home, Business & Industry

San Francisco's Civic Auditorium & Brooks Hall

April 3 (Fri) 9 am - 6 pm  
April 4 (Sat) 9 am - 6 pm  
April 5 (Sun) noon - 5 pm

contact your local computer retailer for preregistration

### Mita Offers Multiple Industry Benefits

MITA - The Microcomputer Industry Trade Association announces three cost savings benefits for members.

In conjunction with the Mid Peninsula Agencies Inc. and some of the leading insurance carriers in the country: the AETNA and Travelers being just two of the sponsoring companies, MITA has developed a specialized microcomputer industry insurance package which we believe to be one of the broadest and most comprehensive association packages available today.

Through the group purchasing power of our growing industry, you are now able to purchase at substantial savings comprehensive general liability; property, workers compensation; cargo and ocean marine cargo and products liability insurance.

Firms have been saving 25% and more off their current rates while often expanding their existing coverages.

A comprehensive program covering Group Hospitalization, Major Medical, Dental, Life, Disability, and Retirement plans are also available for firms of 2 employees or more, with customized plans for larger groups available to meet specific needs.

These programs are now being offered in all 50 states as well as overseas. We are continually evaluating the Association's coverages so as to offer you the most comprehensive and cost effective packages available today.

MITA invites you to compare and save.

Members can now receive a 20% discount from Vantage Research on *Office Computing Industry Report* and *Personal Computing Industry Report*.

These reports look at the fast growing markets resulting from the convergence of business, microcomputers and office machines in the office environment; and personal computers in business, professional, industrial, educational and consumer end markets.

The monthly reports cover products, technology, distribution, software, business strategy and industry forecasts written for manufacturers, dealers, ISO's, distributors, retailers and suppliers of services to the small computer and business equipment markets.

For more information about MITA contact Richard Linn, Executive Director, Microcomputer Industry Trade Association, 1143 Crane Street, Suite 208, Menlo Park CA 94025, (415) 326-8420.

### Hot Micro Product?

### Show it at the Faire

Do you have a dandy micro device, super software, beautiful book, or other exciting micro product? Why not sell 'em at the Computer Faire?

[Unlike the National Computer Conference and Wescon, the Faire *does* allow exhibitors to sell from their booths, as well as exhibit their products.]

The Faire has expanded its exhibit area to include more micro-booths (for low-budget computer craftspeople) and more regular booths. While they last, all exhibit space is available on a first-contracted, first-assigned basis.

For information on what's left and how to most quickly contract for it, call 'Git (Marguerite), or Sarah - the Faire Exhibitor Coordinators - at (415) 851-7075.

#### Conference Session

### Litigation, Tailmade & Gasless: Bringing Suit Without the Pants

The minicomputer has made it possible for small businesses engaged in civil litigation with large corporations to present the courts with a well-documented statement of their damage claims within a budget that is not prohibitive.

David Bradwell's 6th Faire talk, "Mini-Computer Applications in Antitrust Litigation," describes how a data base was created and utilized to estimate damages incurred by a number of independent newspaper distributors suing a publishing company under the Federal antitrust laws.

The causes of action supporting quantifiable damage claims included wholesale price discrimination, resale price fixing, territorial splits and loss of going concern value of terminated businesses.

#### Conference Session

### Computer Literacy At Your Fingertips

New microcomputer owners are often perplexed by the terms and jargon used in connection with their equipment and programs.

June Moore's 6th Faire talk "How to Learn About Microcomputing or Computer Literacy at Your Fingertips," is an effort to show that neophytes can become educated in computing, as to both electronics and software, through the use of the available literature. It endeavors to point to those books, periodicals, and other literature which will enable users to educate themselves. June notes various books, periodicals, and other sources of information on microcomputing are categorized as to difficulty of understanding and by general subject matter.

#### Conference Session

### Standard & Poor's Stockpak System

Standard & Poor's prime objectives in providing the user with a microcomputer-based financial information system are to:

1. Offer and provide a monthly Common Stock Data Service on a subscription basis,
2. Provide the system software necessary to facilitate easy access to and analysis of common stock information,
3. Provide for an ability to interrogate common stock information based on a subscriber's own screening criteria,
4. Enable a subscriber to easily format reports in any desired sequence,
5. Furnish the subscriber with an opportunity to manage and analyze a personal portfolio or customer account, and
6. Provide for a flexible system that will accommodate enhancements on a continuing basis.

Harvey Pearlman, Publisher, Special Electronic Products, Standard & Poor's Corporation, discusses such a system in his 6th Faire talk, "Standard & Poor's Stockpak System."

### Alpha Pascal Talks Business

Alpha Micro recently announced the availability of AlphaPascal release 2.0, a programming language expressly developed for the Alpha Micro Business Computer.

AlphaPascal, fully integrated into the multi-user, multi-tasking, timesharing Alpha Micro Operating System (AMOS), supports both sequential and random data files. It is also compatible with Alpha Micro's AlphaBasic programming language. AlphaPascal has the ability to separately compile and link Pascal modules to form one program, easing the task of developing and maintaining programs.

In addition, other AlphaPascal features include the ability to add user-defined routines to an external library where other Pascal programmers can make use of them; the ability to call external assembly language subroutines; full 11-digit accuracy for Real variables; and labeling of Begin-End blocks.

Alpha Micro provides full software support for this new version of AlphaPascal. Programs written in standard Pascal will require very little modification before being operable under AlphaPascal. Alpha Micro also includes their new "AlphaPascal User's Manual" with the software.

For more information: Alpha Micro, 17881 Sky Park North, Irvine CA 92713, (714) 957-1404.

### Judge for Yourself: Software Legal Guides

Cross Communications Company now offers electronic legal services in cooperation with Irving Kerner, attorney at law.

Two of these new services are documents of concern to all software program developers. The first, *Software License Planning Guide*, is a publication containing information and forms designed to enhance the ability of the software owner to protect his proprietary interests when licensing use of his product.

The second document is a legal planning guide: *Criteria to Consider in Software Licensing, Distributing, Franchising, and Marketing*, that aids software owners in their efforts to market and promote software products. Each guide is available for \$15, or both may be purchased for \$25.

Cross Communications Company also has added a new legal counselling service called "ELLA" (ELectronic Legal Advice), meaning that the legal advice is available only through electronic terminals in the home or office. Cross Communications provides the electronic communications link between client and attorney.

Irving is lecturer in telecommunications law at the University of Colorado. Irving's practice is limited to problems in telecommunications, software matters, cable television, and other communications law issues.

Details are available from: Cross Communications Company, 934 Pearl, Suite B, Boulder CO 80303; (303) 499-8888.

#### Conference Session

### Introducing Microcomputers (And How to Use Them)

"Our talk," say Tony Bove and Cheryl Rhodes, "is about introducing people to microcomputers. At the 6th Faire we will introduce at least three microcomputers: a small personal computer, a medium-sized business system, and a larger development system. We will demonstrate some typical applications while delivering parts of our tutorial and answering questions. We think beginners can learn about software more easily by *using* it, not by writing it."

After providing specific information about personal computers, business systems, and development systems, Tony and Cheryl conclude: "Once you've learned how to use your microcomputer system, you can simply use it to profit from it; in fact, using the computer should always be cost-effective, and in time, the computer should pay for itself by being more efficient and more useful. Maybe then you'll be ready to take the plunge into programming."

### Network Analysis Takes a Critical Path

The "hard technology" of the space age has contributed to the development of "soft technology" that can serve as a format for program planning and development, through the techniques of network analysis known as PERT (Program Evaluation and Review Technique) and CPM (Critical Path Method). These are complementary methods of planning and programming that show activities and their relationships in a sequential manner.

"My talk, 'PERT/CPM Network Planning,'" says 6th Faire speaker Dennis Starkovitch, "will discuss the concepts of program and management planning and the use of PERT/CPM to plan all types of projects, including business systems analysis and computer software programming."

### INEXPENSIVE COMPUTING FOR BUSINESS

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# THE LAST ONE<sup>®</sup>

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Better still, The Last One<sup>®</sup> will be on demonstration at the Holiday Inn Convention Centre, San Francisco from April 3 to 5 (same dates as the 6th West Coast Computer Faire).

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## Mass User Meetings at 6th Faire

tutorial

### Categories of Software

by Cheryl Rhodes

Software is a generic term for the computer's 'intelligence'. Whenever you operate a computer, you are running a set of software programs. Without them, your computer would not compute. There are three categories of software: systems software, applications software and development software.

Systems software consists of a set of programs that control your computer and its devices. This set of programs is called an operating system (or DOS, for Disk Operating System). You talk to your computer through its operating system by typing commands at the terminal keyboard. The operating system keeps your data files in order, and allows you to manipulate files.

The operating system oversees and manages your use of other types of software. To use an application program, you give the operating system a command to load and run the program. The operating system is also used to make copies of files and to send files to the printer and other devices.

Applications software is a loose term describing programs that perform specific tasks. For example, with business applications you might control your inventory, monitor your accounts, forecast sales, and access a data base of customer information. Word processing (preparing forms and documents for printing) is a typical business application. Monitoring the manufacturing process in a factory is an example of a process control application.

Word processing programs let you create documents and prepare (format) them for printing before you ever use paper. Documents can be stored as files of text and edited as often as you wish; they can also be printed at any step of the process. 'Word processor' is sometimes used as a catch-all term for any program that handles text, from simple text editors to specialized report generators.

Other business applications include market modelling and forecasting, maintaining customer files and mailing lists, monitoring inventory and sales data, payroll and accounting. These programs are available as packages that run under certain operating systems.

One popular application is data base management. A data base management system (DBMS) is a set of programs that work together to enter, retrieve, and change data records. These programs share data that is usually stored on a hard disk for faster access. Data base programs vary widely in features; they are usually tailored to meet specific requirements.

Development software consists of tools (programs) you use to create your own programs. You write a software program in a computer language (BASIC, COBOL, FORTRAN, Pascal, et. al.), using a tool called an editor. You then translate this language into machine-readable code using a language translating program called a compiler, interpreter, or assembler (depending on the language you choose).

Most small businesses use computers as management tools and word processors. Some businesses require data base management systems. Systems software and applications software alone provide enough service for most users. However, many businesses also benefit from developing their own software and selling it to other computer users. Good software is always marketable. If you are thinking of buying a computer, you should investigate all three categories of software.

A multitude of special-interest groups and user organizations will be holding meetings at the West Coast Computer Faire. These include language groups, hardware groups, groups interested in special applications areas, minority groups, and industry groups.

#### LOVELY LISP LAYOUT

The 6th Faire program includes a major invasion of Lisp lovers. Not only are there a number of technical and philosophical Conference presentations about the joys of LISPing, but there are half-day demonstrations of micro-based Lisp systems and applications all three days of the Faire, as well as half-day beginning and intermediate tutorials for Lisp novices.

For those unfamiliar with Lisp, it is the dominant computer language used in artificial intelligence applications and research. Until relatively recently, it was available only to wealthy researchers on big machines. Now, it is available on a variety of inexpensive microcomputers.

Furthermore, its creator, John McCarthy, is home-based a half-hour south of San Francisco at Stanford University. Who knows, perhaps he may walk up the Bay and sprinkle holy parantheses on the faithful.

#### CP/M and MP/M USERS

Sol Libes, the founder of the Amateur Computer Group of New Jersey and current Editor of S-100 Microsystems, has organized a Conference session for users of CP/M and MP/M — the default-standard floppy-disc operating systems for microcomputers from Digital Research (Pacific Grove, California). Speakers will include Gary Kildall, chief guru and originator of CP/M, and Tony Gold, one of the major creators of CP/M-compatible systems software and CP/M modifications.

#### UCSD PASCAL USERS

There will be a full day of Conference sessions devoted to Softech Microsystem's UCSD Pascal systems. These will include tutorials, sessions on implementation details, UCSD Pascal applications, and special support systems for UCSD Pascal. Part of the program will include details of USUS — the UCSD Pascal users society. USUS will also be staffing a booth in the exhibition area, allowing more leisurely discussion of its activities.

#### FORTH PHREAQUES

There is a half-day Conference program devoted to the Forth computer language, its design, implementations and applications. FIG — the Forth Interest Group will also be available for gossip and information exchange in an exhibition area booth.

#### ACM SIG PC

Liza Loop will chair an open meeting of the Association for Computing Machinery's Special Interest Group on Personal Computing.

#### SOCIETY FOR COMPUTER MEDICINE SPEAKER

The Sunday Conference program includes a presentation about the Society for Computer Medicine.

#### NORTH STAR USERS

The North Star Users Group will hold an open meeting, all day Saturday. Additionally, they will be staffing a NSUG booth in the exhibition area.

#### PROTEUS — SOL USERS

Proteus, the organization of users of Processor Technology's Sol computer, will gather for a Sunday morning meeting, open to all Sol users. They also have a booth in the exhibition area.

#### TRS-80 USERS

Two groups — the TRS-80 Nybblers, and the Marin County TRS-80 Users Group — will be swapping information with attendees from their exhibit-area booths.

And, of course, Tandy is running a giant commercial exhibition.

#### APPLE USERS

The San Francisco Menza Apple Users Group will hold an open meeting for Apple aficionados, Sunday afternoon.

The San Francisco Apple Core will be discussing their Apple adventures in their exhibit booth.

#### TRS-80, APPLE, & PET

The Faire has allocated time and rooms for "no host" (no chair, no formal program) anarchistic gatherings of TRS-80 users, Apple users, and Commodore Pet users who may wish to find and commiserate with each other. These gatherings will each be all morning, Sunday morning.

Note: These meetings are without leadership as of the writing of this article. Past experience implies that — by Faire time — some fireball user group leaders will step forward at the last minute to request time and space for such gatherings, and pull together highly useful information exchanges for those meetings.

#### CSUC T-S USERS

The California State University Computers Time-Sharing Users Group will be exchanging problems and solutions in their booth in the exhibition area.

#### BLACK D-P PROS MEET

The Black Association of Data Processing Professionals will be discussing their activities, staffing one of the exhibit area booths.

#### JAPAN MICROCOMPUTER CLUB DEMOS ACTIVITIES

For the second time, the Japan Microcomputer Club has again chosen to send a group to the Computer Faire. They will be occupying an exhibit booth, showing examples of their homebrewed hardware and systems, brought all the way from Japan.

#### RTTY DEMO & DISCUSSION

Once again, the Amateur Communications Society will run three days of demonstrations and informal seminars at the Computer Faire. These activities will concern digital radio communications.

#### CONSULTANTS GATHER

PATCA — the Professional and Technical Consultants Association — will be staffing a booth in the exhibit area. Additionally, there will be a Friday Conference program addressing issues of interest to consultants (and consultants, consumers).

#### MITA MEETS

The Microcomputer Industry Trade Association will hold a major meeting, open to all interested members of the microcomputer industry. The meeting will begin immedi-

ately after the close of the exhibits, Friday evening at 6pm. MITA will also be available in an exhibit booth.

#### DEALERS MEET

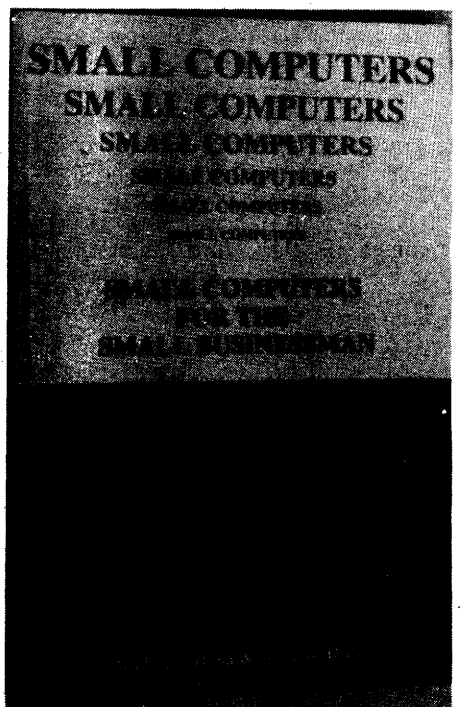
Bob Moody, marketing honcho for Alpha Information (Palb Alto), will again chair a Sunday noontime meeting of computer dealers, retailers, and distributors.

Note: Exhibit space for all of these groups is being furnished, without cost to the groups, by the West Coast Computer Faire.

### Business Consultants Offer Advice on Small Computers

Although it is acknowledged that computers can save hours, money and much work, there still exists a futuristic aura about them which makes many small businesspersons hesitate about delving into the subject. A new book published by dilithium Press, may strip away this mystique.

*Small Computers for the Small Businessman*, a 200-page paperback (\$12.95), was written by business consultants rather than programmers. Nicholas Rosa is a



consultant with a long list of magazine editorial and technical writing credits to his name in the field of scientific and technical publishing. In addition to editorial stints at Electronics World, Electronics Illustrated, Science World, and Oceans, Nicholas has co-authored a number of books on astronautics, ecology and life sciences. From her base as a math and science instructor, Sharon Rosa entered the technical writing field in 1973 and in 1978 joined Nicholas Rosa and Assoc. as a partner specializing in software documentation.

The authors tell the readers: How and where to shop for a computer successfully, What they can expect their computer to do for them, How much computer is necessary for them, How to select software, Whether or not to use a consultant, How to introduce the computer to the staff, And more.

This book is available at B. Daltons, Kroch's and Brentanos, computer stores or directly from dilithium Press, Box 606, Beaverton OR 97075, (503) 243-1160.



## Online Database Services: A Rapidly Developing Industry

Modern computerized databases are providing answers to critical questions for executives in every function of business. Although the industry is still young, revenues generated by online database services will reach \$2.99 billion by 1985, according to an analysis of the online database industry just released by Creative Strategies International (CSI), a market research and consulting firm.

A growing concern over professional and managerial productivity, improved software, and an increasing number of databases in a widening range of subject area (over 450 databases currently are online) will all contribute to rapidly developing markets in the reference and source database areas examined by CSI's new Industry Report. Over the next five years, the industry is expected to achieve a compound annual growth rate of 38%.

Information in the reference segment tends to be less business-oriented than in the source area. There are currently more than 225 reference databases, and new ones are coming online monthly. Although some 3.5 million searches were conducted through U.S. public places in 1980, surveys indicate that only 5% of this market has been tapped.

The fastest-growing area within the source segment is the numeric database, which is often used by the decision-maker without the intervention of intermediaries. Although 89% of numeric revenues are from business and economic databases, new database acquisitions will broaden the range offered. New companies are entering this market with innovative ideas, and interesting alliances are developing through acquisition and joint ventures.

The full-text database is a relative newcomer to the source field. Many newspapers are either entering into agreements with online service organizations or at least carefully considering the electronic distribution of information. Although the full-text approach has been well-received within the legal community, the customer base for general news retrieval services is still in question. However, should full-text access become acceptable to the general consumer population, online database services will be able to count their customers in the millions instead of the thousands.

A number of organizations in the reference and source segments of the market publish databases as well as providing online services. Although a few companies are moving in this direction, it is too early to tell whether there is a trend toward integrated services. On the other hand, database publishers are very concerned about the migration from print to online access. Print subscriptions may be lost at a greater rate than online-access revenues are generated.

### Participants

Four major groups participate in the online database industry: database producers; online service organizations (also called vendors); integrated services; and users. Already over 270 producers and vendors are involved in the industry in the U.S., Canada, and Europe. While some overlap between source and reference vendors is evolving, other companies such as general timesharing firms have found they can be very successful packaging database use with other services.

For further information: Creative Strategies International, 4340 Stevens Creek Blvd., Suite 275, San Jose CA 95129; (408) 249-7550.

## Landlord Software Manages Pet Peeves As Well As Pet Deposits

MIN Microcomputer Software, Inc., recently announced The Landlord, an apartment-management software package for Apple II computers. The system can be used for apartment properties of up to 400 units.

The Landlord provides property owners and managers with listings of apartments, residents, and past residents, as well as reports on vacancies, lease expirations, intents to vacate, and resident payments. Records of disbursements and other financial transactions are maintained by the system and a monthly property analysis statement is produced.

The Landlord allows entry of resident charges and payments using up to 26 dif-

ferent account codes. Security and pet deposits, returned checks, and overpayments are also handled by the system. An outstanding-balance report allows expedient follow-up of delinquent residents.

The package is designed to be used by managers who have no prior computer or data processing experience. The manual included with The Landlord as well as the instructions that appear on the Apple's screen are completely non-technical in nature.

The software requires an Apple II computer w/48K RAM, 2 disk drives, and either a Silentype or Centronics 779 printer. The Landlord will be sold exclusively through retail computer outlets.

For more information: MIN Microcomputer Software, Inc., 5835 A Peachtree Corners E., Norcross GA 30092, (404) 447-4322.

## Faire Dates Thru 1984

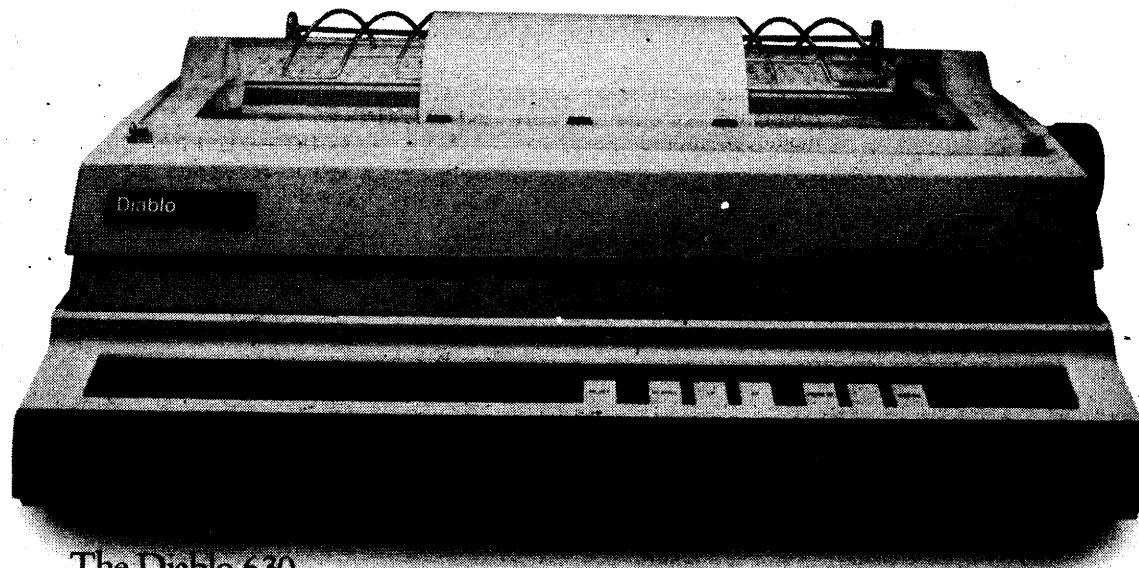
The Computer Faire is scheduled to take place in San Francisco through 1984.

The site will be San Francisco's Civic Auditorium and Brooks Hall, the largest convention facilities in Northern California.

In addition to the 6th Computer Faire, scheduled for April 3-5, 1981, future dates are:

1982 March 5-7  
1983 March 2-4  
1984 March 21-23

# If you want a choice in print wheels, there's only one choice in printers.



### The Diablo 630.

It's the only printer that lets you use either metal or plastic print wheels. So you can choose the print wheel that's just right for the job.

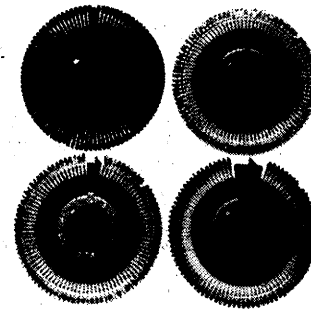
The 630 works as well with a 96-character plastic daisy print wheel as it does with an 88-, 92-, or 96-character metal daisy print wheel. In over 100 different type styles.

Every 630 has fewer moving parts than competitive printers, which makes it more reliable. And it offers unsurpassed print quality. Compatibility with Diablo supplies. And bi-directional printing capability.

The 630 is the only printer in the world that uses both metal and plastic wheels.

So if you want to change your print wheels, you'll just have to change your printer.

To a Diablo 630 printer.



## Diablo Systems

## XEROX

# Avoid Waiting in Lines Preregister for the Faire

Although the Computer Faire, itself, is not staffed to handle preregistrations directly, it has arranged for a number of cooperating stores to carry prereg packets. They are listed below.

The stores prefer that you drop by to pick up your prereg — they'd like to see you and have you see what they have to offer. ("Know your dealer.") However, should you be unable to do so, several of them are accepting mail orders . . . if you do the following:

1. Send your mail order *early*. (Remember, the U. S. Snail Service will be handling its delivery in both directions.)
2. Send full payment (phone the store for their reg fee; by FTC regulations, the Faire cannot tell them what to charge), and a stamped, self-addressed, legal-size envelope.

The stores accepting mail order preregistrations are marked in the following list with an asterisk.

<b>Data Domain of Schaumburg*</b> Plaza De Las Flores 1612 E. Algonquin Rd Schaumburg IL 60195 (312) 397-8700	<b>MicroXchange*</b> 123 W. Padre No. E Santa Barbara CA 93105 (805) 682-1507	<b>Byte Shop</b> 1415 W. El Camino Real Mountain View CA 94040 (415) 969-5464	<b>PC Computers*</b> 10166 San Pablo Av El Cerrito CA 94530 (415) 527-6657
<b>Byte Shop</b> 3616 W 2100 S Salt Lake City UT 84120 (801) 973-4446	<b>Coastal Computers</b> 986 Monterey St San Luis Obispo CA 93401 (805) 543-9339	<b>Heathkit Electronics Center</b> 2001 Middlefield Rd Redwood City CA 94063 (415) 365-8155	<b>North Bay Computers*</b> 6526 Washington Yountville CA 94599 (707) 944-8885
<b>Opamp Technical Books</b> 1033 W. Sycamore Los Angeles CA 90038 (213) 464-4322	<b>Computerland</b> 223 S. Broadway Santa Maria CA 93454 (805) 928-1919	<b>Computer Plus</b> 1328 S. Mary Av Sunnyvale CA 94087 (408) 735-1199	<b>Berkeley Computer*</b> 1569 Solano Av Berkeley CA 94707 (415) 526-5600
<b>Computerland South Bay*</b> 16720 Hawthorne Blvd Lawndale CA 90260 (213) 371-4624	<b>Electric Brain</b> 3038 N. Cedar Av Fresno CA 93703 (209) 227-8479	<b>Arrow Computer Supply*</b> 1301 Harrison San Francisco CA 94103 (415) 864-0900	<b>Computerland Marin</b> 1930 4th St San Rafael CA 94901 (415) 459-1767
<b>SCR Electronics</b> 9533 Valley View St Cypress CA 90630 (714) 527-2554	<b>ZacKIT/Monterey*</b> 350 Del Monte Av Monterey CA 93940 (408) 375-3144	<b>Computerland</b> 117 Fremont St San Francisco CA 94105 (415) 546-1592	<b>Affordable Computer Systems</b> 3400 El Camino Real Santa Clara CA 95051 (408) 249-4221
<b>Thorpe Datasystems Inc*</b> 7114 Owensmouth Av Canoga Park CA 91303 (213) 703-6900	<b>Affordable Computers*</b> 2711 Ransford Av Pacific Grove CA 93950 (408) 373-7177	<b>Computerland the Castro</b> 2272 Market St San Francisco CA 94114 (415) 864-8080	<b>Microbyte Computer Systems*</b> 2626 Union Av San Jose CA 95124 (408) 377-4691
<b>Computerland</b> 289 E. Highland San Bernardino CA 92405 (714) 886-6838	<b>Computerland</b> 4546 El Camino Real Los Altos CA 94022 (415) 941-8154	<b>AIDS</b> 301 Balboa St San Francisco CA 94118 (415) 221-8500	<b>Santa Rosa Computer Center</b> 604 7th St Santa Rosa CA 95404 (707) 528-6480.
<b>Computers Plus*</b> 1827 State St Santa Barbara CA 93101 (805) 963-4542	<b>Kepler's Books</b> 825 El Camino Real Menlo Park CA 94025 (415) 324-4321	<b>Computerland El Cerrito</b> 11074 San Pablo Av El Cerrito CA 94530 (415) 233-5010	<b>Byte Shop*</b> 6041 Greenback Ln Citrus Heights CA 95610 (916) 969-BYTE

## Econometric Model Figured by Computer

Econometric models of the U.S. economy began to develop after World War II, with the introduction of digital computers. These models require a great deal of number crunching and, thus, were not expanded into their current form until some method of rapidly processing the data was available. One of the chief characteristics of econometric models is that they capture many of the interactions in the U.S. economy. For instance, if interest rates increase it is likely to cause a decrease in investment activity. This will later dampen Gross National Product changes which, in turn, should moderate price increases. If inflation is expected to moderate, that is, prices not increasing as rapidly, this should moderate interest rates. Thus we have come full-circle back to interest rates now starting to affect investment all over again.

In a practical sense it is only with a computer-based model, which can account for these interactions, that we are able to solve these models efficiently and at low cost. Some of the large, commercial econometric models contain close to 1,000 equations of the U.S. economy. "However," says David Chereb in his 6th Faire talk, "A Microcomputer-Based Econometric Model of the U.S. Economy," "only a few of these, much less than 100, are really needed in order to solve for some of the most important economic variables, such as Gross National Product, inflation, interest rates and unemployment. The model of my talk contains about 30 equations, and this is adequate to solve for the variables of interest. An interesting statistical phenomenon is that the accuracy of these models for predicting Gross National Product is not directly related to the number of equations. Models with as few as five or six equations do fairly well at predicting Gross National Product, in fact, almost as well as models which contain 500 or 800 equations."

Overheard (painfully) locally: The difference between "unlawful" and "illegal" is that unlawful refers to something against the law. Illegal, of course, is a sick bird. [sic, sic, sic]

## Worth A Fortune

Past issues of Creative Computing. What are they worth today? It varies. To a collector, Vol. 1, No. 1 is worth \$7 or \$8. To a scrap dealer, less than two cents.

But we're not selling old back issues. We're all out.

On the other hand, you know that much of the content of Creative Computing is timeless. The Depth Charge program in Vol. 1, No. 1 is just as challenging today as the day it was written. Walter Koetke's series of five articles on using computers in the classroom are as valid today as the day they first appeared in print. And scores of people have written about obtaining reprints of Don Piele's classic problem-solving series.

### Our Mistake

In our early growth years when we had 5,000 and then 10,000 subscribers we couldn't imagine we would ever need more than 1000 extra copies for back issue sales. That's about what we printed extra. However, by the time we were going into Volume 3, we found our stocks of Volume 1 issues virtually depleted.

### Our Solution

So we selected the best material from Volume 1, edited it, put it together in book form and sold it for \$8.95, about the same as the six individual issues. Nine months later, we did the same with Volume 2. Then a year and a half later we did it again with Volume 3.

Most other magazines in a high technology field like small computers find their contents are quickly out of date. However, because we've concentrated on applications and software, our content retains its value for a much longer time. Our subscribers know this and retain their copies of Creative Computing long after they've disposed of the more hardware-oriented magazines.

Now you can obtain the best material from the first three years of Creative Computing in book form and the next three years (minus four issues) in the original magazine form.

### Our Offer

We have a unique special offer, so pay close attention to this paragraph. (Computer types ought to be able to understand this). If you order any one item below, you pay the full price. If you order any two items, take a 5% discount from the total; any three, take a 10% discount; any four, take a 15% discount, any five, take a 20% discount, and on all six take a whopping 25% discount from the total price.

Best of Creative Computing-Vol 1	\$8.95
Best of Creative Computing-Vol 2	8.95
Best of Creative Computing-Vol 3	8.95
Volume 4 (Four issues)	6.00
Volume 5 (Ten issues)	15.00
Volume 6 (Twelve issues)	18.00

Less discount (5% for two items, 10% for three, 15% for four, 20% for five, 25% for all six) Shipping (\$2.00 USA, \$5.00 foreign)

This isn't really an order form. Cut it out or copy the items you want onto a sheet of paper. Send it with your name and address and payment or credit card number and expiration date (Visa, MasterCard or American Express) to Creative Computing, Morris Plains, NJ 07950. Or call toll-free to 800-631-8112 (in NJ, 201-540-0445).

We guarantee you'll never find a better value in computer applications reading matter. On average you're getting 128 pages of solid information for each \$1.00. If you're not completely satisfied after you've read them, send the books or magazines back to us and we'll refund your full purchase price plus the return postage.

## Creative Computing

Attn: Valerie  
 Morris Plains, NJ 07950  
 Toll-free 800-631-8112  
 (In NJ 201-540-0445)

## SoftCare Medical Billing System

A new medical billing system, SoftCare prepares patient bills and insurance claims for up to 30 doctors. Accounts receivable are maintained by patient and insurance company, and detail is retained to permit tracking of individual claims. The user-friendly design requires little or no operator training. The fill-in-the-blank screen formats are practically self-explanatory, and error checking takes place as information is entered. "Browsing" capability lets the user inquire and page through the files. No patient ID's are required. Patient files are updated as transactions are entered so that bills and claims can be prepared upon demand. SoftCare is written in UCSD-Pascal and runs on most Z-80, 6502, and LSI-11 based machine. A system configuration program permits the user to select the specifications for the terminal and printer, and the set-up program allows the doctor to tailor the package to his practice through a series of multiple-choice questions. For more information: Professional Business Software, 119 Fremont St., San Francisco CA 94105; (415) 546-1596.

## Components of a Small Business Computer System

by Tony Bove

Many small businesses are investing in their own microcomputer systems. These systems are used for a variety of business activities, from inventory control, cost analysis, payroll, and accounting to sophisticated word processing and software development.

Small business systems range in cost from \$1000 to over \$15,000 per system, and they prove to be excellent investments for businesses that need some form of data processing. Microcomputer systems are priced to be competitive with data processing services; they offer a wider range of services, and they remain under your control.

What are the components of such a system, and how do you buy them? You can buy a complete small business system from a system vendor, or buy components of such a system which you, or a systems consultant, must integrate into a complete system. Vendors try to anticipate your needs in order to provide complete systems, but there are also many vendors and consultants willing to put together specialized systems at modest prices.

The most important component of any computer system is the system's software. Software is an overall term that describes the computer's 'intelligence.' Whenever you operate a computer, you are running software programs. Your computer system will be useful only if the software you buy for it satisfies your needs.

It makes sense to start looking for the right software before looking for the right hardware. Many different hardware components can be connected together to form a system, if they are compatible with each other. Finding the right software that is compatible with your hardware is a harder task. If you bought hardware components without a thought about the software you need, you might end up with fancy hardware that does not satisfy your needs.

The right hardware components are also important. Most small business systems consist of a terminal, a printer, and one or more memory devices. The computer itself (called a CPU, for Central Processing Unit) might be in a separate enclosure, or inside the terminal or memory device.

Terminals usually consist of CRT (Cathode Ray Tube) displays that resemble televisions, and keyboards that resemble typewriters. You use one or more terminals to communicate with your system. For example, a program might display some information on the CRT screen, and ask you to type in some data using the keyboard. Some computer systems have only one terminal for use by one person at a time (sometimes called a stand alone or single user system). Other systems allow several terminals to be in use at the same time (sometimes called a multi-user system), where each terminal is a work station. You probably handle the terminal keyboard more often than the other devices. If you need word processing, you would look for keyboards that are designed for fast typing. If you use your terminal on a factory floor, you may need more rugged terminals. In most computer sales, keyboards are a very important factor.

Printers come in many sizes with many diverse features. High-speed line printers print complete lines at a time. They are fast, but the characters are usually not as well formed as typewritten characters (not letter-quality). Daisy-wheel printers use a plastic or metal spinning wheel to print letter-quality characters, one character at a time. They are not as fast as line printers.

Memory devices like disk drives and tape drives are used to store large amounts of

data. Most computers use hard or flexible disks to store information that is used constantly, because disks offer faster access to the data. Hard disks can hold a lot more information than flexible disks ('floppies'), and they are more expensive than flexible disks. Removable hard disks, flexible disks, and tapes are used to store information in backup archives.

Deciding what software to buy should be your first move. There are general categories of software based on categories of use. To find the particular software that meets your needs, you must first define your needs, and 'test drive' the software that is purported to meet them. You may completely redefine your needs after testing such software.

## Do Your Faire-Busing On Computer Plus' Bus

Computer Plus, a retail computer store in Sunnyvale, California, is again chartering buses to transport Faire-goers to and from San Francisco's Civic Center, site of the Sixth West Coast Computer Faire. The fee is \$8 for the door-to-door roundtrip. The buses will leave from Computer Plus, 1328 S. Mary Ave. (in the De Anza Square Shopping Center at Fremont & S. Mary).

The schedule follows:

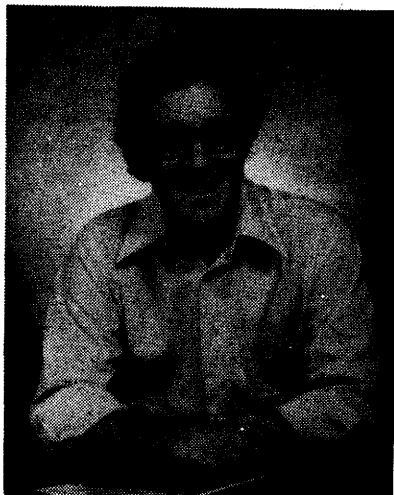
Date	Leave Sunnyvale	Leave S.F.
April 3 (Friday)	9:00 a.m.	3:30 p.m.
April 4 (Saturday)	8:30 a.m.	3:30 p.m.

Computer Plus requests payment in advance. For further information about the buses, pre-registrations to the Faire, *Computer Faire Conference Proceedings*, and other materials for the complete computerist, please call Lucy at (408) 735-1199 between 11 a.m. and 7 p.m. on Tuesday through Friday, and between 11 a.m. and 6 p.m. on Saturday.

A REMARKABLE MAGAZINE

# Creative Computing

*"The beat covered by Creative Computing is one of the most important, explosive and fast-changing."* — Alvin Toffler



David Ahl, Founder and Publisher of Creative Computing

You might think the term "creative computing" is a contradiction. How can something as precise and logical as electronic computing possibly be creative? We think it can be. Consider the way computers are being used to create special effects in movies—image generation, coloring and computer-driven cameras and props. Or an electronic "sketchpad" for your home computer that adds animation, coloring and shading at your direction. How about a computer simulation of an invasion of killer bees with you trying to find a way of keeping them under control?

### Beyond Our Dreams

Computers are not creative per se. But the way in which they are used can be highly creative and imaginative. Five years ago when *Creative Computing* magazine first billed itself as "The number 1 magazine of computer applications and software," we had no idea how far that idea would take us. Today, these applications are becoming so broad, so all-encompassing that the computer field will soon include virtually everything!

In light of this generality, we take "application" to mean whatever can be done with computers, *ought* to be done with computers or *might* be done with computers. That is the meat of *Creative Computing*.

Alvin Toffler, author of *Future Shock* and *The Third Wave* says, "I read *Creative Computing* not only for information about how to make the most of my own equipment but to keep an eye on how the whole field is emerging.

*Creative Computing*; the company as well as the magazine, is uniquely light-hearted but also seriously interested in all aspects of computing. Ours is the magazine of software, graphics, games and simulations for beginners and relaxing professionals. We try to present the new and important ideas of the field in a way that a 14-year old or a Cobol programmer can under-

stand them. Things like text editing, social simulations, control of household devices, animation and graphics, and communications networks.

### Understandable Yet Challenging

As the premier magazine for beginners, it is our solemn responsibility to make what we publish comprehensible to the newcomer. That does not mean easy; our readers like to be challenged. It means providing the reader who has no preparation with every possible means to seize the subject matter and make it his own.

However, we don't want the experts in our audience to be bored. So we try to publish articles of interest to beginners and experts at the same time. Ideally, we would like every piece to have instructional or informative content—and some depth—even when communicated humorously or playfully. Thus, our favorite kind of piece is accessible to the beginner, theoretically non-trivial, interesting on more than one level, and perhaps even humorous.

David Gerrold of *Star Trek* fame says, "*Creative Computing* with its unpretentious, down-to-earth lucidity encourages the computer user to have fun. *Creative Computing* makes it possible for me to learn basic programming skills and use the computer better than any other source.

### Hard-hitting Evaluations

At *Creative Computing* we obtain new computer systems, peripherals, and software as soon as they are announced. We put them through their paces in our Software Development Center and also in the environment for which they are intended—home, business, laboratory, or school.

Our evaluations are unbiased and accurate. We compared word processing printers and found two losers among highly promoted makes. Conversely, we found one computer had far more than its advertised capability. Of 16 educational packages,

only seven offered solid learning value.

When we say unbiased reviews we mean it. More than once, our honesty has cost us an advertiser—temporarily. But we feel that our first obligation is to our readers and that editorial excellence and integrity are our highest goals.

Karl Zinn at the University of Michigan feels we are meeting these goals when he writes, "*Creative Computing* consistently provides value in articles, product reviews and systems comparisons... in a magazine that is fun to read."

### Order Today

To order your subscription to *Creative Computing*, send \$20 for one year (12 issues), \$37 for two years (24 issues) or \$53 for three years (36 issues). If you prefer, call our toll-free number, 800-631-8112 (in NJ 201-540-0445) to put your subscription on your MasterCard, Visa or American Express card. Canadian and other foreign surface subscriptions are \$29 per year, and must be prepaid. We guarantee that you will be completely satisfied or we will refund the entire amount of your subscription.

Join over 80,000 subscribers like Ann Lewin, Director of the Capital Children's Museum who says, "I am very much impressed with *Creative Computing*. It is helping to demystify the computer. Its articles are helpful, humorous and humane. The world needs *Creative Computing*."

## Creative Computing

Attn: Wendy  
P.O. Box 789-M  
Morristown, NJ 07960  
Toll-free 800-631-8112  
(In NJ 201-540-0445)

# 6th West Coast Computer Faire Conference Program

## PROGRAMMING SYSTEMS

Development of The Last One: British Software Which Writes Complete, Bug-free Computer Systems, *David Tebbutt, David James*  
Warnier-Orr Diagrams; Some Extensions, *W.N. Nawatani*  
Flexible Versus Rigid Software, *Thomas P. Bun*  
SAL/80: A Structured Assembly Language for the 8080/8085/Z80, *R. Steve Newberry*

## GETTING INTO MICROS

Winning the Micro Game, *Don Lancaster*  
You Too Can Be A Microprocessor Programmer, *R. David Pogge*

## CP/M & MP/M FOR USERS

New CP/M & MP/M Developments, *Dr. Gary Kildall*  
CP/M Applications Software, *Tony Gold*  
A User's Perspective of CP/M, *Bruce Kendall*

## DESIGNING HARDWARE & SOFTWARE FOR MERE HUMANS

Designing Hardware and Software for Mere Humans, *Dr. Douglas H. Williams*  
Toward Display Oriented Operating Systems, *Carl T. Helmers*  
The Bridge to the Future, *Chris Langewis*  
Linguistic Chauvinism, *Mark Cummings*

## OPEN INDUSTRY MEETING:

Microcomputer Industry Trade Association, *Dennis Barnhart, Richard Linn*

## DETAILS OF SELECTED HARDWARE

Heath Company's H8: The Computer Enthusiast's Choice, *Charles Floto*  
Single-Chip Microcomputer Programs EPROMs, *Jerry Randal Bauer*  
The Anatomy of a Single Chip Microcomputer, *Peter M. Redford*

## IN SEARCH OF BETTER I/O (Part I)

A Simple Computer Eye, *Henry L. Pfister*  
The Design of a Slow Scan TV System, *Ken Rothmuller*

## IN SEARCH OF BETTER I/O (Part II)

The Tyranny of QWERTY, *David D. Thornburg*  
Bar Code Technology: Past, Present, and Future, *Walter Banks, Carl T. Helmers Jr.*

## HOME BREWING HARDWARE

After Building a Computer, Try a Robot!, *Melvin L. Zeddies*  
Design Considerations for a Computer-Controlled Home, *Mark M. Lambert*  
Life on the Frontier: A Homebrew 16-Bit Computer, *Frederick A. Knox*  
An 8035 Homemade Computer, *Darrell D. McKibbin*  
Doing Your Own Thing in High-speed Digital Arithmetic, *Chuck Hastings*

## MICROS IN ENGINEERING APPLICATIONS

Design Automation for Microcomputers, *David W. Russell*  
Microcomputer Use for Studying Interconnected Electric System Frequency, *R.K. Adams, J.M. McIntyre, R.W. Rochelle*  
Development of Microcomputer Systems and their Applications at the Laboratory of Wave Information Processing of Hokkaido University, *Yoshinao Aoki*  
Pascal Programming for Engineers: General Least-Squares Curve Fitting, *Alan R. Miller*

## COMPUTERS IN MEDICINE

Computers and Medical Diagnosis, *Michael L. Richardson, M.D.*  
Computers in Medicine, *L. Berkenbile, M.D., F. Berkenbile, Ph.D.*  
Microcomputer Applications in Laboratory Data Acquisition and Management, *J.L. Cawley, F. Barberis & L. Kary*

## THE ULTIMATE PERSONAL COMPUTER: AIDS FOR THE PHYSICALLY IMPAIRED

Smart Wheelchair, *David L. Jaffe*  
Discussion Panel: The Johns Hopkins 1st National Search for Personal Computing Applications to Aid the Handicapped, *Dan Van Horn, David L. Jaffe*

## TALKING MACHINES: HOW THEY DO IT

Access to Speech Synthesis and its Applications, *Carol A. Simpson*  
Expanding the TI Speak and Spell's Vocabulary With Speech Sound Concatenation, *John P. Cater*  
Programming "Phoneme" Voice Synthesizers Phonetically, *Carol A. Simpson*

## MORE ON SOFTWARE

Runic: A Homebrew Compiler Project, *Marty Franz*  
Guidelines for Choosing an Object-Oriented Programming Style in LISP, *Jim Schmolze*  
The LISP Steamroller, *Michael Burke*  
Introduction to the ACCESS/80 Report Generation Language and System, *Fredric C. Gey*

## RECRUITMENT: FINDING COMPUTER PROFESSIONALS

Finding & Keeping Computer Professionals During the Explosive 1980's, *Michael P. Harkins*  
A Sign of the Times: Recruitment and Relocation Policy Update, *The Relocation Center*

## PLUG COMPATIBLE PERIPHERALS

Low-Cost Computing with Plug Compatible Peripherals and Mainframes, *Joseph T. Simone*

## INEXPENSIVE BUSINESS COMPUTING

Acquiring the Small Business Computer: Take the Backwards Approach, *Nicholas Rosa*  
"It Loves Me, It Loves Me Not": Micros in the Small Business, *Jim Schreier*  
The Angry Consumers Guide to Word Processors, *Martin L. Dean*  
Some Reflections on a Commitment to Quality, *James L. Green, M.D.*

## THE HOW, WHERE & WHEN OF USING CONSULTANTS

How to Use Hardware Consultants (or How to Keep Your Brownie Points), *William R. Maclay*  
Marketing Your Software, *Victor M. Wyman*  
Deciding on a Software Package or Custom Software, *Catherine M. Sinclair*  
Panel: On Consultants & Consulting, *V. H. Finefrock, Victor M. Wyman, Catherine M. Sinclair, Leon A. Wortman, Carl Ramesey, William Maclay, James R. Lavelle, III*

## RADIO TELETYPE (3-day ongoing demonstration)

Amateur Communications Society (RTTY) Open Seminar & Demonstration, *Stuart Neblett*

## LISP TUTORIALS (half-day programs, all three days)

LISP: Beginning Tutorial, *Lois Patricia Flynne, Michael Burke, Tom Davis*  
LISP and More LISP: Tutorial Continuation, *J. Allen*

## VIDEOTAPE (all day, Friday)

Personal Computing, Help for the Handicapped (closed captioned), *David L. Jaffe*

## COMPUTING IN EDUCATION

The Computer Goes to Nursery School, *Dr. Kathleen M. Swigger, Dr. James Cambell*  
The Micro-Redy Project, *Barry Cole*  
On Using the Tutorial Mode in CAI, *Edward A. Zeidman*  
AIM: Remedial Math for Secondary Students, *Craig Walker, Jerri Jenkins*  
Educational Software Formats, *Geoff Zawalkow*

## APPLIED COMPUTER GRAPHICS

Microcomputer Production of Animated Maps, *John E. Westfall*  
COMANDER I - COMposition of Artwork aNd Document Editing and Report Generation System, *Jim Blum*  
Dedicated Document Production, *Sidney Levin, M.D.*

## IMAGES OF COMPUTERS: GREAT GRAPHICS

Microprocessors in Image Processing, *Gregory A. Baxes*  
4 Billion Colors on the Apple?!, *Ted Perry*

## EXTRAVAGANZA: VIDEO GRAPHICS

Computing for the Right Brain, *Fred H. Lakin*  
Computer Graphics and Computer Design, *Aaron Marcus, Christopher Keith & Michael Arent*  
Creative Futuristics, *Howard Pearlmuter*

## ELECTRONIC MUSIC & ARTS

FM Synthesis and the Casheab 32 Channel Synthesizer, *Ceaser Castro*  
STARS, An Automated Manager for Small Performing Arts Centers, *David J. Blow*  
A Three-dimensional Computer Input Output System, *David Dameron*

## FOR THE NOVICE: INTRODUCING MICROCOMPUTERS

Introducing Microcomputers (and How To Use Them), *Tony Bove & Cheryl Rhodes*

## TELECOMPUTING FOR EVERYONE

Videotex and Teletext: Computer Graphics Today, Tomorrow Television, *Jerry Borrell*  
Local Networking For Small Systems, *Douglas W. Gage*  
Telematique: The First Universal Communications Terminal, *Mark Cummings*

## EXOTIC COMPUTER APPLICATIONS

Computers and Horticulture, *Frederic E. Davis*  
Mini-Computer Applications in Antitrust Litigation, *David Bradwell*  
Autospec and Autocast: Book and Booklet Design and Castoff By Computer, *Stanley Rice*  
Computer-Generated Crossword Puzzles, *Chuck Adams*

## MICRO-BASED DATA BASES

D B Master: A Sophisticated Data Base Management System for the Apple II, *Barney Stone*  
Natural Language Access to Database Management Systems, *Bil Lewis*

## DISCUSSION PANEL:

Experiences with Computers in Education, *Fred Waters*

## COMPUTER BUSING & DRIVERS

Slave Processor for S-100, *Allen Heaberlin*  
The PI Bus - A Processor Independent Bus Structure, *Anton Pietsch*  
Discussion: Proposed Advanced Microcomputer Systems, Backplane Bus-P896, *Andrew Allison*

## THE IEEE 696/S-100 STANDARD

Status of Standard Approval, *Howard Fullmer*  
S-100 Standard DMA Protocol, *Kels Elmquist*  
What Does IEEE-Compatible Really Mean?, *Mark Garetz*

## UNUSUAL COMPUTER-AIDED INSTRUCTION ENVIORNRS

Personal Computer-Assisted Instruction in Music, *Wolfgang Kuhn, Paul Lorton, Jr.*  
Microcomputer-Assisted Instruction in Psychology, *Philip L. Hartley, Ph.D.*  
A Comparison of Traditional and Computer-Based Methods of Teaching Students to Administer Individual Intelligence Tests, *Dee LaMont Johnson, Jerry Willis*

## LOW-COST COMPUTING IN EDUCATION SYSTEMS (Part I)

Personal Computers in Educational Administration, *Eugene J. Muscat, Paul Lorton, Jr.*  
Competency Exams and Micro Computers, *Leonard T. Meuer*  
Purchasing Microcomputer System Components From Two Vendors Considered Dangerous, *Ronald S. Lemos*

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# 6th West Coast Computer Faire Conference Program (continued)

## LOW-COST COMPUTING FOR EDUCATION SYSTEMS (Part 2)

The Microcomputer and Management of the Time-Bound Educational Program,

David K. Mosow, Frank Turner

Justifying the Cost of Microcomputers in the Classroom: A Problem in BASIC Math,  
Madeline Fish, Brian Sakai

### UCSD PASCAL: TUTORIALS

A Pascal Tutorial, Neal Iscoe

Tutorial: How to Implement UCSD Pascal on Your Computer, John Tibbets

### UCSD PASCAL: DETAILS

UCSD Pascal, Version IV: A User's View, Charles Chapin

The IBS Multi-User/Multi-Tasking Operating System, Alfred A. Pease, Robert G. Nelson

Progressing from 1.0 to 1.1 A Review of the New Apple Pascal, Carl Helmers

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Denote Sessions of Special Interest to Business People

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Adam Osborne, President

Write the Right User's Manual for your Business Applications Software, Sharon Rosa

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Public Relations for High-Technology Entrepreneurs, Dennis Lewis, William Schwartz

## Enterprising Craftsman Boosts Digital Flea Market

by Johanna Immerman

Imagine this. Instead of walking your fingers through the yellow pages, how would you like to send them for a stroll across a computer terminal keyboard, accessible in places like your own home - or the local bar?

This is the innovative idea of Dave Dement, the Emeryville, Ca., owner of an HP2000 Access (which he assembled from used parts) who wants to help humanize computers.

Dave's idea is to create a computerized version of the yellow pages - a Digital Flea Market - easily accessible to the public, very much like the ubiquitous pay telephone.

Dave's "Digital Flea Market" concept has been around for a number of years already, beginning with Lee Felsenstein's "Community Memory", which was based in Project Artaud in S.F. Possibly somewhat ahead of its time, "Community Memory", was economically not feasible at the time.

Since then, the idea has been applied to businesses, where it is being used for such limited and specialized information services as housing rental searches and real estate listings.

Dement's idea represents the first time a varied and inexpensive system has been devised to serve the diverse business and personal needs of a large geographical area - or even a nation.

Dave says people are looking for reasons to use it, since the idea is so new and full of possibilities. He compares it to the early ham radio days, when uses were being discovered while the technology was still being perfected.

For example, while it is still in its developmental stages, word of the system has already spread. The growing national bulletin board is being put to use by students from UCLA to MIT, employing Dave's 3 dial ups, with the user needing only a terminal and a modem.

But how can Dave propose a cost-effective system, that wouldn't cost the public much (about \$2/hr during off-business hours) when the few big, public use time-sharing companies charge from \$5-\$12 hr?

Dave believes his main advantage is the fact that he owns his own equipment outright. He did the research (and trial and error) to find out which equipment would serve his purposes best, bought the parts used piece by used piece, and assembled them himself. In addition, he writes his own software, or contracts high-school level programmers, who - he's

found out - can produce brilliant and creative programs.

But Dave isn't limiting his idea to "humanize" computers to his Digital Flea Market, which he recognizes is still on the hobby level. After meeting a number of secretaries who felt they could earn a living as word processors, but couldn't afford or weren't willing to invest in a \$15,000+ system, he decided to offer the use of his Unix-type word processor editor at a nominal fee, to such free-lancing typists.

Dave is a strong believer in self-employment. He thinks the present system creates a basic estrangement between employees and their employers, and diminishes motivation and personal incentive. He is angry about the way the existing economic system provides obvious advantages to big business at the expense of the hired employees. He is convinced that modern technology can help correct this inequity by making it possible for more people to become self-employed and, as a result, self-directed.

He himself is working to achieve that end. When he is not on his regular job maintaining computer terminals for the Berkeley Unified School District, he operates a terminal repair service and installs computers,

## Conference Session

### Marketing Through Public Relations

Designers of microcomputers and other microelectronic products find themselves in the not always enviable position of having significant competition. For a young company with a new product this means an increased emphasis on sound marketing and marketing support. The first thought is often to use advertising, but many small firms don't have the budget for this type of campaign. How then are they to support the marketing of their products? One answer: through a public relations program.

"Public Relations for High-Technology Entrepreneurs," a 6th Faire talk by Dennis Lewis and William Schwartz, provides an overview of public relations tools and how they can be used by technology firms and entrepreneurs to enhance their marketing efforts. The budget-minded approach presented also details a hypothetical new product introduction and subsequent publicity techniques that can be used during the product life cycle.

The Computer Faire  
Includes Over 420 Exhibits

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## 6th West Coast Computer Faire

listing of

### Exhibitors & Booths

97% filled as of: 81 Feb 16

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## From the Counter To The Bottom Line

The growth of personal computer technology has completely changed the computer market. No longer are computers the sole province of large companies. More and more they are becoming available to the small businessman. But how does the small businessman use the computer? *From the Counter to the Bottom Line* provides some of the answers.

Not only does the book cover the basic accounting systems: inventory and purchasing, billing, accounts receivable, accounts payable and general ledger, but it discusses the procedure for implementing these computerized systems in a business. The book explains the purpose, scope and applications of each procedure.

Written by the past editor-in-chief of *Interface Age Magazine*, Carl Warren, and the president of Matrix Publishers, Merl Miller, the book's intent is to aid readers in making up their minds whether they want and need a computer in their place of business.

The 289-page paperback sells for \$13.95 and is sold at Kroch's and Brentano's, B. Dalton's, computer stores, or can be obtained directly from Dilithium Press: Box 606, Beaverton OR 97075; (503) 243-1160.

### Conference Session

#### Software Protection: Legal Fact or Fable?

Noting widespread disappointment and frustration in the microcomputing community based on "a widely perceived unwillingness or inability of the legal system to provide worthwhile protection for software," 6th Faire speaker David Harrison surveys the scene in his talk, "Software Protection: Legal Fact or Fable?"

He discusses pertinent cases, and reviews the protection offered by copyrights, patents, and trade secrets.

### Conference Session

#### An Electronic Bill of Rights

The U.S. Constitution — specifically the Bill of Rights — has operated largely within a non-electronic, paper environment. Rights of free speech, assembly, religion, etc. have been defined in terms of *how things have been done*, and not in terms of how they are *coming to be done* or may be done in the future. "What we need to do quickly," suggests Dean Gengle in his 6th Faire talk, "Toward an Electronic Bill of Rights," "is to make the Bill of Rights — human rights generally — *explicit* in the telecommunications processes at our disposal. This will avoid the high social costs of fighting some ancient social battles over again, on electronic terrain, i.e. battles over privacy, pornography, political Big Brotherism, and worse.

"A so-called 'Electronic Bill of Rights' would, among other things, assure that electronic mail preserved two important properties of paper mail: signatures of identity, and privacy. Such a Bill of Rights would also address issues of transnational data flow, the use of private and governmental data banks, freedom of information and privacy in matters other than mail *per se*, such as financial and/or political data, and unforeseen clashes of 'right' with 'right' in the information environment. My talk is a set of working notes towards such a Bill of Rights, and a primer for community discussion of the issues involved."

## Would You Tell A Friend What You Would Teleprinter?

There is no hope that teleprinters will break the \$1,500 price barrier in 1981. Only 9% of all teleprinter models marketed today cost less than \$1,500, and there are no significant trends that indicate a breakthrough this year. This was revealed in the latest edition of the *GML Teleprinter Supplement*.

The *Supplement* shows that the majority of teleprinters, or 60%, are priced between \$1,500 and \$4,000. Most devices priced above \$6,000 are multiterminal cluster systems.

According to GML graphs and figures, teleprinter prices have dropped only a modest 20% since 1970 and have somehow managed a stability not indigenous to most computer product markets.

GML says that evidence is available to indicate that prices will continue to hold above the \$1,500 barrier. A major indication for the status quo being that prices have declined at a slower rate in recent years. Further support for this prediction is the lack of new technological innovations on the present horizon that could contribute to cost reductions.

The *GML Teleprinter Supplement* not only contains an overview of the entire teleprinter industry, complete with graphs and charts, but includes prices, specifications, features, software, and marketing data. More than 250 teleprinter models made by 61 companies are included in this 137-page, bound volume.

For more information on this publication, call or write GML Information Services, 594 Marrett Road, Lexington MA 02173; (617) 861-0515.

## New-User Shares Experiences

"The bad news," says 6th Faire speaker Tony Severa in his talk, "Dear Notices, I've Got Good News and Bad News for You!," "is that you can lose a lot of money, self esteem, family, friends and jobs in the fast growing world of micros . . . The good news is that you don't have to.

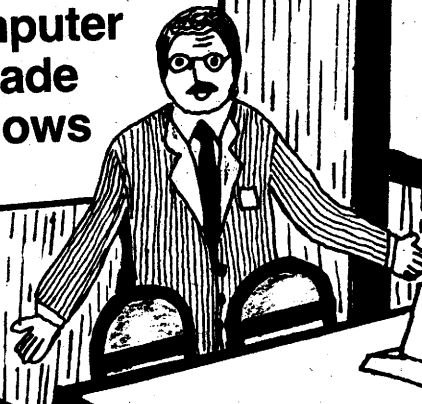
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  - 6 St. Louis, Missouri — October 15-17
  - 7 Dallas, Texas — October 22-24
  - 8 Los Angeles, California — November 8-10
  - 9 San Francisco, California — November 19-21
  - 10 Denver, Colorado — December 3-5

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The average attendance is expected to range from 20,000 up to 35,000 people with additional information going out by mail to those who can't attend.

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# WHAT Makes your old mill run?

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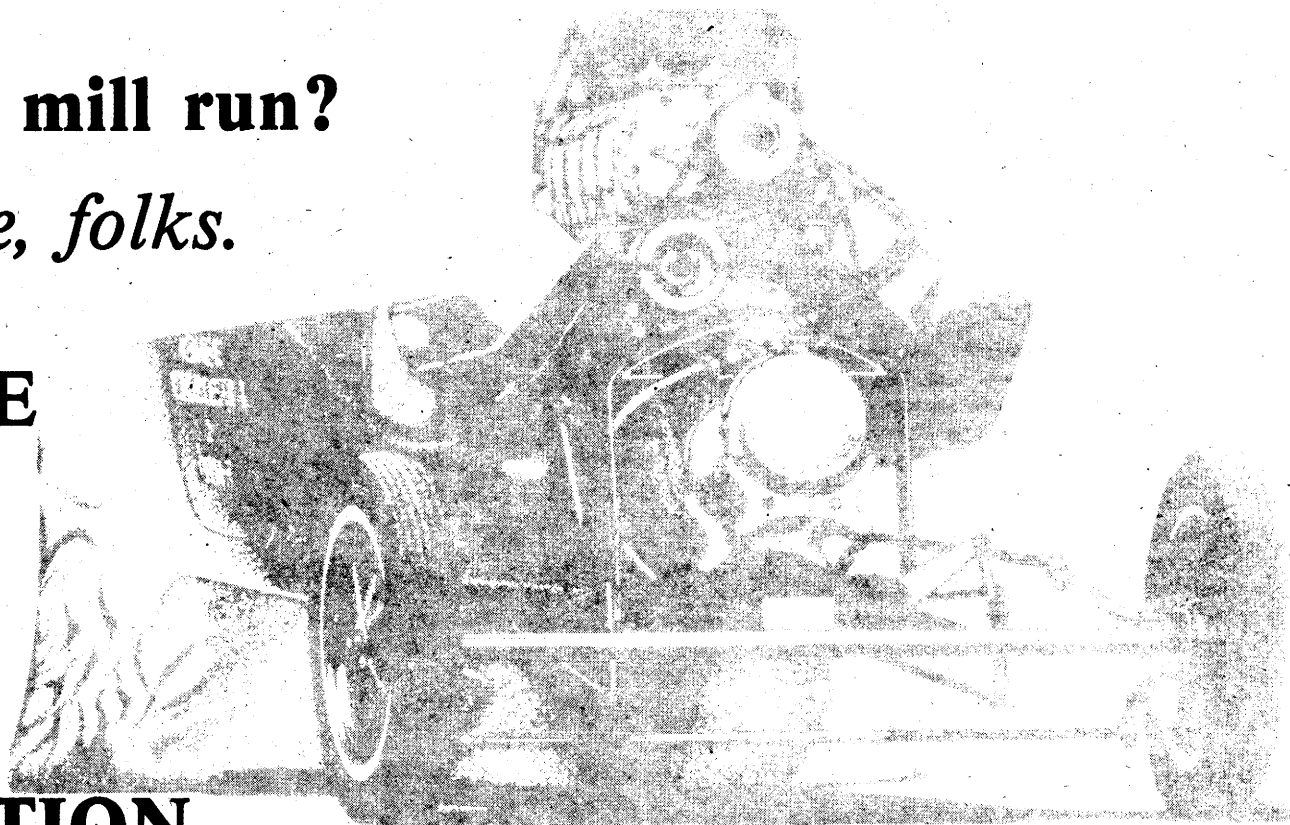
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ICB6

CP/M system (make & CPU)

MP/M system (make & CPU)

UNIX system (make & CPU)

DEC-8 system (model)

DEC-11 system (model)

memory size (x8 or x11)

memory (size, x8 or x12)

floppy disc (make & size)

hard disc (make & capacity)

daisywheel printer (make & model)

CRT terminal (make & model)

multiuser system (max. simultaneous users)

datacomm equipment (make & model)

The person honchoing *DataCast* is Jim Warren.

He was the first editor of *Dr. Dobb's Journal*, the first periodical to address micro-computer software — and built an international reputation for the definitive quality of *DDJ's* editorial content.

He created the Computer Faires, which consistently have the best Conference programs and information exchange of all microcomputer conventions.

He created the *Intelligent Machines Journal* — now *InfoWorld* — to offer a fast-turn-around news medium to the fast-changing micro world.

Now, he's returning to his first love (and 15-year profession) — software, his recent fascination — publishing readable and useful information, and his future goals — inexpensive, useful mass information communications.



You press a few keys on your personal computer and make a startling discovery: although your business is growing at 20% a year, you'll have a \$61,000 overdraft at the bank in 1984. Should you reduce inventories? Borrow? Invest? The answer, which might cost thousands of dollars on a large computer or from an accounting firm, is printed out in seconds.

The answer comes from a computer program, Finplan, recently released by Hayden Book Company, Inc. Finplan is a micro-computer-based financial planning and forecasting tool for small businesses. Using an unlimited variety of "what-if" assumptions, the program can create projections of earnings statements, balance sheets, and analytical ratios; and calculate return on investment, depreciation, and corporate taxes.

Finplan may help the small business owner make complex decisions, such as whether to add a product line or when to incorporate, and tests the effect of inflation and other factors on the success of a company.

It runs on a Radio Shack TRS-80 Level II, 16K, single-disk system, and was designed by Robert C. Montgomery, a management consultant.

According to Robert, "Finplan is simpler to use — and much cheaper — than sophisticated models that run on large computers and can't be run hands-on by the owner. You can ask it any question — including some you might be embarrassed to ask your accountant or banker. Finplan is especially valuable for creating a financial statement when applying for a bank loan."

Finplan comes with a 76-page user guide written around a hypothetical small business case history. "It's also a great way to learn accounting," the author adds.

Robert is chairman of the finance committee and a director of Engraph, Inc., of North Carolina. He is the author of numerous articles on financial subjects and was a contributing author to the *Handbook of Modern Marketing*.

Finplan is priced at \$69.95 retail for the tape, and \$74.95 for the disk version. For more information: Hayden Book Company, Inc., 50 Essex Street, Rochelle Park NJ 07662; (201) 843-0550.

#### Conference Session

### STARS Will Help Stage Critical Performance

A performing-arts organization can contain aspects of both a profit-making organization, and a non-profit organization.

Some examples of profit-minded management include: the costs and returns expected from an arts performance; effective pricing of theatre performances; marketing and attracting the arts-interested public through effective use of local media.

The principal needs of the non-profit sector include: effective fund-raising; providing of outside services to the community.

"Closer management of the performing arts sector is vitally needed," claims 6th Faire Speaker David Blow. In his talk "STARS (Subscriber Ticketing, Accounting, and Revenue System) An Automated Manager for Small Performing-Arts Theatres," he notes "it is very difficult to control the variable costs of a performing-arts presentation. By concentrating the

### Doctor Your Records With Medical Programs

The availability of inexpensive desktop computers opens the door to many medical applications. Computers potentially can be used in the following areas of a medical practice: medical records (creation, access, storage); business management (billing, accounting, payroll, word processing, patient scheduling); diagnosis and care information (decision making); and education (both physician and patient).

In a paper at the 5th Faire (see Volume V of the *Proceedings*), Mark H. Spohr, M.D. discussed the above possibilities in some detail. At the 6th Faire, Mark will describe three specific applications programs that are now available: Drug Interactions, Medical History, and Medical Clinic Statistics.

### Psychology and Computers: Merging the Drives

Academia has made a slow start in the race to use the full instructional potential of the computer. A recent survey of several thousand college departments reported that the computer as a teaching aid is not widely used in higher education, and that a significant number of schools make no use of computing in undergraduate education. The survey also determined that three-fourths of the instructional computing that was taking place involved data analysis, programming and problem solving rather than computer assisted instruction.

With the support of two grants from the California Community College Fund for Instructional Improvement (AB1143), a project was undertaken to provide a computerized approach to instruction in the basic undergraduate course in Psychology as offered in nearly every college and university.

6th Faire speaker Philip Hartley discusses the project in his talk, "Micro-computer Assisted Instruction in Psychology," and concludes, "Providing institutional support for teaching faculty to increase their computer literacy is both an excellent educational investment and a way of insuring high quality educational software. Rather than replacing instructors, reducing instructional interaction, and dehumanizing education, this approach to computer assisted instruction frees the instructor to creatively take advantage of the computer-as-teaching tool to enhance the students' chances for success."

data in one place, better decisions can be made as to the quality and production costs of a performance.

"On the non-profit side, many fund-granting organizations want to know in much greater detail the use of funds granted, and an assurance that all funds that have been granted can be accounted for.

"If there is government support of the arts, the reports on the use of these funds are subject to a specific set of audit standards.

"In addition, significant savings can be realized through centralization of the filing and typing of all the required information."

STARS, developed by David, is for small- to medium-size, performing-arts centers and theatres.

The STARS software was written with the advice of several people in the management of performing arts organizations. The accounting section of the module has been designed on the guidelines of the non-profit sections of the American Institute of Certified Public Accountants (AICPA).

#### Conference Session

### Applications Software Development

DataTool is a system which reduces the effort required to develop single and multi-terminal microcomputer applications software. It is aimed primarily at OEMs and systems houses developing commercial applications. It can run on any system supporting 64K bytes, and on hard or floppy disks.

"DataTool is an approach to building transaction-oriented applications which," says Dick Karpinski in his 6th Faire talk, "DataTool: The Application Development System for Microcomputers," "is based on a system of fully integrated database/screen/report facilities. It provides a high-level application specification environment (with database description and screen/report facilities) which runs under the UCSD Pascal development system, and an execution environment supporting multiple non-homogenous CRT terminals and a printer sharing a common database.

"DataTool provides the programmer/analyst with an extremely fast tool for iterative design, specification and demonstration of new applications, allowing a high level of end-user interaction with the entire development process. The early and strong involvement of the user, in turn, reduces costs by eliminating long specification feedback cycles. More importantly, the user's early 'That's not what I wanted!' is much easier to repair. Thus the likelihood of ultimate success is greatly improved."

#### Conference Session

### Don't Soft-Petal the Flowering Horticultural Computer Uses

Horticulture is the science of growing plants. It is a science which was born into an information crisis from which it has never fully recovered. There are an estimated half a million species of plants in the world. Each of these plants has its own characteristic genetic makeup, nutrient requirements, cultural requirements, growth pattern, leaf form, flower form, and potential uses which can all be expressed as variables of the half a million or so plant species. Add to this, a rapidly increasing number of artificially produced hybrids with their individual characteristics and you can get an idea of the amount of data that there is to deal with in the horticultural industry.

In his 6th Faire talk, "Computers and Horticulture," Frederic Davis says "today's powerful (yet affordable) small computers provide an excellent way for horticulturalists and others to gain access to large bodies of information about plants, information which has been vastly underutilized." An overview is given of six important applications for small computers in horticulture: 1. landscape and nursery industry; 2. plant breeding; 3. plant pathology; 4. plant taxonomy; 5. greenhouse automation; and 6. business applications for the retail florist.

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## Typesetting Manufacturers — The Chryslers of High Tech

—or—

### Yet Another Invitation to Japanese Manufacturers

by Jim Warren

In the race to see who has the most dinosaur-like attitudes, Chrysler has some strong rivals in the high (?) technology community, namely the makers of phototypesetting equipment.

You may remember Lee Iococca having the audacity to say something like, "The reason we don't build small, energy-efficient cars is because the profit margins are better on big cars" (each month when they sell one). At least he has some excuse for such a strong pro-oil (and pro-Japan) stance — his Board of Directors is indirectly interlocked with about ten major oil companies by approximately twenty of its members\*.

The typesetting industry, however, has no such excuse for so carefully avoiding major markets for their products. The image comes to mind of the management of U.S. typesetting manufacturers arthritically hobbling along the narrow path of their traditional markets, using the Two-Monkey approach to reality: They hold large blinders to the sides of their eyes, carefully muffle their ears, and sleepily chant in a uniform monotone, "No! No! Please don't let us see the blatantly evident opportunity to expand sales of our products into a massive new market. Oh please; Oh please — don't let us hear of the multitude of computer users eager to consume phototypesetting equipment."

We are, of course, referring to the typesetting manufacturers' uniform refusal to offer the moderate-priced phototypesetting peripherals that they have readily available to the huge and totally untapped potential market for new sales, namely computer installations desiring the ability to produce publication-quality hard-copy.

#### THEY HAVE IT, BUT THEY WON'T SELL IT

The typesetter manufacturers have the products to market. They simply refuse to do so.

For example, AM Varityper (formerly Addressograph Multigraph) has a workhorse phototypesetting unit that they use in their Compset typesetting systems. They also cross-license it to the Composition Systems Division of Harris Corporation (Melbourne, FL). Harris list prices this unit at an overpriced but tolerable \$17,950. The unit has an ever-so-simple, well documented 'Compulab' interface. Any Silicon Valley hardware jockey could trivially wire up the connection to it from a computer (e.g., using any S-100 computer and a 3P+S interface board, costing less than \$1,000, including the computer). Several companies market RS232-to-Compulab interfaces (one is priced at \$2,500, excluding the computer). Driving it directly by computer as a slave printing device is simple and completely documented — that is exactly what Harris does with the unit (they make expensive, computerized full-page make-up systems for large newspapers, using the AM unit as one of their typesetter options).

The configuration is economically and functionally ideal for the multitude of computer service bureaus and many inhouse computer operations, to say nothing of the mass of publish-or-perish academic institutions across the land — all of which have ample computing power (and the latter have an endless supply of grad student slaves who would like nothing better than to crank out arbitrarily exotic typesetting software).

Similarly, Itek makes a clunky little tabletop typesetter, sufficient for low-volume production use. They peddle a complete typesetting system, including display terminal and cassette-tape mass storage, for about \$11,000. For an extra \$2,500, you can even buy an almost-working, partially-documented RS232 computer interface from them.

Now, come the ringers:

#### YA GOTTA BUY THE CHROME AND FOX TAILS

Using the Iococca Approach, the typesetting manufacturers won't sell the phototypesetting units — they demand that customers also purchase a mound of front-end equipment. That gear may be appropriate for the traditional typesetting market; after all, that marketplace has never experienced good text editing and file systems. But, for the computer folk, that mandatory front-end gear — specialized display terminal, memory, wee mass storage units (insultingly priced about 3-5 times more than identical units in the computer market) — verge on being totally useless; computer installations already have terminals, memory and mass storage running out of their ears.

It's like trying to market a big, overpriced gas-guzzling Chrysler, complete with chrome sun visors and fox tails on twin radio antenna, to consumers who want a trim, economical, easy-to-handle vehicle. The only difference is that Chrysler management is several years closer to well-earned self-destruction than are the U.S. typesetting manufacturers.

#### YA CAN ONLY TURN LEFT

OK — let's say a computer group, desperate for publication-quality computer output, is willing to waste \$5,000-\$15,000 on useless front-end equipment, in order to get at the typesetting unit. There are several companies willing to offer the overpriced RS232 interface. That takes care of the hardware connection to a computer. The obvious thing, then, is to do most or all of the formatting in the big, powerful computer, and have it transmit a text stream to the phototypesetting unit to be typeset, letting each system do what each does best.

But, that's not the way the typesetting manufacturers have their computer interface software set up. They require that the text stream from the computer be downloaded to the creaky mass storage on the typesetting system (e.g., move the text from a big, solid, economical disc on the computer to a small, flakey, grossly overpriced disc on the typesetter), then fed from there to the typesetting unit via keyboard commands on the typesetting system.

Even Chrysler is more intelligent than that — they allow their autos to be driven in a straight line, and they don't require that the drivers change seats each time they wish to make a turn.

#### SHIFTING GEARS IS A SECRET

Let's take this ridiculous scenic one contorted step further: Computer folk are accustomed to doing their own programming to overcome the frailty and inadequacy of inept systems design. Many would even go so far as to pay the extra \$10,000 or so for useless front-end gear, and write their own typesetter software, replacing the intolerably bad system design available from the manufacturers. All they need is a copy of the same engineering documentation used by the manufacturers' programmers — a reference manual comparable to the Service Manuals readily available for automobiles (even Chryslers and Edsels).

Will the manufacturers provide that information? Of course not! That might allow their customers to actually use their systems efficiently.

E.g., the manufacturers use standard floppy disc drives, but they refuse to tell anyone what their recording protocols are. Thus, computer folk cannot record text on floppy discs for transfer to the typesetters . . . until they crack the recording codes (which an increasing number of people have done; it's amazing what computer people will tolerate and overcome in order to make a badly designed system useful). Of course, if manufacturers were to document their disc recording protocols, then computer installations could transfer text to those manufacturers' disc-equipped systems with only nominal contortions — thus making the systems more useful and selling more disc-based systems. That would obviously be counter to their de-facto policies of profit minimization, and making system utilization difficult for prospective customers.

E.g., Itek keeps its width tables secret (these specify the horizontal space taken up by each proportionally-spaced character — essential if one is to do automatic hyphenation and line breaks on the source computer; kept secret for no conceivable reason). This is certainly in keeping with the policy of bad customer support.

E.g., AM Varityper won't allow their customers to have hardware documentation on their systems interfaces. Curiously, apparently Harris will provide that documentation for the Compulab interface, even though AMV won't.

E.g., the Itek units use stock Pace microprocessors. The Itek software is of the usual design, with most facilities accessed by subroutine calls. Will Itek make a Pace assembler available on the system — even at additional cost? Will they tell their customers what the calling addresses are for the subroutines? Absolutely not! That might allow the customers to make the systems more useful. (In comparison, every computer manufacturer — even the most greedy of the bunch — provide assemblers for their computers, and offer documentation detailing access to system utility routines. I.e., they provide their customers with the information needed to make their products useful to those customers.)

#### IF YA CAN'T BUY A ROLLS, YOU CAN'T HAVE A CAR

Lest the reader be misled into believing that typesetter makers totally refuse to market a highly desired facility to a major potential market, please understand: Typesetters are available that can be directly computer-driven . . . for those willing to pay \$30,000-\$100,000 or more. But, the economical, \$10,000-\$20,000 models — which are being manufactured and could be profitably sold in that price range — are not available for purchase from any major U.S. typesetter manufacturer.

#### COME ON IN, JAPAN — THE MARKET'S WIDE OPEN

If the U.S. typesetter manufacturers insist on following their current, shortsighted policies, presumably driven by myopic greed, they are bound to follow the well-worn path already traveled by U.S. optics makers, camera manufacturers, and automobile makers. Customers will gravitate to those companies that meet the customers' needs — that are innovative and cooperative, rather than recalcitrant and unresponsive.

It is infuriating to see the management of a major U.S. industry so arrogantly refuse to be of service to a major potential user community.

It is equally infuriating — and embarrassing — to see U.S. business leaders refuse to innovate, refuse to risk, and refuse to create.

If these policies of risk avoidance, and short-term profiteering withing clear view of long-term disaster continue and spread within the U.S. business community, this "How To" country — built on willingness to take risks and a barn-raising spirit of cooperation and mutual assistance — will

become another "has been" industrial country, laying beside those other past giants whose leadership was more concerned with security and tradition than with continued innovation and improvement.

(Delightfully, much of the computer industry — notably software producers and the microcomputer community — shows little sign of avoiding innovation or avoiding risk, and is continuing its considerable history of highly profitable sharing and cooperation.)

\*Interlocking Directorates Among the Major U.S. Corporations, U.S. Senate Committee on Governmental Affairs Document 95-107, 997 pp., 78-Jun-15.

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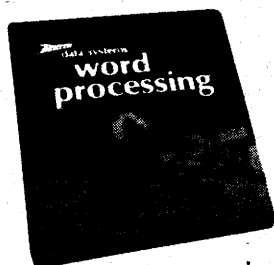






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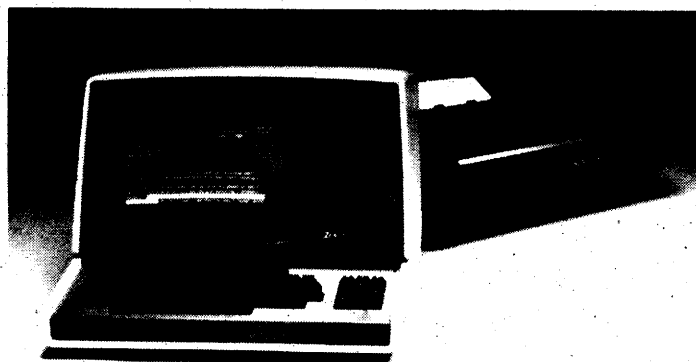
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