

Radio Shack TRS-80 Model 16

Radio Shack has previewed its fastest, most powerful TRS-80 computer ever, featuring sixteen bit technology, dual processor architecture and a multi-user operating system. The new TRS-80 Model 16 is capable of 512K internal RAM memory storage and 2½ Megabytes of disk memory using two built-in all-new "thin line" double-sided 8-inch disk drives; additional external disk storage may also be added. This combination of large RAM and disk memory capacity will allow the Model 16 to use more sophisticated, user-friendly software with large file capacities.

The Model 16 desktop computer will be available this spring in two versions, both with 128K memory. A single drive version with 1¼ Megabytes of disk storage (26-6001) will be available for \$4999 at Radio Shack Computer Centers or the expanded computer departments of selected Radio Shack stores and dealers. A two-drive version (26-6002)

with a total 2½-Megabyte storage capacity will be available for \$5798.

The new TRS-80 Model 16 uses two microprocessors: the Z-80A (used in the TRS-80 Model I, Model II and Model III microcomputers); and a 16-bit microprocessor, the MC68000, developed by Motorola.

The MC68000 microcomputer allows the Model 16 to access more memory than systems using 8-bit microprocessors. The Model 16 comes with 128K of RAM, but can be expanded

in 128K steps to 512K (½-Megabyte). Also, because the data path is a full 16 bits wide, and because the MC68000 can perform internal 32-bit operations, more complex data can be processed at higher speeds. Together, these features give the Model 16 the capability to process more sophisticated programs.

Using the Z-80A as a second microprocessor brings additional advantages, including software compatibility with existing TRS-80 Model II software. Operationally, the Z-80A relieves the MC68000 of time-consuming "house-keeping chores" (like input/output control, for example), freeing the main CPU to use its processing power to its fullest.

Model II software compatibility means the Model 16 can put Radio Shack's substantial library of off-the-shelf Model II software to work immediately. Model 16 COBOL will be available at the same time as the Model 16; new software that will be able to take full advantage of the Model 16's capabilities (including FORTRAN and both compiler and interpreter BASIC) will be announced shortly.

The TRS-80 Model 16 has been designed to permit its expansion to multi-user operation with the addition of one or two low-cost terminals, which may be located remotely. This lets as many as three users access programs and information at the same time.

For more information, please contact: Radio Shack, 1800 Tandy Center, Ft. Worth, TX 76102.

Conference Session

Computer Design of Tiffany Lamps

In his upcoming 7th West Coast Computer Faire talk, "Computer Assisted Design of Tiffany Lamps," Mike Higgins will explain how computers can help make for more creative stained glass and window design. The proprietor of Space Glass, in Duncans Mill, California, says the computer is a liberating, rather than inhibiting, design tool.

"Older lamp designing techniques require making a mold and fitting pieces of glass to it by trial and error. The

effort involved . . . makes it more economical to produce many lamps from the same pattern. This is not true with my computer assisted program . . . I never have to produce multiple copies of lamps to recoup the investment," says Higgins.

At the Faire, Higgins will describe his craft, the algorithms he uses, and his interaction with his programs which have been run on a PDP11 computer, as well as a small micro system.

30,000—40,000 Expected at 7th Computer Faire in San Francisco

Friday through Sunday, March 19-21, the West Coast Computer Faire will take place for the seventh time. Last year, this event drew almost 32,000 to its 3-day conference program and product exposition that included well over 500 booths.

This year, over 100 speakers are expected to participate in the Faire Conference. Talks will range from introductions for novices and discussions of business and educational computing, through a large variety of applications, to "heavy" technical presentations. (See the partial listing of the Conference Program, elsewhere in this issue.)

The exhibition area has been expanded to the capacity of San Fran-

cisco's Civic Center convention complex, having over 600 booths. This includes a set of microbooths, unique to the Computer Faire, that provide exposure to innovative but undercapitalized entrepreneurs.

There will be meetings of a number of user groups including users of Tandy TRS-80, Apple, Commodore Pet, Zenith Z-89 / Heath H-9, CP/M, etc.

Half-day and full-day seminars are also being planned, including introductions to business computing, Basic, Pascal, etc. (Faire registration includes admission to the conference program and the exhibits, however, there will be additional fees for these in-depth training seminars.)

Editors are the Worst Gossips or Gossips are the Best Editors?

by Jim C. Warren, Jr.

Running a computer convention and publishing a coupla computer rags is near-Nirvana for a techno-gossip. It places one in the middle of the computer information knitwork (sort of like a snag?). A multitude of rumors flow in one ear and . . . onto paper — some of which may even be true.

Summarized, here, for the entertainment (and possibly for enlightenment) of the reader is a semi-random selection from our pile-file of recent ribald rumors and rabid opinion.

'BOUT IBM

After seeing the IBM personal computer, we join Apple in applauding IBM's entry into the consumer(?) computer market. By issuing the incantation so holy to so many — "I B M" — it validates that marketplace in the geriatric minds that insisted personal computing was a mere novelty (like Bell's

telephone and those belching horseless carriages).

It seems certain to expand the distribution of computing power to the public, probably not even harming the dollar sales of many of the "old line" micro makers (though certainly cutting into their market percentages). And, IBM is offering an excellent product.

SO MUCH, SO RIGHT

Frankly, we were somewhat surprised that such a conservative goliath as IBM did so many things so right in their personal computer, given the hyperdrive speed of development in microcomputing.

With their p.c., they have done an excellent job of being many things to many people — comfy keyboard, color graphics, sound generator, printer, 640 x 200 graphics resolution (higher'n competitor Apple), "mature" packaging, and excellent documentation (something that is disturbingly novel in the micro world).

They went outside for their software (continued on page 2)

7th WEST COAST COMPUTER FAIRE

Conference & Exposition

on

Inexpensive Computing for Business, Industry, Education & Home



San Francisco Civic Auditorium & Brooks Hall

San Francisco Civic Center
Lots of Parking on the Weekend

Over 500 exhibits

(Over 31,700 attendees last year)

March 19 (Friday) 9 a.m. - 6 p.m.

March 20 (Saturday) 9 a.m. - 6 p.m.

March 21 (Sunday) noon - 5 p.m.



Pre-registration available at participating stores & clubs

At-the-door registration: \$15

(includes Conference Program & Exhibition for all 3 days)

Computer Faire, 333 Swett Road, Woodside CA 94062, (415)851-7075

Dompier and Ascher Create Island Graphics

Diane Ascher and Steven Dompier have joined forces to create Island Graphics. Island Graphics markets a line of graphics-oriented software for personal computer users.

Ascher and Dompier are veterans of the personal computer industry. Dompier was Vice President of Research and Development for Processor Technology. Ascher is a veteran of several hardware and software manufacturers.

With what they call "a rare insight" into the market, the two say they will be able to serve the best interests of both programmers and marketers.

Island Graphics will introduce their new product line at the West Coast Computer Faire.

Conference Session

Computer Networks in the U. K.

Computer networks in the United Kingdom, Europe, and the United States will be compared in Rod Goodman's 7th West Coast Computer Faire talk. The British Electronics Engineering Professor will discuss personal computer and local area networks, and nation-wide data services provided by British Telecom.

"Although the U. K. has been at the forefront of data communications, the personal computer fraternity have been much slower to latch on to the benefits of networking," says Goodman. His presentation will be published in the *Proceedings of the 7th West Coast Computer Faire*, available at the March show.

(continued from page 1)

(computer programs) — a semi-unique action for IBM. They chose to offer the microcomputer industry's "standard" disc operating system, CP/M, as an option (a choice we hear was made at the last minute), along with their version of DOS from Seattle's Microsoft. And, they have instituted a software publishing department to which outside software producers can contribute royalty-earning software. Bravo!

Delightfully, they have priced their system about the same as the list price of their Apple II target, thereby allowing it to be purchased by mere humans.

And, we believe they are aggressively pursuing such desirable add-ons such as a larger-capacity data storage discs and probably multi-computer networking.

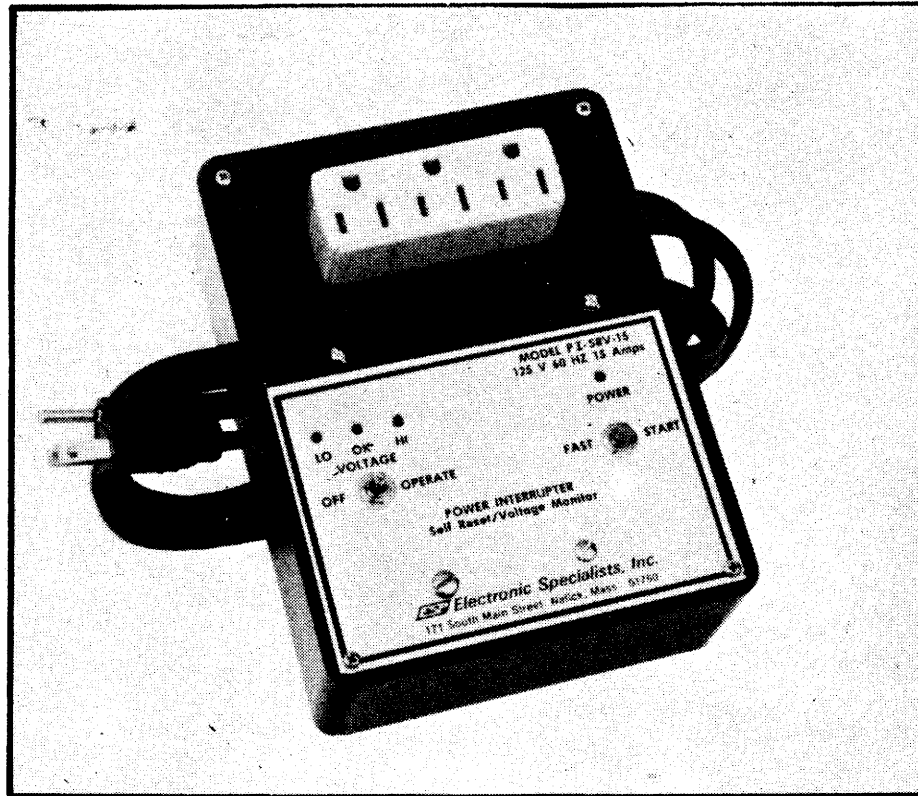
We are also much impressed with the highly professional and ethical manner in which we have noted them conducting business. They maintain very tight control over the development and software for their product (no hip-shootin' EE's — that's Egotistical Engineer — installing glitches that become undesirable "features"). Also, they speak no ill word of their competitors, in private or public... a somewhat novel event among micro mogols.

A MARKETING GLITCH

But, IBM may have slipped in setting up its marketing. It has chosen to make its p.c. available, initially, only through IBM stores, Sears business stores (hopefully better-operated than Sears retail stores), and some Computerland stores (contrary to popular impression, not all Computerlands can qualify to carry the IBM machine — they are accepted by IBM on a store-by-store basis).

And, of course, none of these three retailers will stray from the "suggested" list price. So much for free market competition (does OPEC have four characters or three?). They say they expect to accept other retailers, later, but it appears that will not occur for some time into the future.

And, this decision has left a freeway on



New Power Line Interrupter

Electronic Specialists is expanding their AC Power Line Interrupter series to include automatic reset models. Should AC Line Voltage be disrupted or exceed pre-set safety limits, the Power Interrupter disconnects AC power from controlled apparatus. A four-minute time delay, followed by automatic self-reset, helps avoid wide voltage fluctuations associated with Power Line malfunctions. An optional Line Voltage Monitor is available.

Intended for installations operating unattended for long periods, the Self-Reset Power Interrupter provides safety

and protection for equipment and personnel.

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The Model PI-SR-15 Self-Reset Interrupter costs \$185.95, and the Model PI-SRV-15 Self-Reset & Voltage Monitor Interrupter, \$205.95.

For more information, please contact: Electronic Specialists, Inc., 171 South Main St., Box 389, Natick, MA 01760, 617-655-1532.

which some hot competitor can gleefully drive into the newly IBM-expanded market. That freeway is paved with the mass of systems groups and retailers, furious at not being allowed to even bid for the opportunity to be among the initial distributors of IBM machines.

Additional fuel for the entry of new IBM competitors is offered by the fact that IBM's disc operating system is not an IBM-exclusive — Microsoft can offer it to other manufacturers, just like Digital Research with their CP/M.

ENTER THE VICTOR, SIRIUSLY

And, there is a hot competitor.

Background: Chuck Peddle is one of the better-known frontiersmen (frontierspersons?) in the Silicon Valley. He earned his Dan'l Boone button by creating one of the first low-cost microprocessors, the 6502 for MOS Technology, back in the early days of microprocessor design. He then created the Pet (the first-announced, fully-constructed consumer computer) for Commodore. He has now spun off, created his own company named Sirius Systems Technology (Scotts Valley, California), and created the Sirius One (pun undoubtedly intended).

SILICON SYMBIOSIS

In a delightfully symbiotic move, Chuck struck a deal with Victor Business Products to be the exclusive peddler of the Sirius One in North America, being marketed under the name of the Victor 9000. This gives Victor a quick way to become a serious competitor in the personal computing market, and gives Chuck ample backing and a very mature and successful nationwide marketing operation.

(Victor is the the largest manufacturer of traditional desktop calculators in the U. S. It is an old-line, conservative company, and a subsidiary of Kidde (pronounced "Kiddah"; not "Kidd" nor "Kiddie"), the dollar-strong fire extinguisher manufacturer.)

THE VICTOR 9000

The Sirius machine is well worth look-

(continued on page 6)

Conference Session

Bottom Line on Micros

First-time buyers of microcomputer ware face the grueling task of choosing one system from the many available. According to David M. Pittle, of Smart Management Systems in San Rafael, California, "Today the cost of using the computer has dropped so much that we can look at new uses with a more open mind and willingness to experiment."

Pittle will give a talk entitled "Bottom-line Micros" at the 7th West Coast Computer Faire. In his talk, to be published in the *Proceedings of the 7th West Coast Computer*, he will offer guidelines "for the acquisition of a microcomputer adequate to serve a small business or other small organization." He will cover the steps of requirements analysis, feasibility study, benefit/cost analysis, and choice of hard- and software.

Distributor Gives Money to Employees Who Quit

Software Distributors, a Southern California distributor of software packages, has announced an in-house, no smoking incentive program. A \$500 cash bonus has been offered to all employees who presently smoke tobacco if they will completely refrain from smoking for the ensuing six months.

Linda Johnson, Software Distributor's Vice-President of Administration, in announcing the incentive program said, "We want this proposal to be a true reflection of our genuine concern for the health and welfare of our tobacco smoking employees."

Software Distributors is a wholesale distributor providing dealers with CP/M, TRS-80 and Apple software.

Silicon Gulch Gazette

Number 29

March 1982

a Computer Faire publication, 333 Swett Road,
Woodside CA 94062
(415) 851-7075

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typesetting
production
printing
distribution

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The Silicon Gulch Gazette (ISSN O 149-7898) is published 4 times a year by Wireless Digital, Inc., 333 Swett Rd., Woodside CA 94062. Second-class postage paid at Woodside and at additional mailing offices. Postmaster: Send address changes (Form 3759) to Circulation, Silicon Gulch Gazette, 333 Swett Rd., Woodside CA 94062.

Subscriptions: Upon request, random issues will be sent without cost. To receive all issues, subscription price for U.S. is \$6.00 per year. Please write for foreign rates. Send subscriptions and requests for sample copies to: Computer Faire, 333 Swett Rd., Woodside CA 94062.

Computer Simulated Chemistry

High Technology Software Products, Inc. has announced the third and fourth additions to its series of chemistry laboratory simulations. Chem Lab Simulations #3 contains four calorimetry experiments through which demonstrate Hess' Law. Chem Lab Simulations #4 utilizes two capillary tube experiments to illustrate principles of thermodynamics. Designed for college level introductory chemistry courses, these simulations are also suited for advanced high school students.

In Chem Lab #3, dynamic high-resolution graphics provide a realistic reproduction of the actual steps of calorimetry experiments such as heating the water with a Bunsen burner, pouring the heated water, dropping sodium hydroxide pellets into the calorimeter, and measuring the response of the thermometer. Each student-controlled experiment is followed with step-by-step calculations using the results of the experiment to solve for the "heat of reaction." The final calculation compares the experimental results with the theoretical results obtained from Hess' Law. Student accuracy is monitored so that the experiment must be repeated if the results are outside of a suitable range. At the end of each experiment, the possible reasons for poor results are presented to the student.

In Chem Lab #4, the first capillary tube experiment determines the heat of vaporization of an unknown liquid. The second one determines the enthalpy, entropy, and free energy of a decomposition reaction. In both experiments, pressures are calculated from readings of the height of the mercury plug in the capillary tube at various temperatures. The calculated pressures are then plotted on the video screen and thermodynamic parameters and heat of vaporization are derived.

An instruction manual discusses theories involved, preparing the student for the most effective use of the simulation. Initial temperatures and weights of reactants are randomly generated so that the calculations vary each time the simulations are performed. The simulations guide the students using plain

English. No computer knowledge is required.

Chem Labs #3 and #4 require a 48K Apple II or an Atari 800 with at least one disk drive. The suggested retail price for each series package is \$100. The series is available at computer dealerships worldwide, and are distributed by High Technology Software Products, Inc., Box 14665, 2201 NE 63rd St., Oklahoma City, OK 73113, 405-478-2105.

Conference Session

The Well Behaved Home

For a home to be truly organized today it helps to have a home control system that not only feeds the cat and waters the plants, but turns off lights after people leave a room, irrigates a dry vegetable garden, and greets guests with a spoken message.

Carter Compton Collins developed just such a system as a hobby and will talk about his "Well Behaved Home," at the 7th West Coast Computer Faire.

"Computer control of the home has long been a dream of many visionaries," says Collins, an associate professor at the University of the Pacific, "The real secret of success lies with peripheral input and output devices with which the microcomputer can exert control of the environment. The peripheral functions I describe here are some I could design and readily build at home in a few weekends each."

Illustrations and diagrams accompany Collin's paper which will be published in the *Proceedings of the 7th West Coast Computer Faire*, available at the show.



Faire Smoking

By city ordinance, smoking is permitted only in the entrance lobby of the Civic Auditorium. It is explicitly prohibited in the conference halls, perhaps due to limited ventilation.



Conference Session

Managing the Knowledge

Mark Cummings, of the Systems Architecture Department of the Bank of America in San Francisco, will speak at the 7th West Coast Computer Faire on "Managing the Knowledge Industry." In his talk, which will be published in the *Proceedings of the 7th West Coast Computer Faire*, he will discuss "designing organizational structures that can preserve small group productivity in large organizations."

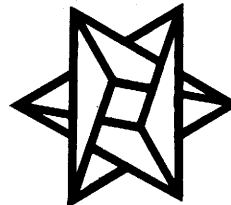
Cummings says that "small group productivity results from the small group's natural tendency toward balanced communication," whereas large corporate structures, though able to implement large-scale projects such as the personal computer, suffer from lack of effective input at the lower levels of their hierarchies.

Cummings says that if the personal computer industry hopes to meet "the challenge of realizing the productivity gains inherent in the technology" it ought to consider "restructuring the institutional and social contexts in large organizations to create more balanced communication patterns."

Silicon Gulch Gazette

OURS: A professional word processing system for the Apple™ and IBM™ computers that's easy to use and has a superb user's manual.

THE OTHERS: Dozens on the market. Some cost a little less, but do much less. A few cost more, but they also do less. Nobody else's manual even compares. to be continued...



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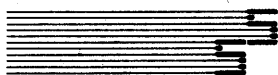
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Computer Chronicles Makes National Debut

"Computer Chronicles," a show that premiered last September in the Bay area, will make its national television debut in Chicago this April.

One of the half-hour shows, currently aired on KCSM-TV Channel 60, a Bay area Public Broadcasting Station, will be screened at a PBS Inter-Regional Program Service Conference this Spring. At that time, PBS stations from around the country will have the chance to pick up the show, hosted by Computer Faire Chairperson Jim Warren. Two California stations, KCET in Los Angeles and San Diego's KPBS, have already expressed interest in airing the program.

"Computer Chronicles" is aired Thursday evenings from 7-7:30 p.m., and repeated Friday mornings from 9-9:30 a.m., and Saturday afternoons from 5:30-6 p.m..

Currently, the show is funded entirely by KCSM, with the host and guests donating their time. But underwriting is being sought. The increased exposure syndication would bring could encourage companies to fund this unique computing program.

"This is the first series in the nation to presume a computer literate audience. But most of the shows make a reasonable attempt to be intelligible to the computer novice," says host Warren.

Beginning with a program featuring Adam Osborne and Lee Felsenstein, creators of the Osborne I microcomputer, "Computer Chronicles" has featured some of the most fascinating authorities and applications in computing.

Dr. Robert McClure, an internationally known techno-consultant, Chris Crawford, an Atari game design specialist, and Dan Flystra of Personal Software have all appeared on the show. Programs have covered such diverse areas as musical synthesis, exotic computer graphics, state of the art technological development, and futures forecasting.

Response to "Computer Chronicles" has been positive, says show producer Dave Carlson. One head of data processing for a major corporation encourages his communications center staff to watch the show. Show tapes have been passed around at Atari and Apple. An executive with TDK tape manufacturers wrote KCSM that Japanese television might carry the program. He was forwarded a tape.

"We've already begun calling around with our ideas for new programs," says Carlson. "We're planning a series of reports on new Apple, Tandy and Atari equipment. We'll do shows on new applications, computers that talk and computer graphics."

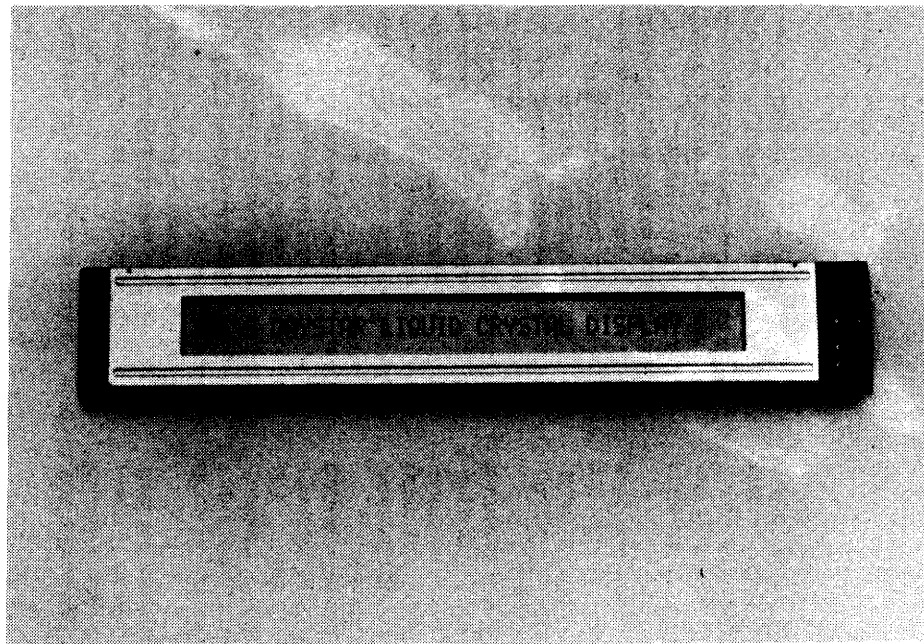
The show will do more remote work, says Carlson, but not at the expense of Warren's interviews with computing's pioneers. Computer applications and authorities will be explored in the "Computer Chronicles" to come.

Individuals and organizations interested in underwriting or knowing more about "Computer Chronicles" should contact: Executive Producer Stewart Cheifet, KCSM-TV, 1700 W. Hillsdale Blvd., San Mateo, CA 94402.

School Microwave Review

The Winter, 1982 issue of "School Microwave Reviews", the guide to quality in microcomputer courseware, will be available in February. This second issue of the semiannual publication will contain significant improvements over the Summer '81 premier issue. The issue price is \$20.

"School Microwave Reviews" is available from Dresden Associates, Box 246, Dresden, ME, 04342; 207-737-4466.



IEEE Expands Daystar

The Industrial Products Division of Industrial Electronic Engineers, Inc., (IEE) has added two "small footprint" models to its growing Daystar line of alphanumeric LCD modules. Engineered for the user who requires a module which mounts in a minimum panel area, the two new models display one line of 40 characters in either a five by seven dot matrix and cursor (Model 3822-96-040) or a five by ten and dot matrix cursor (Model 3822-97-040). The five by ten matrix model allows display of the full 96-character font, while the five by ten matrix also allows the display of true descenders on the lower case letters such as g or j. The modules, which consist of

the display panel plus integrated drive electronics, can be used in a minimum logic configuration with refresh being handled by the host system, or they can be teamed with IEE's Daystar Controller I. C. (part number 44958-0) to provide an ASCII interface which includes on-board RAM, character generator ROM and all refresh timing signals. Power requirements are 10mW at plus and minus 5VDC. The price is \$86 in production quantities.

For more information, please contact: IEE, 7740 Lemona Avenue, Van Nuys, CA 91405, Carl Doria, National Sales Manager, Industrial Products Division, 213-787-0311, Ext. 210.

Conference Session

Computer History for Beginners

"Microcomputers are no longer a dream, but a reality and there is an urgent need for every child to be exposed to the ideas, the people responsible for their conception and the computer itself," says Peggy Comer. Comer, of the Sunburst School in Glendale, Arizona, will be offering a talk entitled "Computer History for Beginners" at the 7th West Coast Computer Faire.

In the talk, to be published in the *Proceedings of the 7th West Coast Computer Faire*, Comer will present an outline for such a computer history course. The course begins with discussions of attitudes toward computers, covers their development through history (did you know that in 1673 the philosopher Leibniz built an adding calculator?), and eventually introduces the children to programming.

Toshiba Personal Computer

Taranto & Associates, Inc. will introduce the new Toshiba Personal Computer, T100, at the West Coast Computer Faire.

Toshiba T100 features 32K Byte MASK ROM; 64K Byte RAM; eight colors on the CRT; graphics display-640 x 200 dots (fine graphic mode); size of a compact stereo component; up to four two-sided double density mini floppy disks can be connected to the T100, providing up to one megabyte memory; variety of languages including CP/M as well as Basic.

Also on display will be the T250 Office Computer. The new Toshiba will be presented in conjunction with Toshiba America, Inc. in Faire booths 506C-508.

Legislative Monitoring System

The Information Store has added state legislative monitoring to its existing research and document retrieval services. The monitoring is done using the Legislex database.

Legislex is a concise computerized legislative bill tracking system which monitors bills in all 50 state legislatures from the time of their introduction through committee hearings and floor activities to their final disposition.

With Legislex businesses and law firms can be aware of state legislatures which are moving to: create compliance problems through diversity; enact unitary taxes on business income; block business expansion plans by denying land for industrial development; impose new workplace standards; make it more difficult to close ailing industrial plants; and much more.

The Information Store is a service specializing in research, information gathering, and document retrieval for lawyers, consultants, and executives. For more information, please contact: The Information Store, 800 Russ Building, 235 Montgomery St., San Francisco, CA 94104, 415-421-9376.

The President is Moody

The International Alpha Micro Dealers Association (IAMDA) Board of Directors held its first meeting of the year recently in Las Vegas. Bob Moody, of Alpha Information Systems, Palo Alto, California was elected President.

For information concerning the International Alpha Micro Dealers Association, please write: 800 San Antonio Rd., Palo Alto, CA; 415-856-4744.

Heath[®]/Zenith Magazine

Introducing *Sextant*, the complete magazine covering only Heath[®]/Zenith computer systems.

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Early issues of *Sextant* will have articles on using the H89 to produce color slides and articles for publication, Tiny Pascal, H89 parallel ports, print spoolers, simulation of Rubik's Cube and writing assembly language disk software that doesn't require HDOS.

Start your subscription with the premiere issue of *Sextant*, to be published in March and receive all four 1982 issues. Just send your payment of \$9.97 (\$11.50 in Canada, \$14 overseas) for a four-issue subscription. (Payment must be in U.S. dollars payable on U.S. bank, by international postal money order or charge it on VISA or MasterCard.) A full refund is guaranteed any time you're not satisfied. Send your order today to: *Sextant*, Dept. G, 716 E St., S.E., Washington, DC 2000e or call 202/544-0900.

SSM Interface at Lawrence Livermore

SSM Microcomputer's AIO card, a combination serial/parallel interface for the Apple II, is helping researchers at Lawrence Livermore National Laboratory's (LLNL) Biomedical Sciences Division make tedious bacterial counts faster and with more accuracy.

Tom Slezak, an LLNL computer scientist, is responsible for the maintenance and operation of his division's three mini-computers, as well as about a dozen microcomputers. Slezak is also computer consultant to the 200 people in the Biomedical Sciences Division, a group devoted to basic research centering on cancer, and in particular, to the changes in DNA — the building block code of life — wrought by the mutagenetic, carcinogenic, and toxic effects of chemicals, radiation exposure, and environmental pollutants.

The AIO card is used to interface the Apple II with the Biotran II Colony Counter, used to count the number of bacteria colonies as they grow in petri dishes. A special strain of bacterium is used, one that lacks an enzyme vital for reproduction. The growth medium in the dish is exposed to substances suspected of causing, say, genetic mutations. If mutation does occur, the missing enzyme will be created and the colonies will grow—the rate of growth being an indication of the mutagenicity of the substance to which the growth medium has been exposed.

The Biotran gathers data in a very large number of research projects within the division, on a dose/response basis. It is a optoelectronic instrument with precision optics and high speed circuitry capable of counting up to 9,999 distinct colonies in 1/2 second, and then outputting its data on a front panel numeric display, as well as in the form of a four digit decimal count in BCD available at a connector.

A typical experiment might be to measure the effects of some compound of copper at five different levels of concentration; and each level of concentration might require that a hundred culture dishes be evaluated. That totals 500 dishes to be counted.

Except that each dish is counted three times (by rotating it to three different positions 120 degrees apart under the Biotran's counter) to offset any bias that may exist in the Biotran's optics. So this one experiment alone would require 1,500 counts!

"When I first started talking to the division scientists about a year ago, they told me that they were averaging 10,000 measurements per month, all by hand, putting a dish under the Biotran, pushing the count button, rotating it 120 degrees, counting again, and so on."

"At that time, we had been using the Biotran for about two years, and it was several orders of magnitude better than what we had previously used. Before the Biotran, we used scores of technicians peering through microscopes, counting by eye and clicking hand counters all day long," explained Slezak.

But even with the advent of the Biotran, the manual effort required to log 10,000 readings was staggering.

Thus, when the scientists first spoke to Slezak, they simply wanted "some quick way to log and record all the data." Slezak convinced them to think not only about logging the data, but actually processing it.

"The main benefit of the automated system has been accuracy. We have cut down dramatically on the incidence of operator fatigue and boredom, a combination which had caused

excessively high error rates and skewing of the data," says Slezak.

"Now, one hand simply inserts and rotates the culture dish while the other pushes the count button. No more pencil and paperwork."

"Of course the speed of measurement is greatly increased too. As soon as a run is completed, its data goes into a diskette file. An analysis program is then initiated, and the results are printed out. And we use utility programs to handle the plotting. The system never miscounts, and it has worked flawlessly since its installation. I haven't had to make a service call yet," said Slezak.

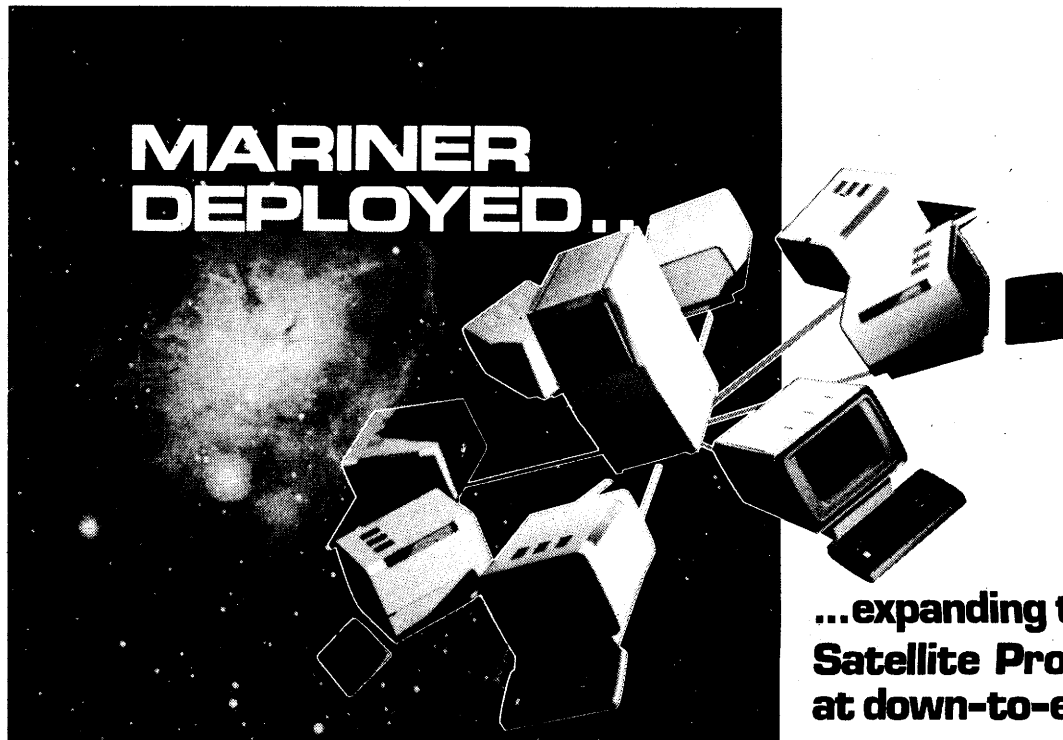
SSM Microcomputer Products, Inc., of San Jose, CA, manufactures and markets a wide range of board-level products for the IEE 696/S-100 bus and Apple II computer.

OURS: Has a built-in mailing list database and allows you to produce form letters using it...or DB Master Utility Pack™... or the Data Factory™...or Information Master™...or any DIF™ file. Allows conditional printing based on database contents.

THE OTHERS: None offer anything even approaching this flexibility.

to be continued...

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Each user has his own processor and 64K bytes of dynamic RAM, keeping MARINER performance up under loads that make single-processor systems sag. A separate 4-MHz Master processor and memory hold costs down by managing the sharing of MARINER's built-in 22M-byte Winchester disk drive, 8-inch floppy disk and 1/4-inch streaming tape drive.

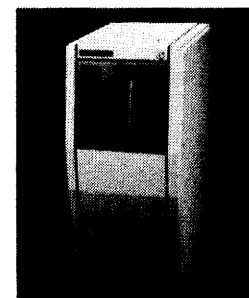
There's nothing nebulous about MARINER's flexibility. Operate with CP/M, MP/M, or the new, high-speed DBOS (CP/M compatible) and you'll have a galaxy of software available for applications.

Program satellites with BASIC, COBOL, or FORTRAN, use them for word processing, general accounting, any of a multitude of tasks, each with complete independence.

And MARINER's M/LINK modem communicates at 2400 baud on standard voice-grade phone lines, using SDLC, BI-SYNC, or X.25. Sounds universal? MARINER is.

MARINER's attractive, freestanding cabinet houses the Master and up to eight Satellite processors. And it's only 14" x 20" x 29" in size, so it fits in beautifully, quietly, anywhere!

Get a world of additional information about MARINER now by calling your MICROMATION dealer. If you need help in locating the dealer nearest you, or if you would like to hear about our special support program for systems integrators and OEM manufacturers, call MICROMATION now! 1620 Montgomery Street, San Francisco, CA 94111, 415/398-0289 TLX: 172457



CP/M and MP/M are trademarks of Digital Research, Inc.
DBOS is a trademark of MicroConcepts, Inc.
MARINER (Pat. Appd. For) is a trademark of MICROMATION, INC.

The background to the MARINER system is a photograph of the Lagoon Nebula, which can be seen with the aid of binoculars in the constellation Sagittarius.
PALOMAR OBSERVATORY, CALIFORNIA INSTITUTE OF TECHNOLOGY,
copyright by the California Institute of Technology. (Palomar Observatory photograph)

MICROMATION

Data Entry With No Keyboard

Recognizing that the typewriter-like keyboard used to enter data into most computers presents an obstacle to many handicapped persons, a Houston man developed a remarkable system that allows data entry without a keyboard.

Jeffrey Fisher's "Menu Assisted Data Entry System" allows the use of external switches in place of the keyboard. It was designed for the TRS-80 Model III computer offered by Radio Shack. Fisher's entry was one of the top 30 national-prize-winning entries in the recent Johns Hopkins National Search for Applications of Personal Computing to Aid the Handicapped.

The system presents the user with an on-screen "menu" of letters, numbers, punctuation, special characters and commands. Then, using special switches that respond to chin movement, head pressure or puffs of breath, for example, the handicapped person can eventually build complete messages and print, transmit or otherwise communicate them.

RM/COBOL

RM/COBOL has been installed on all of Televideo's 8-bit systems, says Michael Saccomano, Software Products Group general manager of Ryan-McFarland Corporation. These include models TS-801, TS-802, TS-802H, TS-806 and TS-816 microcomputers designed for business.

"The new language gives software developers a high-level language for business users," says Gary Baughn, Product Marketing Manager for Televideo's Computer Division.

For more information on RM/COBOL, please contact Ryan-McFarland, 3233 Valencia Ave., Aptos, CA 95003; 408-662-2522.

Conference Session

Delayed Playback Music Synthesis

Hal Chamberlin, author of "Musical Applications of Microprocessors", will be giving a talk entitled "Delayed Playback Music Synthesis Using Small Computers" at the 7th West Coast Computer Faire. In his talk, to be published in the *Proceedings of the 7th West Coast Computer Faire*, Chamberlin will describe "how a personal computer can be used to perform digital audio playback of high fidelity sound using standard floppy disks."

Chamberlin says that digitized

audio data, perhaps representing the output of a sophisticated computer music synthesis program or previously digitized sound "can actually be read from standard floppy disks at the rate of 25,000 12 bit samples per second continuously without pause for an indefinite time period."

In addition to the paper, Chamberlin's presentation will include tutorial background material and a live demonstration.

Conference Session

Synthesis Symphony

The new Soundchaser Computer Music System is the "first fully modular Sound Synthesizer, composer's aid, and Music tutor all rolled up in one," says its creator, David Kusek.

In his Faire talk, "The Soundchaser Computer Music System," Kusek will describe the system, consisting of: music keyboard and interface card; one or more synthesizer cards; a 48K Apple II Plus; disk drive; monitor; game paddles; and software. It is the first programmable synthesizer with both analog and digital voicing capabilities. Kusek is president of Passport Designs, of Half Moon Bay, California, which manufactures the Soundchaser and other computer music products. A short Soundchaser concert will accompany the talk.

Currently, Soundchaser includes programs for live performance, music composition, music notation, and music education. Kusek discusses these programs and his faith in the growing practicality of beautiful, expressive synthesized music.

"The stigma of dehumanization is about to be cast off the shoulders of Computer Music as an art form," Kusek says. "Designers such as ourselves are striving to develop responsive, intelligent interfaces that let the player interact with the machine."

Save 33% on Faire Registration

By pooling with friends and associates, you can each save \$5 on 7th Faire registration fees — paying \$10 each instead of the \$15 "at the door" fee. (Or, you can "deal" registrations and earn an extra couple dollars for yourself or your group). Here's how:

Purchase Faire registrations in blocks of 10, advancing \$100 (prepaid or COD). You can return up to 5 of those 10, any time after the Faire and prior to April 15th, and promptly receive a refund of \$10 per returned/unused

registration.

To do this, send your check or COD order for 10 or more registrations (advancing \$10@) to:

Pre-registration Desk
Computer Faire
333 Swett Road
Woodside CA 94062

Include your street address (necessary for certified UPS shipping). The Faire pays shipping charges on prepaid orders. You pay shipping and collection charges on COD's.

(continued from page 2)

ing at. One of the sages of the computer industry said to us, "Chuck has done all the things IBM should have done." We think IBM did lots of things right, but let's compare:

Like the IBM machine, it uses a 16-bit, 8088 as its central processing unit. Like IBM, Sirius has a detachable keyboard. In fact, it has five keyboard options (typewriter, word processor, programmer, etc.).

IBM offers a television monitor as an option (a necessity for most useful information processing). The Victor/Sirius machine comes with a green phosphor screen (easy on the eyes) that is tiltable and turnable — not just a monitor with a handle on the top.

The 9000 has a graphics mode with an 800 points by 400 points resolution! IBM offers, at best, 640 x 200, about double Apple's "high res" graphics.

132-CHARS x 50- LINES OF TEXT!

If you get tired of skinny paragraphs

and lines running off the traditional 80-character x 25-line display, you can switch to the Victor's 132-character x 50-line display, complete with fully legible upper and lower case characters, with descenders (the "legs" that hang below the line in 'g', 'j', etc.). That, alone, is enough to sell it to us word-junkies.

IBM's character display is made of 9x14 dots. Sirius' is 10x16 or 16x16. The character set is loaded into part of the computer's memory that is user-accessible, so, if ya don't like what you see, ya can change the fonts to suit your palate.

Unlike IBM, the Sirius unit does not currently support color (a decision that was debated long and hard), but the system has all the hooks to add color, later. They felt that (a) their first marketplace is the business market, to which color is less useful than for home and educational computing, (b) it's very difficult to do really useful things, in an information sense, with color, and (c) hi-res color video monitors capable of supporting those great graphics and 132x50 text displays cost lots!

1.2 MEGABYTE FLOPPY DUET

The 9000 comes with dual 5 1/4" single-sided floppies discs, like the IBM. Unlike the IBM, which can store 163K bytes (163,000 characters), the Victor system packs 1.2 million characters into those two on-line minifloppys.

CP/M-86 & MSDOS

Like the IBM p.c., the Victor system offers both CP/M-86 (available right now — IBM's is expected, soon), and Microsoft's also-IBM DOS. Unlike IBM, both MSDOS and CP/M-86 come with the system — CP/M is an option with IBM.

And there is the usual package of support software, e.g. for financial forecasting and analysis, they offer a VisiCalc clone (VisiClone?) called VictorCalc from Image Systems; for word processing, they offer a Select text editor, etc.

THE FUTURE IS VERY SOON

Oh yes, Victor will be offering large-capacity disc storage (for those who find their 1.2 megabytes too cramped) before the end of '82, and expect to offer a medium-speed networking facility, also before the end of the year.

Folks who choose a Victor/Sirius should also watch for the popular Unix operating system licensed from Bell Labs as yet another 1982 option (installed and supported by one of the best micro unixizers in the business).

ORANGES & APPLES — HOW MUCH?

The Victor/Sirius system with dual floppys (1.2MB), screen (80x25,132x50, and 800x400), 128K of memory (that's minimum), MSDOS and CP/M-86, lists for \$4995, a price

that might be haggled once the supply pipe begins to fill.

In this apples-with-oranges comparison, an IBM system with dual floppys (163K), screen (80x25 and 640x200), only 48K of memory and MSDOS is \$3525, available from list-price-only dealers.

DATASOURCES

The IBM data for this was lifted primarily from a potent, 150-page product and market assessment, *IBM's Billion Dollar Baby: The Personal Computer*, by Isaacson & Juliussen, available for \$450 from Future Computing in Richardson, Texas. The Sirius/Victor data came by voice, verified with Sirius.

For more info on the IBM system, contact them at Box 1328, Boca Raton, FL 33432.

Victor can be reached in Chicago at 312-539-8200. Their dealer maker is Richard Farkas. Their software acquisitions dude is David Boudreau.

MICROMATION'S MARINER — A CLASSY CHASSIS

Folks who want to run an unusually well engineered multiprocessor, multiuser system — right now (rather than in a year or so) — should take a look at the Mariner from Micromation.

For a starter, it has one of the best-designed chassis we have seen. It is an attractive, shaped steel box. It stands up on the floor (on recessed wheels), rather than laying around occupying horizontal surfaces that could better be cluttered with dust and unread papers.

Example of high-quality human engineering: It has a spring-loaded safety cover over the reset switch — almost unheard of in the cliff-hanging microcomputer world.

With one click the front folds out carrying all of the S-100 bus and boards for ready access — a joy, indeed, for those who must work on imperfect machines.

Obviously much thought, care, and careful human engineering went into the design of this crate.

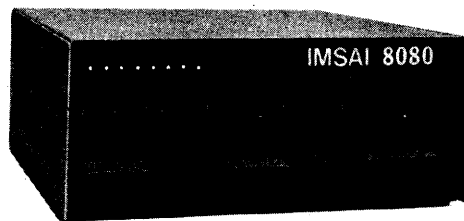
Then there's the functional guts. It has two 8" dual-density floppys discs and/or a 21megabyte (21 million characters) non-removable disc. For backup, it offers a digital tape cartridge system capable of storing 20MB per cartridge.

Each user on the system — there can be up to eight — has their own computer card, complete with a fast central processing unit (Z-80) and a full 64K of memory. This is much better than sharing a single CPU and memory like in the old (expensive) time-sharing systems.

For software, Micromation offers CP/M (single-user), a "modified and enhanced" MP/ (continued on page 10)

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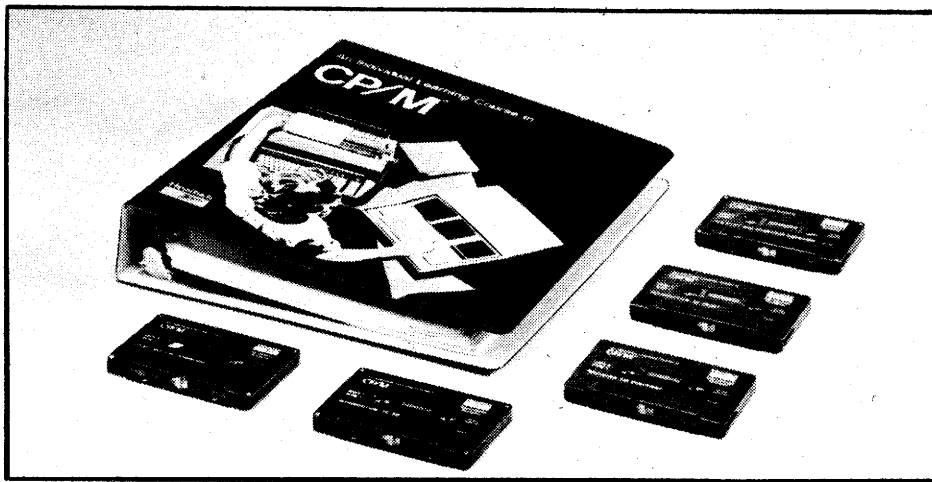
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Heath/Zenith Supports CP/M

Heathkit/Zenith Educational Systems has announced a new course which covers uses of the industry-standard CP/M Microcomputer Operating System.

Designed for first-time computer users, no previous background in CP/M — or knowledge of Assembly Language — is necessary to take this course. According to a company spokesperson, the course is designed to teach people how to operate CP/M-based applications programs and use the CP/M editor to

create and manipulate text files.

Written in an audio-tutorial format, the course includes a 500-page self-instruction text and five audio cassettes. Version 2.2 and earlier versions of CP/M, including built-in and transient commands, are covered in the ten units of the course.

For more information, please write: Heathkit/Zenith Educational Systems, Dept. 350-415, Benton Harbor, MI 49022.

TRS-80 Enhancement Option

Radio Shack has announced an upgrade board set for the TRS-80 Model II computer that provides it with the 16-bit, dual-processor, multi-user power of their just-announced TRS-80 Model 16 computer. The Model 16 Enhancement Option (26-6010) will be available second quarter 1982 for \$1499 (plus installation, not included) to Radio Shack Computer Centers or the expanded computer departments of selected Radio Shack stores and dealers.

The Model 16 Enhancement Option gives Model II owners all of the

advantages of a Motorola MC68000 16-bit CPU with 128K of user memory. These include dual processors (MC68000 and Z80A), a multi-user operating system for simultaneous program execution, increased addressable memory (up to 256K) and faster operation with Model 16 software. The Model II's disk drive and display are retained, and existing Model II software can still run.

For more information, please contact: Tandy Corporation/Radio Shack, 1800 One Tandy Center, Ft. Worth, TX 76102.



Note: CHILDREN AT THE FAIRE

The Computer Faire is a conference and trade exposition about computing and information processing. It is designed for mature individuals who have a sincere interest in learning about (or learning more about) computing, information management, computers, and "the information society".

These topics are presented at the Faire, presented by adults, and presented for adults... and mature, seriously interested young people and students. Although the Faire includes some element of entertainment and occasional electronic games, the Faire is not appropriate for children nor for immature young people. (Among other things, this is reflected in the single registration fee, for adults.)

Parents and teachers are discouraged from bringing immature individuals to the Faire. To do so is unfair to the other attendees, unfair to the speakers, unfair to the exhibitors... and unfair to the children.

Therefore:

Children found playing or otherwise causing a disturbance in the convention center may be ejected from the building — just as they would if they were being disruptive in a university classroom, business office, engineering lab, or training seminar (or, for that matter, in a theatre, play, or symphony). The park in front of the Auditorium may be appropriate for children's play; the Faire is not.



New Government Statistics Program

How often have you needed statistical data produced by the Federal Government to satisfy your own or one of your clients needs? As with many other information users, you probably find this need becoming more and more frequent.

The National Technical Information Service (NTIS) has implemented a program to help you. They are attempting to identify statistical programs that produce data in a machine-readable form, and, where possible, make the machine-readable data files available. One of the most widely used statistical data programs is operated by the Bureau of Labor Statistics (BLS), U. S. Department of Labor.

The overall system, composed of time series data and the software to process and analyse the data, is called LABSTAT (LABor STATistics). Time series data files from the LABSTAT Data Base are now available on magnetic tape from NTIS. You can use these tapes in your own data processing department to produce the specific analyses you need.

For pricing and ordering information on these new products, contact: NTIS, Stuart Weisman, Product Manager, at (703) 487-4807.

Conference Session

Computers and Local Government

"When the voters of California endorsed Proposition 13 in 1978", says M. F. Groat, "they embraced the philosophy of Less is More, and a role for the microcomputer was created in local government."

Groat, the Senior Planner for the City of San Francisco's Department of Planning, will be speaking at the 7th West Coast Computer Faire. In his talk, "More for Less: The Microcomputer in Local Government," Groat will describe "how microcomputers may be used to introduce efficiencies, improve productivity, and benefit local government in other ways."

OURS: Lets you print in exactly the format you typed and also allows over fifty different embedded formatting commands.

THE OTHERS: Usually do only one or the other. Almost none allow for outline indenting or left/right binding margins.

to be continued...

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Computer Graphics Developments

Three conference presentations at the 7th West Coast Computer Faire will explore the colorful world of computer graphics.

"Computer Animation which would have required a roomful of large computers just a decade ago can be created today on new graphics-oriented personal computers, such as the Atari 400/800 Computer," say David Fox and Mitchell Waite, authors of "Computer Animation Primer."

In their upcoming talk, "Computer Animation Comes to Personal Computing," Fox and Mitchell will assert that Atari users no longer have to be

advanced Assembly Language programmers to produce quality animation. The authors will describe how BASIC programmers can create superior animation on an Atari computer.

In "INTERPAS and RASCAL: A Playful Pascal Cartoon Programming System," three speakers will describe Rascal, a cartoon animation dialect of Apple Pascal and the INTERPAS interpreter, which can run a RASCAL program while showing the actual executed commands, line by line.

Michael Moshell, Charles Hughes, and Garry Amann of Gentleware Cor-

poration will discuss the dialect and interpreter, developed as part of the "Computer Power" programming curriculum. RASCAL and INTERPAS are being extended for use by other developers and private users and will soon be implemented on other microcomputers.

Marty Franz says his "Snail Graphics" programming language is moving fast to open new vistas in computer graphics. In his talk, "Snail Graphics: A Graphics Kit for Runic," he will describe this interactive language for CP/M computers.

Runic is "extensible," meaning

that the user can add new words to the language anytime he or she wishes.

"The words are a simple vocabulary for commanding a pen-carrying snail to move across an x-y coordinate system," says Franz, "The Runic programmer then uses these words to create his own word definitions for drawing pictures. This 'vocabulary' approach... is a powerful feature of extensible programming languages."

All Faire presentations will be published in the *Proceedings of the 7th West Coast Computer Faire*, available at the show in March.

Legal Care of Software

Attorney Daniel Remer will present an overview of the protection offered software by today's legal system at the 7th West Coast Computer Faire. The talk, taken from his book "Legal Care for Software", will cover areas of the law which affect software developers and publishers. "What we call software law is actually a combination of several established fields of law which have in common that they affect the software industry" says Remer.

Remer will discuss such protection methods as Trade Secret, Copyright, Disk Copy Protection, and Patent Law. He warns, however, that there is no comprehensive body of law to protect developers: "The point to keep in mind for now is that computer software is probably the fastest moving technology in the history of the world and as the technology advances, the law tries to keep pace but of course is left in the dust."

In his talk, which will be published in the Faire Proceedings, Remer will cover how to choose and work with a lawyer. But, Remer advises, a computerist's best protection is knowledge: "Even if you do decide to routinely use a lawyer, a basic knowledge of software law will help you make intelligent business decisions and will keep you from making costly legal mistakes."

Leave and Compete Without Getting Sued

High technology "employers are acting aggressively to protect what they view as their trade secrets and are suing departing employees for everything from stealing technology to raiding employees," says James H. Pooley, who will speak at the 7th West Coast Computer Faire.

His talk "How to Leave and Compete with Your Employer Without Getting Sued," will tell employees what to consider as they plan to leave and compete with their employer, on their own or with another firm. Pooley's comments will also help employers recognize competition and decide how to deal with it.

Pooley's talk, adapted from his newly-published book "Trade Secrets: How to Protect Your Ideas and Assets," will include a checklist of considerations for those who want to leave a job and compete with a past employer without getting sued.

"You should be cooperative, honor your agreements, and take nothing from your prior employment except the skills you have acquired. Creating an atmosphere of responsible professionalism is the best protection against a lawsuit," says Pooley, whose paper will be published in the *Proceedings of the 7th West Coast Computer Faire*.

7th WEST COAST COMPUTER FAIRE

Conference & Exposition

on *Inexpensive Computing for Business, Industry, Education & Home*

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- ★ Tech Talks for Experts
- ★ Low-Cost Business Computing
- ★ Public Information Utilities
- ★ Legal Aspects of Computing
- ★ Inexpensive Educational Computing
- ★ Biomedical Applications
- ★ Computer Graphics & Art
- ★ Computer Music
- ★ Unusual Applications
- ★ Microcomputing for the Physically Impaired
- ★ Social Implications of Computers
- ★ Simulation Applications & Exotic Games
- ★ Users Meetings, e.g.: Apple, TRS-80, Commodore, Forth, etc.

Conference Proceedings will be published and available at the Faire.

31,700 attended last year

March 19 (Friday) : 9 a.m. - 6 p.m.

March 20 (Saturday) : 9 a.m. - 6 p.m.

March 21 (Sunday) : noon - 5 p.m.

Pre-registration available at participating stores & clubs

At-the-door registration: \$15

(Includes Conference Program & Exhibits for all 3 days)

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Subscription to the Faire newspaper,
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Computer Faire, 333 Swett Road, Woodside CA 94062, (415) 851-7075

Daisy Wheel II Prints Braille

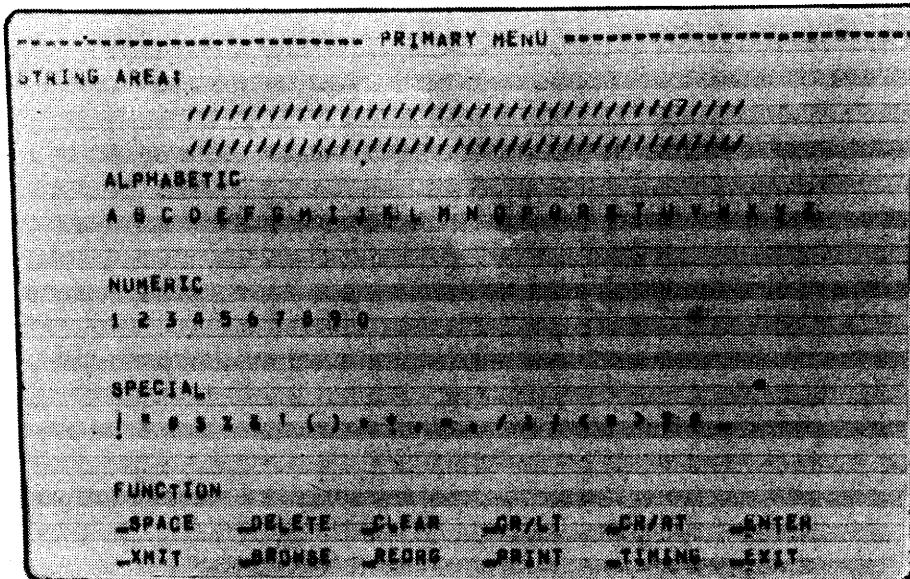
Randy W. Dipner of Colorado Springs, Colorado, has been able to produce Braille text using only a bicycle tire inner tube and off-the-shelf equipment from Radio Shack. Dipner's Micro-Braille System, which uses the Radio Shack TRS-80 Model II computer and Daisy Wheel II printer, allows production of standard raised-bump Braille text by people who have no training in Braille or Braille transcription.

Dipner's system won honorable mention and a \$500 cash prize in the recent Johns Hopkins University First National Search for Applications of Personal Computing to Aid the Handicapped.

Dipner cut a section of soft rubber

from a bicycle tire inner tube and used as a sleeve over the hard rubber roller of a TRS-80 Daisy Wheel II printer. Dipner also wrote a special printer-driver program that translates standard typewriter characters into their corresponding Braille dot patterns - but in reverse. Then, using high fiber to prevent punch-through, the Braille patterns are typed onto paper; only the period character on the Daisy wheel type font is used. The periods leave impressions (dents) on the paper, which provide right-reading raised Braille characters when the paper is turned over.

Dipner's Micro-Braille System is compatible with Radio Shack Scripsit word processing software.



The Computer Plus Bus

For the third year in a row, the Computer Plus Bus will carry people from Sunnyvale to the Computer Faire and back. This service is offered by Computer Plus at the corner of Mary and Fremont, at De Anza Square Shopping Center in Sunnyvale. There will be a charge for the round-trip bus service.

On Friday, March 19, the bus will leave Computer Plus at 8:30 a.m., and begin its journey back from the Computer Faire at 3:30 p.m. On Saturday, March 20, the bus will leave Sunnyvale at 9 a.m. and leave the Faire at 3:30 p.m.

Reservations with full payment must be made by Wednesday, March 17. For more information call: Computer Plus, (408) 735-1199, 11 a.m. - 7 p.m., Tuesday through Friday, and Saturday 11 a.m. - 6 p.m.

The IBM Personal Computer will be discussed by a wide range of key industry leaders during the 7th Computer Faire.

Computer music systems will be discussed & demonstrated during the 7th Computer Faire.

Doctor's Billing System

High Technology Software Products, Inc. will make its Doctor's Office Companion available this month for the Apple II, floppy or Corvus-based, computer.

D. O. C. is based on a system that operates successfully for over 50 offices. Patient data is gathered for automatic printing of the HCFA 1500 Universal insurance form, as well as forms required by some of the states which have not yet adopted the "universal" form.

D. O. C. gives particular attention to the insurance billing activities, but also provides other payment types, such as cash payment, among others. The of-

fice can define up to 15 income categories and up to 10 "street" accounts. Zero-balance billing is supported for those states in which it is required.

The CPT file may be customized by the user, so just the CPT codes and descriptions which apply to the physician's office need to be entered, and only one time. On daily patient transactions, the user simply enters the CPT code and D. O. C. prints the corresponding description, minimizing entry time and typographical error.

OURS: A built-in alphabetical index maker, and an optional proofreading program that allows on-the-fly corrections and customized spelling lists.

THE OTHERS: Only one has an index maker available - and it's an extra-cost option. Other proofreading programs don't allow on-the-fly corrections. to be continued...

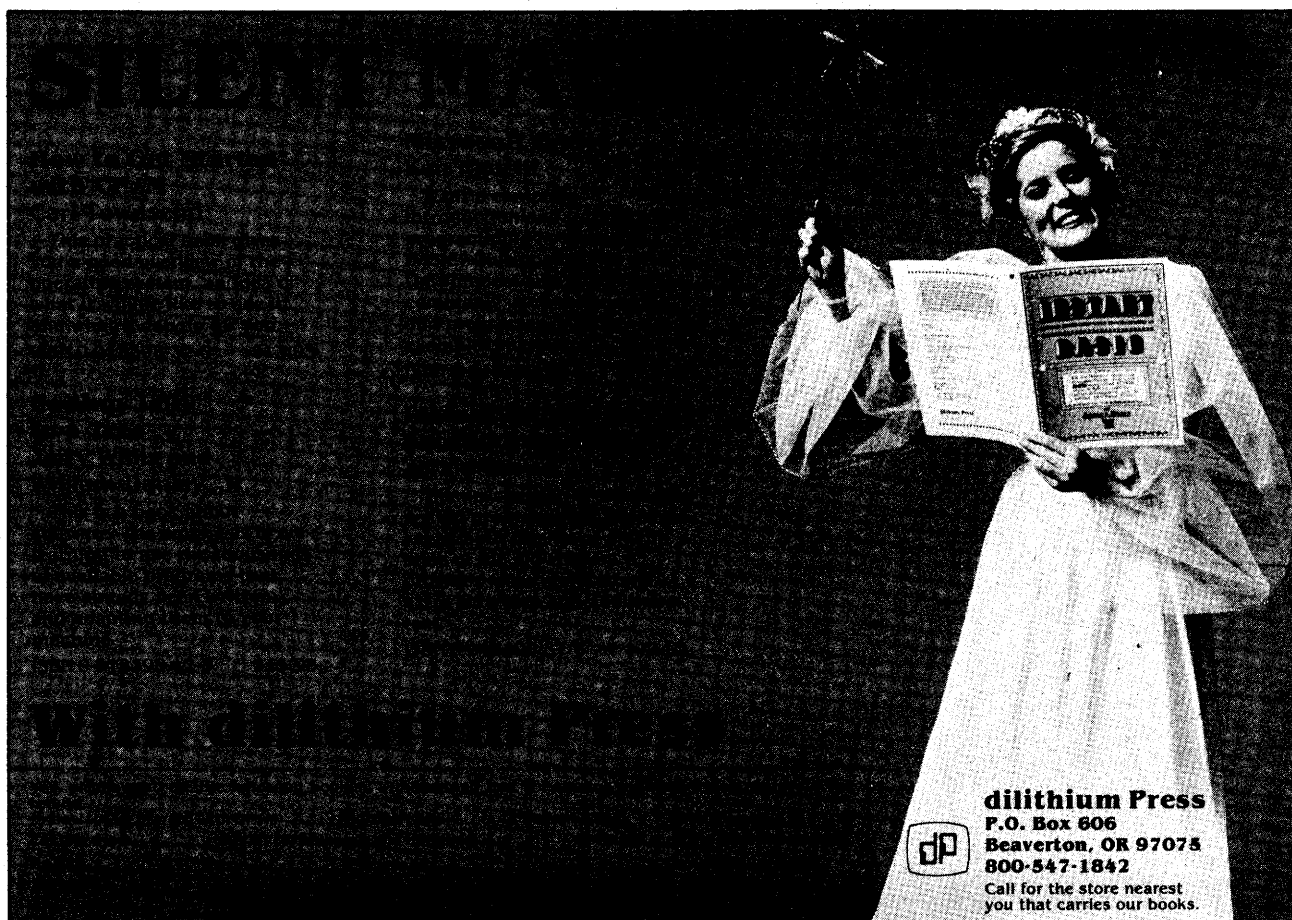
Datapro Reports on Japanese Computers

The mystery of the orient—at least as far as it pertains to minicomputers, small business computers, and personal computers—has been explored by a new feature report published by Datapro Research Corporation.

"All About Japanese Computers" is a 74-page report that provides comparative information on more than 200 computers manufactured in Japan. The report covers 47 minicomputers from 11 vendors, 124 small business computers from 32 vendors, and 35 personal computers from 20 vendors. Featured are special detailed reports on nine noteworthy Japanese computers. Included are prices, specifications, options, hardware/software and support services.

The new report has been excerpted and translated into English from the 3400-page, four-volume study "Nikkei Datapro Computer Files" prepared by Datapro's Far East affiliate.

"All About Japanese Computers" is available for \$29 from Datapro Research Corp., 1805 Underwood Blvd., Delran, NJ 08075, 800-257-9406.



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(continued from page 6)

M (multi-user), or their home-grown system that is CP/M-compatible and includes an integral DBMS.

Micromation's home-based in San Francisco, 415-398-0289.

SNICKER, CHORTLE . . . GRRRR, GROWL!

If you have humor and haven't yet read Stanislaw Lem's *The Cyberiad, Fables for the Cybernetic Age*, trample on down to yer local ink shop and glance through it — it's some of the more innovative fantasy-science fiction we've seen.

Speaking of innovative sci fi, we have been trying to locate/recall a presumably long-dead paperback we guffawed through, 'way back in the hippie '60's. It was a satire having to do with an era when the standard for civilized behavior was the hippie/doper role model, and had something vaguely to do with two principle characters running around in a wildly painted bus, perhaps doing some sort of detective venture. Actually, it was probably more a future social fantasy type of fiction than "traditional" science fiction. If you recall it, please pass the word along to us.

Then there is the much less laughable book — proposed to be nonfiction (and having nothing to do with computers, science, engineering, or other useful things): *The Seven Sisters*, by Anthony Sampson. It's about the seven major companies in the industry that took in over 90% of all of the increase in Gross National Product in the past several years — Exxon, Gulf, Texaco, Mobil, SoCal, Shell, and B.P. It is well researched, well written, extensively indexed, . . . and infuriating. If there was ever any question in your mind regarding the definition of monopoly and its adverse effects, this book will adequately clarify the subject. The Robber Barons are not dead; they're just not bothering to build universities or art centers any more.

THE DUTCH CONNECTION

It seems that the orient does not have a monopoly on off-shore tech talent and/or manufacturing facilities. Neighbor Walt Reynolds, a long-time elektroniker and consultant (e.g. for such luminary Lauretes as Josh Lederberg — Nobel winner in Genetics, and Linus Pauling — Nobelette in bio), now operating under the company name of Applied i (sic), has stumbled across a prime source of talent in eastern Holland.

It seems that he worked over there a coupla decades ago, was recently back visiting, and found that Holland has built its own variation of our Silicon Valley (though not limited to semiconductors). Sometime after the last official war (WW II), the Dutch government made a concerted effort to develop a strong applied technology com-

munity in east Holland, beginning with the establishment of Twente Technical University. Additionally, the University was actively encouraged to cooperate with the development of technical groups and companies in the region.

This had a similar effect to Stanford and UC-Berkeley's effect on Bay area technology. That area of Holland is now a major center for technical talent and facilities, including ample and up-to-date digital and computing expertise.

Furthermore, while visiting there, Walt was introduced to some folks from Holland's Overijssel Industrial Development Authority — a noticeably simpler and more amicable meeting than invading Sacramento's bureaucratic halls. It seems the Dutch Authority is a red-tape cutter; not a red-tape maker.

The upshot of the whole thing is that he is now pursuing some joint efforts with his old and new Dutch connections . . . including the design, implementation, and programming of some products for the IBM personal computer (an integrated hard disc system, for a starter) that is likely to be completed by the time this issue reaches you — three months after the initial Holland contact! (Lest you flood him with IBMish calls, they're designing and implementing the system, then will offer it to U.S. manufacturers on a license basis. Walt is a technologist, cooperating with this new-found pool of significant technical talent in high-quality, fast-turnaround design. He has no slightest interest in becoming a manufacturer or distributor.)

MONSTER DATA TRANSFER & STORAGE — AT LAST!

Microcomputers are great, but they are doomed to remain grossly under-utilized semi-toys until they can handle large amounts of data . . . jus' like those inhumane, overly-expensive megamonster mainframes. Floppy discs and hard discs help, but micros have been missing a standard and inexpensive means for mass data transfer and archival storage.

30 character-per-second phone links or 300 kilobyte (= 300,000 characters) floppys jus' don't cut it for transferring multi-megabyte files. (Note: A 100,000-name mailing list occupies more'n a megabyte — one million characters.) And it becomes very expensive, very fast, to try to do regular archival backup on floppys, to say nothing of using \$100-\$300 hard-disc cartridges.

Many micro makers are addressing the backup problem by offering tape cartridge systems. It's cost effective, but because there is no recording standard, and because few big computers have such systems, it doesn't solve the problem of transferring large quantities of data.

(continued on page 13)

AVOID LONG LINES! PRE-REGISTER FOR FAIRE

Although the Computer Faire, itself, is not staffed to handle preregistration, it has arranged for a number of cooperating stores to carry prereg packets. A partial list is 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. Mail 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.

- | | | |
|---|--|---|
| Data Domain of Schaumburg*
Plaza De Las Flores
1612 E. Algonquin Rd
Schaumburg IL 60195
(312) 397-8700 | Affordable Computer*
716A Lighthouse Ave
Pacific Grove CA 93950
(408) 373-7177 | Computerland El Cerrito
10042 San Pablo
El Cerrito CA 94530
(415) 527-8844 |
| Opamp Technical Books*
1033 N. Sycamore Ave
Los Angeles CA 90038
(213) 464-4322 | Lotus Century*
64 Westlake Mall
Westlake Shopping Ctr
Daly City CA 94015
(415) 992-5230 | PC Computers*
10166 San Pablo Ave
El Cerrito CA 94530 |
| Computerland South Bay
16720 Hawthorne Blvd
Lawndale CA 90260
(213) 371-4624 | Computerland
4546 El Camino Real
Los Altos CA 94022
(415) 941-8154 | Byte Shoppe
1122 B St
Hayward CA 94541
(415) 537-2983 |
| SCR Electronics
5303 Lincoln Ave
Cypress CA 90630
(714) 527-2554 | Kepler's Books
821 El Camino Real
Menlo Park CA 94025
(415) 324-4321 | Computer Hayward*
22634 Foothill Blvd
Hayward CA 94541
(415) 538-8080 |
| Thorpe Datasystems Inc*
7114 Owensmouth Ave
Canoga Park CA 91303
(213) 703-6900 | Byte Shop
1415 W. El Camino Real
Mtn View CA 94040
(415) 969-5464 | North Bay Computers*
6526 Washington
Yountville CA 94599
(707) 944-8885 |
| Computerland
289 E. Highland
San Bernardino CA 92405
(714) 886-6838 | Digital Deli
80 W. El Camino Real
Mtn View CA 94040
(415) 961-2670 | Berkeley Computer*
1569 Solano Ave
Berkeley CA 94707
(415) 526-5600 |
| Computer Ware*
6791 Westminster Ave
Westminster CA 92683
(714) 891-2584 | Heathkit Electronics Ctr
2001 Middlefield Rd
Redwood City CA 94063
(415) 365-8155 | Computerland Marin
1930 4th St
San Rafael CA 94901
(415) 459-1767 |
| Computers Plus*
204 W. Canon Perdido
Santa Barbara CA 93101
(805) 963-4542 | Computer Plus
1328 S. Mary Ave
Sunnyvale CA 94087
(408) 735-1199 | Marin Computer Center*
50 El Camino Dr
Corte Madera CA 94925
(415) 924-1955 |
| MicroXchange
222 E. Carrillo St No. 101
Santa Barbara CA 93101
(805) 963-4187 | Arrow Computer Supply*
1301 Harrison
San Francisco CA 94103
(415) 864-0900 | Affordable Computer Systems
3331 El Camino Real
Santa Clara CA 95051
(408) 249-4221 |
| Coastal Computers
986 Monterey St
San Luis Obispo CA 93401
(805) 543-9339 | American Ink Products*
527 Howard St
San Francisco CA 94105
(415) 982-0161 | Computerland
1077 S. Saratoga-
Sunnyvale Rd
San Jose CA 95129
(408) 253-8080 |
| Computerland
223 S. Broadway
Santa Maria CA 93454
(805) 928-1919 | Computerland
117 Fremont St
San Francisco CA 94105
(415) 546-1592 | Byte Shop 1
6041 Greenback Ln
Citrus Hts CA 95610
(916) 969-2983 |
| National Computer Center
3202 E. Ashlan Ave
Fresno CA 93726
(209) 227-8479 | AIDS
271 Sutter
San Francisco CA 94108 | Computerland
1537 Howe No. 106
Sacramento CA 95825
(916) 920-8981 |
| Zackit/Monterey*
350 Del Monte Ave
Monterey CA 93940
(408) 375-3144 | Computerland the Castro
2272 Market St
San Francisco CA 94114
(415) 864-8080 | Computer Store Corvallis*
2015 NW Circle Blvd
Corvallis OR 97330
(503) 754-0811 |

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Sears Computer Folks Should Discover It's No Longer 1960

editorial by Jim Warren

We recently received our computer-printed monthly statement for our Sears charge account. It showed that we had ordered a "catalog sale 03" for \$108.73. Though we have ordered many items from Sears, we never ordered a "catalog sale 03". (We don't even know what it tastes like.)

SEARS CATALOG ORDER DIDN'T KNOW

We called the catalog store from which we order most items. They asked for the store code printed on the bill. We read them everything that was printed on the bill; none of it was a store code.

They asked us to bring the bill in for them to look at it (an hour, round trip — contradicting the main attraction of catalog shopping by phone). We objected. They said they'd try looking through their orders for the last month; see if they could find it, and call us back.

NEITHER DID SEARS ACCOUNTING

We called the store that maintains our charge records. The Accounting Department phone rang about 20 times. The operator came back on at one point, stating that the Accounting Department was short-handed and really swamped. No doubt!

After about 15 minutes of waiting and talking, Accounting stated that, in our case, "catalog sale 03" actually meant "\$BIND 10X25X50" and was from the office products division.

Oh! We blush to state that we don't know what a "\$BIND 10X25X50" is, even after shopping at Sears for 20 years and programming computers for 14 years.

But, then again, neither did Accounting. For that matter, neither did the store's office products department . . . and they were too busy to look it up.

IS IT THE SEARS JOB CORP PROGRAM?

This had taken most of an hour of our time, and it took well over an hour of Sears staff time (a fact that should certainly interest any competent manager).

In the course of our conversation with Accounting, we asked if this kind of query was made, often. Our contact said it happened, constantly! Apparently we were not the only ones unable to decipher cryptic computer comments.

Since Sears has many thousands of credit card customers, they must be wasting at least thousands of hours of staff time (Sears contribution to minimizing unemployment?), as well as wasting a similar amount of customer time (value: \$0.00?), just due to this one myopic component of their computerized credit systems design.

Come on, Sears. Give us some evidence that you ARE capable of implementing a humane computerized billing system. Surely, if the phone monopoly can do it, Sears can do it.

At a minimum, it would save Sears significant staff time (and, thereby, staff dollars). To do less is not only inconsiderate of your customers; it illustrates incompetency in business and data processing management.

P. S. — Sears eventually called back and stated that the item was a pair of binoculars, discovered by digging out the original order from their daily paper records . . . jus' like in pre-computer days.

COMPUTERS SHOULD HELP; NOT HINDER

Computers can and should make things easier; not more difficult. Computers can reduce staff labor. And, they can make business interactions more palatable — not less comprehensible, when used in a manner convenient for the customer and the staff (rather than the manner most convenient for the data processing systems designer).

But, our d.p. friends rebut, perhaps Sears has too many transactions to be able to log each one of them in an intelligible form on the monthly statement. Not so.

Example: We recently ordered five items. One was sent; we received a computer

notice of the disposition of the other four items (reorder, back-ordered, verify price, etc.). That notice identified each item. If they can do it on a notice where they want us to reorder, they can do it when they want us to pay.

Example: The phone company manages to give comparable identifying information on each transaction for which it bills (city name compares to product description; phone number compares to catalog number).

Clincher: Sears may not have the computing ability to identify items in their billing statements in a manner intelligible to the customer or their sales or accounting staff, however they do have the resources to computer-print a 238-character "Wrap up a beautiful Christmas . . ." sales hype at the bottom of the statement.

ONE OF THE OTHERS OURS:

THE PROGRAM.....	\$ 375.00	\$250.00
INDEX BUILDER.....	200.00	INCLUDED
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MAIL LIST MERGE.....	125.00	INCLUDED
SPELLING CHECKER.....	225.00	75.00
REQUIRED ADDITIONAL HARDWARE.....	950.00	40.00*
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*For a 40-character LCA. We also support most 80-character board.

to be continued...

SYSTEMS KICKER

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MAKING MINIS OUT OF MICROS.

7th COMPUTER FAIRE CONFERENCE PROGRAM

UNUSUAL APPLICATIONS (Part I)

(Friday, p.m.)

A Microcomputer-Based Geographic Information System

Benjamin Pierce, Stanford University

More for Less: The Microcomputer in Local Government

M. F. Groat, City of San Francisco

The Word Processing - Phototypesetting Interface with Automatic Pagination

Donald H. McCunn, Design Enterprises of S. F.

Fifteen Variations on a Theme: A Computer-Oriented Algorithm

Dmitri Thoro, et al, San Jose State University

PANEL: WHAT IS THE UNIX OPERATING SYSTEM & WHY IS IT SO HOT?

James Joyce, Gene Dronek, Bill Tuthill (Friday, p.m.)

INEXPENSIVE BUSINESS COMPUTING (Part I)

(Friday, p.m.)

Which Stock-Market Software?

R. E. Packer, Ph.D.

An Introduction to Buying a Business Computer

Arnold M. Roberts, ADC Associates

PROJECTIONS OF THE FUTURE

(Friday, p.m.)

The First Computer/Videodisc Game: A Glimpse into the Future

David H. Ahl, et al, Creative Computing

The Microcomputing Industry Today and Tomorrow

Rodney Zaks, Sybex

INTERNATIONAL NETWORKS & MICROCOMPUTING

(Friday, p.m.)

Computer Networks in the U. K.

Rod Goodman, University of Hull, England

Microcomputer Networks in Japan

Toshiaki Yasuda, Tokyo Denki University

The Microcomputer Industry in France

J. P. Lamoitier, Sybex

Viewdata - The Beginning of the End

Graham G. Hawker, Metrotech, England

MICROCOMPUTER SOFTWARE

(Friday, p.m.)

MINMAX: A Minimum Executive - or - What to Do While

Waiting for a Long Printout

Tom Pittman

Evaluation of Your Pascal, Basic or Fortran

Alan R. Miller, New Mexico Tech & Interface Age Magazine

Fun with APL

Mokuri Cherlin, Strategic, Inc.

"Blaise": A Portable CMOS Bioterminal Programmable in Pascal

H. Tavernier, et al, Faculte de Medecine Pitie-Salpetriere, Paris

COMPUTER AIDED DESIGN

(Friday, p.m.)

The Initial Graphics Exchange Specification: A Key to Future

CAD/CAM Systems

Paul Hollingshead

Design Automation Techniques

David W. Russell, Dasoft Design Systems

VIEWS ON WORD PROCESSING

(Friday, p.m.)

The Antry Consumers' Guide to Word Processing

Martin L. Dean, Attorney

Open Discussion: Working with a Microcomputer Word Processor

Hal Glatzer

HARDWARE STANDARDS

(Friday, p.m.)

The IEEE-488 Bus for Personal Computers: An Overview

Peter Baum, Apple Computer

Reaching Out - Computer Communications Means More

Terms and Standards

David L. Shaughnessy, University of California at Berkeley

HARDWARE DESIGN

(Friday, p.m.)

A Fifth Generation Amateur Radio Repeater Controller

Ed Ingber, Advanced Computer Controls

Implementing a Video Controller Using Programmable Array

Logic

Ehud "Udi" Gordon, Monolithic Memories, Inc.

FIFO's: Rubber-Band Memories to Hold Your System Together

Chuck Hastings, Monolithic Memories

Microprogrammable Filter

Kiran Majithia, et al, IBM & San Jose State University

KEYBOARD KONSIDERATIONS

(Friday, p.m.)

Four Switchable Keyboards for Computers

Albert Kolb, Carmel Middle School (California)

Increasing Throughput with the Dvorak Keyboard

Don Fitchorn, Tandy Electronics

INFORMATION FOR COMPUTER NOVICES

(Saturday, a.m.)

Microcomputing Languages, or How to Talk to Your Computer

June B. Moore, J. D.

Towards Computer Literacy

James D. Milojkovic, Stanford University

Computer History for Beginners

Peggy Comer, Sunburst School (Arizona)

INEXPENSIVE BUSINESS COMPUTING (Part II)

(Saturday, p.m.)

The Manager's Desktop Computer

Nicholas Rosa, Nicholas Rosa Associates

The Throwaway Computer

Michael Levy, Mindware, Inc.

Bottom-Line Micros

David M. Pittle, Smart Management Systems

Personal Computers on Business Games

Mituo Takahashi, Seikei University, Tokyo

PANEL: DATA MANAGEMENT SYSTEMS FOR CP/M MACHINES

(Saturday, p.m.)

Access/80: Report Generation to Data Management in Three Steps

Frederic C. Gey, Friends Software

FMS-80

Rick Merlich, Systems Plus

MDBS

Mike Gagle, Micro Data Base Systems, Inc.

An Overview of Condor Series 20 RDBMS

Robert A. Cohen, Condor Computer Corp.

Overview of SELECTOR-V

Bob Goodman, Micro.Ap, Inc.

DBASE-II

Wayne Ratliff, Ashton-Tate

PANEL: THE IBM PERSONAL COMPUTER: IT'S IMPACT & POTENTIAL IN THE MICROCOMPUTER INDUSTRY

John Reutter, Megasoft (Saturday, a.m.)

The P. C. and the Small Business Applications Market

Ben Dyer, Peachtree Software

P. C. - It's Impact on the Microcomputer Industry

Bill Gates, Microsoft

The P. C. as a Productivity Tool in the Office of the Future

Seymour Rubenstein, Micropro International

The IBM P. C. in the CP/M World

John Katsoras & Jim Handy, Digital Research

Add-in Memory & Mass Storage for the IBM P. C.

Bob Lindgren, DataMac

The IBM P. C. Hardware Peripherals Market

Dave Wertman, Tecmar, Inc.

A Publisher's View of the IBM P. C.

Dave Bunell & Jim Edlin, P. C. Magazine

The IBM P. C. & It's Impact on Retail Computer Sales

Ab Abbley, Computerland Corporate

APPLES & 6502's

(Saturday, p.m.)

Enhancing Your Apple II: Exact Field Sync

Don Lancaster, author

A Thermometer in an Apple for Agriculture, Home and Laboratory

Walter Maclay, Strawberry Tree Computers

Simple Communications Between Apples

Keith E. Schubert, Blue Mountain Community College

Inexpensive Expansion for Your 6502 Computer

Winfried Wofacker

DETAILS FOR COMPUTER NOVICES

(Saturday, p.m.)

How to Buy Your Own Computer

Jerry Willis, et al, Texas Tech University

Software Development and Operating Procedures for Personal Computers and Microcomputers

Paul Holliday, Computer Sciences Corporation

COMPUTER CAMP: Purpose, Technique & Educational Success

Garry White, Computer Camp, Inc. (Saturday, late p.m.)

PERSONAL COMPUTER GRAPHICS

(Saturday, a.m.)

Snail Graphics: A Graphics Kit for Runic

Marty Franz

Interpas and Rascal: A Playful Pascal Cartoon Programming System

Michael Moshell, et al, Gentleware Corp.

Computer Animation Comes to Personal Computing

David Fox, et al

MICROCOMPUTING IN MEDICINE (Part I)

(Saturday, p.m.)

Public Domain Software in Medicine: The MUMPS Connection

Larry L. Stoneburner, M. D.

Implementation of an Ambulatory Medical Information System on an LSI-11 Based PDP-11/23 Microcomputer

Frederick R. Jelovsek, et al, Duke University Medical Center

Microcomputer Applications in Academic Medicine

Thomas N. Abdella, et al, University of Tennessee College of Medicine

Implementing Full ANS MUMPS on a Microprocessor

David J. Marcus, et al, Micronetics Design & Med Logic Systems

MICROCOMPUTING IN MEDICINE (Part II)

(Saturday, late p.m.)

Medical Image Analysis with a Microcomputer

Michael L. Richardson, M. D.

Design of a Computerized Pulmonary Laboratory

G. B. Rothbart, et al, Science Applications

The Community Health Information Project (CHIP): Developing a Community-Based Information Utility for the Disabled Using Microcomputers

Joel S. Yudken, Mid-Peninsula Conversion Project

Systems Analysis for Small Computers: A Case Study

Rodert van Spyk, California State University at Hayward

ARTISTIC APPLICATIONS

(Saturday, noontime)

Computer Assisted Design of Tiffany Lamps

Mike Higgins, Space Glass

Art and Intelligence: An Artist's Approach to Artificial Intelligence

Stephen W. Long, Canada

PRESCHOOL COMPUTING

(Saturday, a.m.)

Foundations for the Use of Computers in Preschool Classrooms

Jerome R. Schmidt, et al, Education Services

A Review of Preschool Children's Use of the Computer

Kathleen M. Swigger, North Texas State University

Visual Discrimination and Preschoolers

Deborah Smithy-Willis, et al, Texas Tech University

Electronic Interaction with the Preschool Handicapped Learner

David L. Craig, Texas Tech University

Computer Applications in Assessment and Evaluation for Preschool Children

Dee LaMont Johnson, Texas Tech University

EDUCATIONAL COMPUTING (Part I)

(Saturday, p.m.)

Recommendation for Logo Learning Centers

Vicki Carver

Special Education Management System Using Microcomputers

Leonard T. Meuer, Travis School District (California)

Benefits of Using Computers in Special Education

Mary M. Humphrey, et al, Teaching Tools

EDUCATIONAL COMPUTING (Part II)

(Saturday, late p.m.)

A Suggested Model for Establishing the Validity of Computer Assisted Instructional Materials

Sherwin Steffin, Edu-Ware Services

Microteach - Courseware Production Made Easy

Thomas P. Bun, Compumax

Microcomputers on Education in Japan

Atsuro Takemoto, Chiba Institute of Technology, Japan

Computers Free for the Asking

Michael Potts, Educational Counseling Institute

UCSD PASCAL: USUS' DAY AT THE FAIRE

(Saturday, all day)

An Introduction to the p-System

Jim Bandy, SofTech Microsystems

An Introduction for Pascal Programmers to the UCSD Pascal Language & System

Rich Gleaves, Volition Systems

Concealed Application Successes from the p-System

Jim Bandy, SofTech Microsystems

The Incredible Text Printer: Achieving Version Independence in an Ambitious Program for the UCSD Operating System

James Gagne, Datamed Research, Inc.

Modular Programming Using UCSD Pascal Units in the UCSD Pascal Advanced Operating System 1.0

Barry Damchak, Advanced Computer Design

The Modula-2 Interface to the Apple II and Apple Pascal

Roger Sumner, Volition Systems

An Expert Users' Panel on Pascal Language Topics

Richard Gleaves, Barry Damchak, Russ Daniels, Tom Pittman, John Hoot, Michael Hadjiannou

PANEL FOR PROGRAMMERS: GETTING INTO THE PACKAGED SOFTWARE BUSINESS

David Ferris, David Ferris & Associates, England (Sunday, p.m.)

What Software Publishers Can Do for Program Developers

Seymour Rubenstein, Micropro International

What Distributors Can Do for Program Developers

Bob Leff, Softsel

Financing Necessary for the Programmer Going into Business & How to Raise the Money

Jacqueline Morby, TA Associates

What Programmers Will Have to Do If They Market Their Package by Themselves

Gordon Eubanks, Digital Research

LEGAL ASPECTS OF SOFTWARE

(Sunday, p.m.)

Legal Care for Software

Daniel Remer, Attorney

Electronic Game Pirates: The Scramble for Viable Protection

Michael D. Scott, The Scott Report

EMPLOYMENT: OLD & NEW

(Sunday, noontime)

How to Leave and Compete with Your Employer Without Getting Sued

James H. Pooley, Mosher, Pooley, Sullivan & Hendren

Getting the Best Computer Job

Kent D. Kitts, Omicrom

WRITING & DOCUMENTATION

(Sunday, p.m.)

Instructing the Lowly Human Customer: The Survival Value of Providing User-Friendly Documentatin and Manuals

Nicholas Rosa & Sharon Roas, Sharon Rosa Technical Writing Services

Writing for the "Special Interest" Computer Press

John Walker, Sextant Magazine

Systems Documentation and System Malfunctions

John P. Walter, California State University Dominguez Hills

Documentation for Human Beings

Arthur Naiman

7th COMPUTER FAIRE CONFERENCE PROGRAM

COMPUTER & ELECTRONIC MUSIC

(Sunday, noontime)
Delayed Playback Music Synthesis Using Small Computers
 Hal Chamberlin, Micro Technology Unlimited
The Medieval Melody-Maker: A LISP Program
 Arthur Hills, Sonoma State University
The Soundchaser Computer Music System
 David M. Kusek, Passport Designs

BUCHLA ON MUSIC SYSTEMS

(Sunday, p.m.)
Some Aspects of High-Tech Musical Instrument Design
 Don Buchla, Artists Research Collective

PHILOSOPHICAL CONSIDERATIONS

(Sunday, noontime)
A Bionic Approach to Speech Processing
 Bradley C. Stewart, Covox
Information Processing by the Computer and the Central Nervous System (A Comparison)
 C. Torda, Stanford University

COMPUTER RETAILER'S OPEN MEETING

(Sunday, noon)

3-DAY DEMO: AMATEUR RADIO TELETYPE & PACKET DATA TRANSMISSION

Stuart Neblett, Communication Society

UNUSUAL APPLICATIONS (Part II)

(Sunday, p.m.)
The Well Behaved Home
 Carter Compton Collins, University of the Pacific
Speed Reading and Peripheral Vision Techniques for Computers
 Myron Zeissler, Eagle Software
Simulation Training Research with Microcomputer Systems
 Allen Munro, et al, Behavioral Technology Laboratories

THE COMPUTER BUSINESS

(Sunday, p.m.)
Raising Capital for the Development of Software and Other Computer Technology Using R&D Limited Partnerships
 Fred M. Greguras, Attorney
MISA: The Insurance Program for the Microcomputer Industry
 David S. Chen, MISA & MPA Insurance Services, Inc.

ANNUAL AWARDS PRESENTATIONS

(Saturday, noontime)
Creative Computing Award for 1981
 David Ahl, Creative Computing Magazine
Softalk Award
 Jo Hilliard, Softalk Magazine

USER GROUP & SPECIAL INTEREST GROUP MEETINGS

(open to all interested parties) (primarily Sunday a.m.)
TRS-80 Users' Open Meeting
 (no host)
Apple Users' Open Meeting
 (no host)
Heath Users' Group L Nancy Strunk
First International Atari Computer Users Group Forum
 James Capparell (sponsored by independent user groups)
International North Star Users' Group
 Bill Banaghan
First Osborne Group (FOG) Open Meeting
 Frank Morton
Commodore Pet & Vic Users' Open Meeting
 (no host)
Apple Medical Users' Group Meeting
 Larry Stoneburner
NorCal Digital Group Owners
 James Jacobsen
CP/M Users' Open Meeting
 (no host)
USUS Informal Meeting & Birds-of-a-Feather Sessions (UCSD Pascal)
 Winsor Brown
APL Users' Group
 Mokurai Cherlin
Logo Learning Activities
 Lois Flynne

(continued from page 10)

There has been a standard solution in the dinosaur machine world for decades — "industry compatible" (meaning IBM compatible) 7- or 9-track tape. The recording standard is irritatingly and unnecessarily complex and expensive to implement, but . . . it is a *standard*; it does exist on all those antique machines; the recording media is inexpensive; and, a number of companies now make reasonably inexpensive 9-track tape drives.

A couple years ago we suggested that a "hot product", immediately needed, was an inexpensive, 9-track tape subsystem for microcomputers.

About a year ago, Alpha Micro announced a 9-tracker that was a little too expensive for us. More recently, other companies have announced other 9-track peripherals.

Now, we have received a note from a Natick, Massachusetts, company named Alloy Engineering Company (precisely the company you would expect to produce a tape system, right?) announcing a tape system using the Cipher Microstreamer Series One 9-track drive that will plug into S-100-based machines, (including Alpha Micro machines) for only \$6795, unit quantity.

AEC also has interfaces for Altos (non S-100), DEC and Data General machines. (DEC and DG units cost a bit more than the \$6795.)

NOW THAT'S A WARRANTY!

The list price for these Alloy Engineering tape systems includes a full-year warranty providing for 48-hour, full-unit replacement of the drive or interface, should they fail! That's the best possible way they could prove that they feel their units are reliable.

BUT, ARE THEY REAL?

Having watched the computer industry's product announcements for most of a decade and a half, we looked at this Alloy Engineering announcement with some faint tinge of cynicism. They had announced the product. But, were they delivering? (Had they even begun manufacturing?)

We phoned their western distributor (DSM & Associates, Agoura, California, 213-991-9901) and asked about availability. They asked if a 2-week delay would be too long! Needless to say, we ordered one.

In less than the two weeks stated, Dave Miller of DSM showed up at our door with the subsystem. We plugged it in, loaded the software from a disc he had brought and read data from an old tape we had laying around — all in about 15 minutes. After playing with it for a while, we asked for some software enhancements (some people are jus' never satisfied), and were promised it by the end of the week. Now, folks — *that's* service!

APPLE WORDZ

One of our more reliable Apple sources (sic, sic, sic), sez that Apple is shipping 25,000 Apples a month (yup . . . 300,000/year). They

also say that Apple has a single-board Apple bud that uses only about 12 chips and could sell for about \$300, but won't be introduced until the market is optimal (presumably when sales of the Big Apple begin to drop off).

(continued on page 20)

Don Lancaster will tell you how to enhance your Apple at the 7th Faire.

Tom Pittman will detail a tiny operating system during the 7th Faire.

OURS: The Executive Secretary^{T.M.}

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(as of 82 Feb 15)

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Advanced Computer Products
Adventure International
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Relational Systems International Corp
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Santa Cruz Educational Software
Small Business Technology
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Sirius Software, Inc.
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West Coast Business Products, Inc.
Western Micro Systems
WIP (Women in Information Processing)
Xcomp Incorporated
Yumm Inc.
Zircon International, Inc.

Introduction to Business Computing

This 4-hour tutorial is for the business decision-maker wishing to obtain a solid overview and understanding of the uses and limitations of currently available inexpensive business computers.

Questions that will be addressed include:

What can a business executive really do with an inexpensive computer?

How can a microcomputer be applied to decision-making, job quotes, financial planning, government and tax reports, graphic presentations, staff efficiency, electronic filing, information management, etc.?

How can a small computer be effectively and practically used in a fast-paced, highly competitive, rapidly changing business environment?

What does a business person need to know about how the equipment works, what computer programs are and what they do, what equipment and programs are currently available, what they really can and cannot do, and how they apply to modern business?

The Seminar

Business problems and available problem-solving tools
The state of business/financial systems/programs
Computer features a businessperson should know
Comparative survey of popular business micros
What you see, and what to look for, in a computer
Software — getting a computer to do what you want
Applications software for business and financial users
Discussion focusing on registrants' specific problems

The Lecturer

Michael Levy

Independent management consultant
Business systems analyst
Trouble-shooter for Massachusetts venture capitalists
Experienced business executive, including several years as President of GRI Computer Corp, a multi-million dollar, east coast manufacturer (specialized systems, not represented in the Faire exhibition).

Schedule

This seminar will be offered on Friday, March 19th, and repeated for second and third groups on Saturday and Sunday, March 20-21.

Each group will meet 9:30-12:30 for a formal presentation, and will reconvene at 4pm-5pm for an in-depth question-and-answer session. This will give participants an opportunity to apply what they have learned in the morning session as they tour the 600-or-so exhibits, and return to ask questions about their own applications, plus questions that will undoubtedly arise during the day.

Registration Fees

\$95, includes registration for the Faire, handouts, and reference notes. Preregistration is *strongly* advised.

Pascal & Software Development

Pascal is a major computer language of wide popularity and considerable power as a software development tool. This 4½-hour tutorial will provide a strong introduction to the language and the powerful facilities it offers to the user.

The Seminar

Overview of Pascal development & implementation
General form of a Pascal program
UCSD Pascal vs. standard Pascal vs. others
Thinking in Pascal, software engineering techniques
Simple Pascal commands and program components
Application examples — financial, stocks, real-estate
Text and string processing, a dictionary program
Large programs, separate compilation, linking, library
Pascal file facilities, database application example
Pascal graphics and music applications, examples

The Lecturer

T. G. (Ted) Lewis

Assoc. Prof., Computer Sci., Oregon State Univ.
20 years of experience in computing
Extensive work with micros in education, business
Industry consultant, author of 10 books, regular technical writer, author of the 1981 book, *Pascal Programming for the Apple*, past Associate Editor, *Computer Magazine*

Schedule

This seminar will be offered only once, Sunday, March 21st. It will meet 10am-noon, and reconvene 12:30-3pm.

Registration Fees

\$95, includes registration for the Faire, handouts, and reference notes. Preregistration is *strongly* advised.

Silicon Gulch Gazette

In-Depth Tutorials

The 100+ speakers in the 7th Computer Faire's conference program, and the 600+ trade exhibits provide wide insight into inexpensive computing facilities and applications in home, business, education and industry.

The following half-day and full-day seminars are offered to compliment and supplement that variety by providing in-depth, carefully prepared, pragmatic tutorials on the subjects indicated. Each includes complete seminar handouts and valuable reference notes.

Fundamentals of Microcomputers

This full-day tutorial provides a comprehensive overview of microcomputer equipment, programs and programming, applications, and sources of additional information.

The Seminar

What is a microcomputer?
Differences between micros, minis, and large computers
What microcomputers can and cannot do
Basic components of microcomputer hardware
Families of micros defined by central processing units
Computer terminals and their characteristics
Peripheral devices, interfaces, standards & types
Computer networking and telecommunications
Microcomputer systems software & utility software
Computer languages and applications programs
Getting started, costs, purchase options, expansion
Review, sources of additional information and assistance, questions & answers

The Lecturer

Colin Mick

V. P. & Dir. of Res., Decision Information Sciences
Decade+ in information science & communications
Extensive research in aspects of information usage
Ph.D., Communication Research, Stanford U.
Regular user of multiple microcomputers for word processing, financial modeling, etc.

Note: If this seminar is as large as expected, Dr. Mick will be joined by Dr. Robert Mason, a regular lecturing partner of comparable skill and experience.

Schedule

This seminar will be offered once on Saturday, March 20th, and repeated for a second group on Sunday, March 21st. It will meet 9am-12:15, break for an hour, and reconvene 1:15-5pm, with 15-minute breaks in the morning and afternoon sessions.

Registration Fees

\$125, includes registration for the Faire, handouts, and reference notes. Preregistration is *strongly* advised.

How to Register

These tutorials are expected to be heavily subscribed. Enrollment is limited to 110 per section. Although you may register on-site during the Faire (March 19-21), seminars may be filled to capacity by Faire time. Preregistration is *strongly* advised. Preregistration also speeds up check-in and entry.

Each seminar registration fee includes the \$15 Computer Faire registration/admission. If you register for more than one seminar, or if you pay the \$15 Computer Faire fee separately, seminar fees will be reduced so you pay the \$15 Faire registration only once.

To preregister, call:

Seminar Registration Desk
Faire Headquarters
(415)851-7075, 10am-4pm, Monday-Friday.

MasterCard and Visa accepted by phone or on-site.

All seminars will meet in San Francisco's Civic Auditorium, in the Civic Center, near 9th & Market. The seminar entrance is at the front of the Auditorium on Grove Street near Larkin Street.

How to Select a Business Computer

This 6-hour seminar is for the business person who is seriously considering the purchase of a computer for their business, but has major questions regarding choice of machine, software, support, best buy, etc.

Questions that will be addressed include:

Should you really get your own computer?

What do you need to know in selecting your system?

How do you define your system needs?

How can you get the best value from your suppliers?

How can you insure that your selection will be your best selection?

The Seminar

Alternatives to getting your own computer
What you are really getting into
Sources of information and assistance
Introduction to computer terminology & operation
Determining the size of the system you need
What to look for (and look out for) in equipment
What to look for in business applications software
How to select the best vendor for your needs
Selecting and using specialists & consultants
Cost-saving techniques for dealing with vendors
Criteria to use in your final selection

The Lecturer

Arnold M. Roberts

Twelve years experience in business data processing
Manager of systems software development while with the American Broadcasting Co.
Regular lecturer in Professional Development Seminars
Producer of computer software packages for business
Experienced in marketing and management
Currently President of ADC Associates
Strong background in pragmatic analysis and design of business computer systems, their implementation, technical support, and in-house training

Schedule

This seminar will be offered in two 3-hour sessions on Friday, March 19th, and will be repeated for another group in another pair of 3-hour sessions on Sunday, March 21st. The sessions will be 9:30-12:30 and 2:00-5:00pm.

Registration Fees

\$125, includes admission to the Faire, handouts, and reference notes. Enrollment is limited to 110. Preregistration is *strongly* advised (see below).

Introduction to UNIX and C

Unix is a popular operating system now appearing on a variety of 16-bit microcomputers. It is accompanied by and written in a language called "C", a powerful language that provides the programmer with comprehensive access to the computer's capabilities. This 7-hour seminar provides in-depth introductions to both Unix and C.

The Seminar

Unix overview, origins, licensing from AT&T
Unix directories, moving around in your filespace
You and files — file creation, editing, copying, moving
Files, filters, pipes, command language
Getting started in C — structure in C
C control statements, variables, pointers, arrays
Programming techniques in a Unix environment

The Lecturer

James Joyce

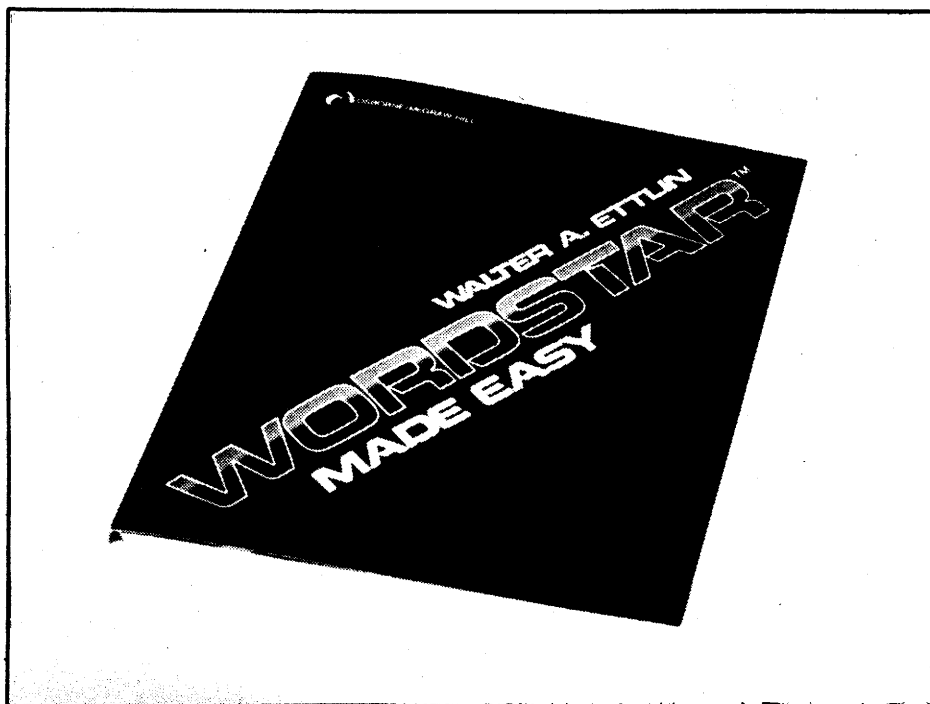
Experienced lecturer & computer educator
Has taught over 2,000 people how to use Unix and C
Experience on over a dozen different Unix systems
Documentation specialist
Regular consultant to government and industry
Taught Computer Science, full-time for 7 years, at the University of California - Berkeley

Schedule

This seminar will be offered only once, Sunday, March 21st. It will meet, 9am-noon, and reconvene 1pm-5pm.

Registration Fees

\$125, includes admission to the Faire, handouts, and reference notes. Preregistration is *strongly* advised.



Wordstar Made Easy

In 14 accelerated lessons, "WordStar Made Easy" lets you build word processing skills which are applicable to word processing assignments in any business office.

WordStar, published by MicroPro International Corporation, is a program which offers a wide range of word processing functions. By using "WordStar Made Easy" to learn WordStar, you can write business letters, legal documents, manuscripts, sales reports and more. Each lesson provides hands-on instruction and sample exercises which allow you to grasp concepts quickly and easily. Book highlights include an appendix list-

ing CP/M Commands and a detachable WordStar Command Sheet for handy reference.

"WordStar Made Easy" may stand alone or be used as a supplement to the WordStar Manual furnished by MicroPro. Page numbers for corresponding material in the MicroPro Manual are provided. "WordStar Made Easy" applies to any version of WordStar, including version 3.0. It costs \$7.95 and is 125 pages long.

For more information, please contact: Kendal Andersen, 415-548-2805, Ext 21.

Jools Utility Disk for CP/M

Jools, a new set of utilities from Pluto Research Group, can be a cost-effective way to solve commonly encountered problems without special programming.

With Jools, users can sort and compare files, reorder fields within lines, and select lines from files based on either position or content, count the characters, words or lines in a file.

The Sort utility can handle variable and fixed length records up to 256 characters long using up to five multiple fields or position locations and sort in ascending or descending order. Large files are automatically split then merged again. The reformat utility allows the reformatting of file records and adding constants if desired.

Included are two utilities for changing fixed length files to variable length and changing from variable to fixed length. Two other programs can be used for comparing one file with another and writing out the differences.

In addition to providing instructions for each utility program the users manual provides examples for using Jools to maintain a mailing list, and a bibliographic database as well as for generating a permuted index and listing changes made to a file. The disk includes sample files and step by step instructions for getting started.

Jools comes on an 8-inch single density disk or on 5¼-inch or double density disk for NorthStar CP/M users. The

price for Jools is \$95 plus \$1.50 for shipping and handling.

For more information, please contact: Elliam Associates, 24000 Bessemer St., Woodland Hills, CA 91367, 213-348-4278.

CPM Hardware Spooler

MPXSPPOOL is a hardware/software package which allows independent spooling of printer or plotter output on any IEEE 696/S-100 microcomputer running the CP/M operating system. The heart of the system is CompuPro's MPX DM I/O controller. This board includes an on-board 8085 CPU, 16K RAM, 2K EPROM, 8259A interrupt controller, and support circuitry for DMA memory and I/O cycles. With this package the user can run on any CP/M program while the printer, plotter, or any slow I/O device is concurrently printing with no system degradation. Standard packages include printer drivers for a variety of I/O boards. G & G Engineering offers custom software integration for non-standard configurations. G & G Engineering is an authorized CompuPro Systems Center.

For further information, please contact: G & G Engineering, 13708 Doolittle Dr., San Leandro, CA 94577, 415-895-0798.

Those who try to do something and fail, are infinitely better than those who try to do nothing and succeed.

Finally! DataCast — A Reference Publication for Microcomputer Users!

DataCast is a Reference Series for Microcomputer Users

DataCast is the reference publication for users of major microcomputer software systems — particularly CP/M users, and for those interested in mass digital telecommunications.

It presents comprehensive software documentation, written in a clear and simple style. It offers in-depth surveys and tutorials about the major information utilities now being created to serve large user communities.

Experienced, full-time staff documentation professionals write the majority of the contents of each publication.

All articles are carefully edited to assure the consistent style, accuracy, and quality expected in a good reference book.

The unsolicited praise in the letters responding to the first issue reflect the value and quality of DataCast.

DataCast is for Both Novices & Experienced Users

DataCast offers tutorials for new users, reference documentation for experienced users, and — from time to time — internal systems documentation for those who wish to modify a system or understand its internal operation.

DataCast Offers Consistent Coverage of Many Systems

DataCast covers a wide variety of systems and applications software from a number of suppliers. However, all the documentation has the same style, organization and clarity.

DataCast is More of a Book than a Magazine

You can call it a "bookzine" or a "magabook".

Its content is that of a permanent, often-used reference book. Its physical format makes it easy to use as systems documentation.

On the other hand, it is like a magazine in that it is slender, available by subscription, and carries some advertising.

It is an ongoing series, published on a bimonthly basis. This assures that the documentation is timely and reflects the current version of the systems being documented.

Think of it as a magazine, and it's expensive. Think of it as a user's reference book, and it's very inexpensive.

DataCast Subscriptions Save Time and Money

Save 25% over the single-copy price by subscribing to DataCast.

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This is your last chance to be a charter subscriber. Issue No. 001 is nearly sold out. Subscriptions can start with No. 001 only while the supply lasts.

Subscribe now and have a complete set. Don't delay!

About the Technical Staff . . .

Jim Warren

Jim has been a consultant, lecturer, writer and editor specializing in small computers since 1968. Back in the first days of microcomputers, he was the first editor of *Dr. Dobb's Journal*, the first publication to provide in-depth software articles and documentation, and a publication that took a strong consumer-advocacy position. He went on to create the microcomputer community's first newspapers (the *Silicon Gulch Gazette*, and later the *Intelligent Machines Journal* — now called *InfoWorld*). He founded and currently chairs the West Coast Computer Faire — the largest microcomputer conventions, held annually. He is the permanent host of "Computer Chronicles", the first weekly television show focusing on micro-computing and oriented to a computer-literate audience. He has chaired chapters of the ACM, SIGMICRO, and SIGPLAN, and has served on the Program Committees of the National Computer Conference, IEEE Compcom, and the Computer Society's Asilomar Microprocessor Workshop. He holds a Bachelor's, three Master's degrees and has completed all but his dissertation for a Ph.D. in computer engineering at Stanford University.

Tony Bove and Cheryl Rhodes

Tony Bove and Cheryl Rhodes are a writing and editing team. Tony Bove is a co-author of a Wiley Self-Teaching Guide on using the TRS-80 Model III computer, to be released in the Spring of 1982. As a technical writer for Data General Corp., Tony wrote many tutorials and reference guides, including a prize-winning manual on Business BASIC. As a technical writer for Sybex (a Berkeley publisher of computer books), he provided much of the material for *The CP/M Handbook With MP/M*. As a senior technical writer for Intel, Tony Bove wrote a user's guide that is used as a model for all software tutorials, and as project leader for operating systems documentation he designed a library of fifteen manuals to support a new Intel computer system.

Prior to joining DataCast, Cheryl Rhodes worked extensively with ComputerTown USA!, a project of the People's Computer Company (Menlo Park, CA). Her contributions included writing and designing courseware and teaching microcomputer literacy classes for adults and children. She also designed and taught computer literacy classes for the Peninsula School (Menlo Park), and for the Lawrence Hall of Science (Berkeley, CA), where she coordinated the Apple Van Project. Prior to teaching, Cheryl Rhodes spent five years in data processing, computer operations and documentation, including two years at Data General Corp.

Here's what DataCast USERS have to Say

Unsolicited comments from our first readers (and subscribers).

"This first issue should become a collector's gem."

— Bill Roch, Elliam Associates, Woodland Hills CA

"Finally, THE PUBLICATION that covers CP/M from a user's standpoint! ... I suspect that your DataCast magazine will soon be in the forefront as 'The User's Reference' ... your magazine fills the specific needs of CP/M users ..."

— Kelly Smith, CP/M-Net News, Simi Valley CA

"I think the magazine will make a name for itself not only through its unique orientation but by being well-focused and practical. Unfortunately good publishing like this is becoming a real rarity these days."

— Stephen C. Keeble, Lifetime Learning Publications, Belmont CA

"I found your first issue to be excellent! I'm at a loss to say which article was best. I found they were all very readable, useful, and relevant."

— Carl Burlin, The Software Group, Anaheim CA

"The idea of three approaches to CP/M for various levels from beginner to existing users is well executed. ... Nice mixture of user oriented material and a general overview of the status of CP/M ..."

— Herb Moore, Palo Alto CA

"The articles on telecommunications for personal computerists were particularly needed these days."

— Walter Zintz, Uni-Ops, Walnut Creek CA

IN THE FIRST SEVERAL ISSUES

DataCast No. 001

published August, 1981

Approaching CP/M (25 pages)

The Illustrated CP/M Tutorial

The Impatient User's Guide to CP/M

CP/M User's Reference

CP/M Command Summary

A Seminar for Independent CP/M Software Vendors

Software Documentation Protocols

An Index to CP/M Software and Vendors

Overview of Home Information Services

What is Telidon and Why is AT&T Adopting It?

Telidon Project Update

DataCast No. 002

published in October 1981

Writing with CP/M Systems

Writing with WordStar (30 pages)

The Impatient User's Guide to WordStar

ED: A Text Editor

Lockheed's DIALOG: A Major Reference Information System

DataCast No. 003

published in January 1982

Project Planning with MILESTONE

A Tutorial on MailMerge

The Growth of Videotex

Computers that Run CP/M - a list of manufacturers

DataCast No. 004

March 1982

Communications for the CP/M World

Using CompuServe

DataCast No. 005

May 1982

Disaster Recovery Utilities for CP/M systems (tentative theme)

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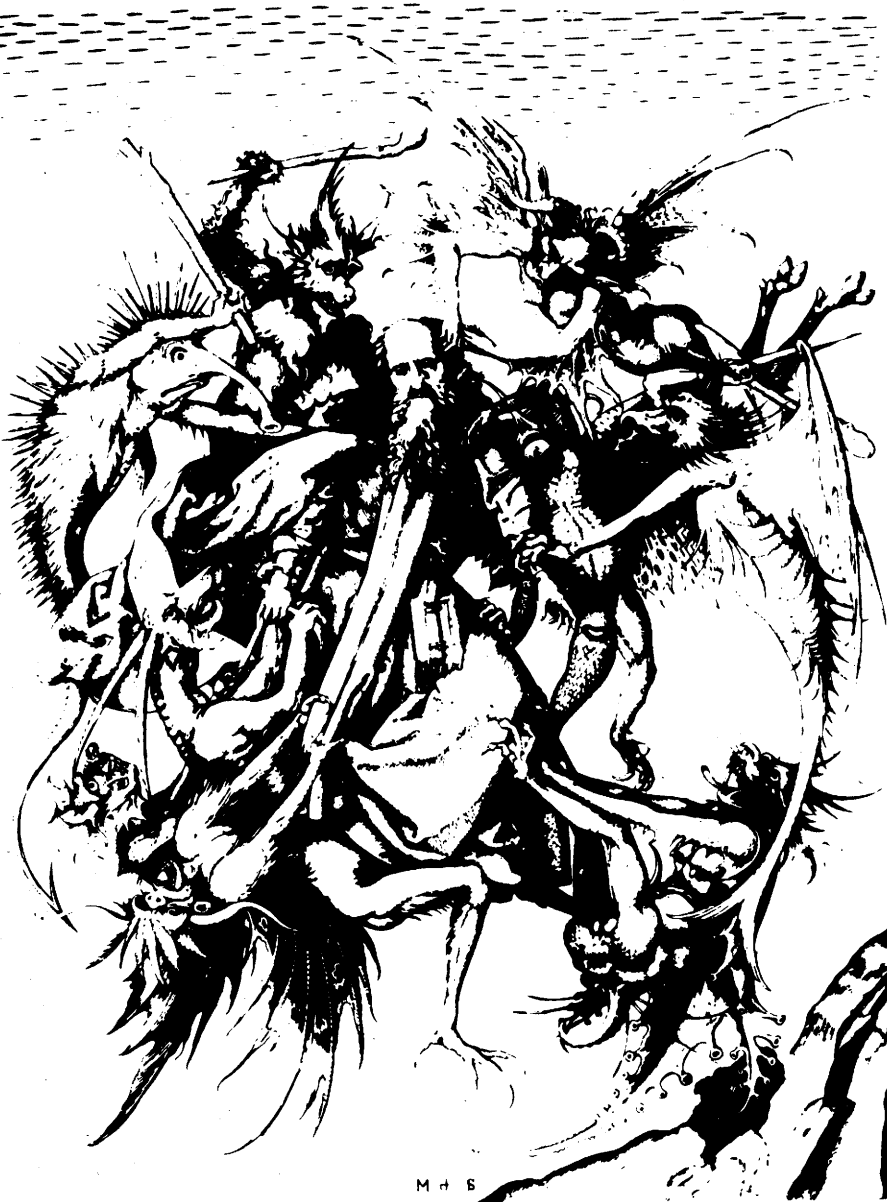
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DataCast provides application oriented tutorials, software documentation and user's reference guides, and progress reports on new computerized information services. The content is up-to-date and complete, the writing style is consistent, and the documentation is designed for long-term use.



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 expires.....M/C bank code.....
 (please type or print) Do you use any information services or computer networks?
 name..... What services do you recommend?
 mailing..... What information do you regularly receive?
 address.....
 city.....
 state.....ZIP code.....

SGG2/2

CP/M and Display MTI Mod III

Micro Data Base Systems, Inc. has announced the release of MDBS III, a data base management system for the PDP-11, 8-bit micros and 16-bit micros. Targeted for application software developers, this new product is available under numerous operating systems and can be used in conjunction with many programming languages (including BASICs, FORTANSs, COBOLs, PASCALS, PL/I and C).

MDBS III supports extended-network data structuring, surpassing the

old heirarchical relational and network approaches to data base management. Along with its logical data structuring features, MDBS III's design facilities provide the application developer with extensive control over physical data structuring.

The implementation of MDBS III utilizes a proprietary access mechanism that is not based on the chaining or pointer array approaches. Three distinct user interfaces are available with MDBS

III, ranging from a host language data manipulation language to an English-like, non-navigational query language. Extensive data integrity and data security features are provided. Selective rollback is supported for data base recovery. Multi-user versions of MDBS III are scheduled for release in the next few months.

For more information, please contact: Micro Data Base Systems, Inc., Box 248, Lafayette, IN 47902, 317-448-1616.

Televideo RM/COBOL

Seven applications packages for small business are now available for use on TeleVideo's series of microcomputers.

TeleVideo Systems, Inc. will distribute these applications packages world-wide through TeleVideo's distributors.

The interactive programs are accounts receivable, accounts payable, general ledger, inventory, order processing, payroll and job cost control. Accounting applications will be available in RM/COBOL.

Corvus Network Systems Products for IBM and Xerox

New interfaces make Corvus Winchester disk drive systems and local area network compatible in hardware and software with two of the industry's latest entrants: the IBM Personal Computer and the Xerox 820 System. Corvus is a supplier of microcomputer mass storage systems and local area network market.

This compatibility means that users of the IBM Personal Computer and Xerox 820 computer can now enjoy storage capacities of 5, 10, and 20 megabytes on 5-1/4 inch and 8 inch Winchester disk systems.

Corvus also announced its Multiplexer local area network will support both the IBM Personal Computer and the Xerox 820. This will allow Corvus disk users to build a back-end area network that links up to 64 microcomputers and allows them to share disk storage and printers.

Early this year, OMNINET compatibility with the IBM and Xerox systems will be available. OMNINET is Corvus Systems' disk-independent, carrier-sense-multiple-access (CSMA) local network, introduced at the 1981 National Computer Conference. Already recognized as a leading low-cost alternative to more expensive coaxial-based networks like Ethernet, OMNINET extends the end-to-end network limit to more than 4,000 feet, lets users combine multiple microcomputers with different operating systems on one network, and uses twisted pair cabling.

Since 1979, Corvus Systems has shipped more than 5,000 mass storage systems for microcomputers made by such companies as Apple, Tandy, Cromemco, SuperBrain, Dynabyte, North

Conference Session

Lancaster's latest book: **Enhancing Apples with Exact Field Sync**

A simple hardware modification called Field Sync along with its support software can now enable Apple II users to do an exact and jitter free lock to their video screens, says noted author Don Lancaster.

In his 7th Faire talk, "Enhancing Your Apple II," Lancaster will describe how you can use exact field sync for: animation free of glitches, aliases and dropouts; screen mode changes without flashes or transients; vibrating mirror

Conference Session

Simple Communication Between Apples

According to Keith E. Schubert, connecting small computers into a network would have many desirable advantages. Schubert, who will be speaking at the 7th West Coast Computer Faire on "Simple Communication Between Apples," says that such a network could "eliminate the need for many duplicate disk drives, printers, and other expensive peripherals."

In his talk, to be published in the *Proceedings of the Faire*, available at the show, Schubert will describe his design, which uses the Apple cassette storage system. Schubert says that costs for a student computer station, currently ranging from \$2,000 to \$4,000, "can be cut by a factor of two to four by using a simple network."

Star, Vector Graphic, Altos and others. Corvus has developed additional Winchester disk systems and interfaces for the Apple III microcomputer, NEC's PC-8000 system, and for the most recent Commodore Pet model. The company also manufactures mass storage systems for Digital Equipment Corporation's LSI-II minicomputer.

Corvus mass storage systems are building blocks in creating the Multiplexer local network. The software supplied with this network is called the CONSTELLATION. With CONSTELLATION software users can share access to centralized files via the Corvus disk controller. Firmware for the controller supports advance features such as sector buffering, automatic error retries, diagnostics, transparent formatting with CRC error detection, and high speed data transfers using direct memory access (DMA) to RAM within the Corvus controller.

For more information, please contact: Corvus Systems, Inc., 2029 O'Toole Ave., San Jose, CA 95131, 408-946-7700.

Free Future Copies of the *Silicon Gulch Gazette*

GET YOUR FREE SUBSCRIPTION to the *Silicon Gulch Gazette*. Just send your name and mailing address to Computer Faire 333 Swett Road, Woodside CA 94062.

Enhancing Apples

true 3-D graphics displays; page to page video splits and wipes in any direction, and much more!

"The idea behind field sync is simple enough," says Lancaster, whose presentation will be published in the *Proceedings of the 7th West Coast Computer Faire*, available in March, "Feed a signal from the video display portion of your Apple into a port where software can read it. Then set up your software to do an exact lock."

Apple users will meet on Sunday at the Faire to exchange aid and ideas.

FOG (the First Osborne Group) will meet at the Faire to trade ideas and experience.

A full day of speakers on Educational & Preschool Computing will make presentations on Saturday at the Faire.

Commodore Pilot Aid

Highflying Computer Navigator

RNAV3 Navigator, an air navigational aid, is now available for pilots from Briley Software. The program uses Commodore PET/CPM microcomputers.

The computerized navigator obtains true straight line courses for aircraft having DME equipment and VOR-TO-VOR courses for aircraft without the DME ability.

RNAV3 Navigator performs hundreds of trigonometric functions per flight, handles the spherical nature of the earth (polar coordinates), and searches for the closest radio signal while the flight path is being calculated.

As complicated as the program is, the pilot provides only four items: Flight Option, Waypoint Interval (if DME used), Departure and Destination Coordinates. The calculated flight path is displayed on the computer's screen and optionally sent to a printer. Each waypoint of the flight contains the closest VORTAC code-name, radio frequency, radial, and distance from path. Each point also displays the magnetic compass bearing, nautical miles traveled, and miles left to complete.

The program comes in two versions. One fits within the 8K sized PET microcomputer that covers the three

Pacific States, Idaho, Nevada, and Arizona. A 16K version covers the Eleven Continental States west of the 102nd Meridian. Other versions covering the rest of the United States are being planned.

The 8K version costs \$25, and the 16K \$30. For more information, please contact: Briley Software, Box 2913, Livermore, CA 94550-0291, 415-455-9139.

IEEE Society Records Growth

Professor Tse-Yun Feng, Chairman of the 1981 Membership Committee reports that as of December 1981, the Computer Society of the Institute of Electrical and Electronic Engineers, Inc. (IEEE) recorded a total membership of 62,146. The Society, whose interests span all aspects of computers, was founded in 1952.

Compared with December 1980 figures, the Society gained a record 9,719 new members, an 18.5 percent growth rate for the year 1981.

Possible \$200 Million in Digital Audio Disks

The first new hi-fi components of the 1980's, digital audio disc players, are expected in the U.S. in late 1982 or early 1983. Using specially encoded discs, a system can produce an audio signal with extraordinary accuracy. For manufacturers and retailers, digital audio also holds out the promise of rejuvenated sales. According to a report just published by Venture Development Corporation, a Massachusetts consulting firm, sales of digital audio players to consumers will likely fall between \$170 and \$200 million by 1989.

Taking issue with some industry observers, VDC does not believe that the \$400 million level in annual sales will be reached in this decade. As discussed in the report, "Professional and Consumer Digital Audio Equipment: a Strategic Analysis," many key problems which will affect market development have not yet been resolved.

While the majority of high-end audio retailers indicate they will pioneer digital audio disc players, many interviewed by VDC do not expect sales to be overwhelming initially. As one audio specialist warned, "You know what happens to pioneers — the Indians shoot them full of arrows."

Looking forward to 1989, VDC notes several factors which will affect markets for consumer and professional digital audio equipment:

- the issue of standards
- Industry acceptance of the CBS compatible expansion (CX) system
- software availability
- new technology.

The standards question seems likely to be the most difficult to resolve. While the Sony/Philips compact disc format will be the first format introduced, it may not be the only one. There could be a replay of Beta versus VHS, if Matsushita moves to promote its own digital audio format. Venture Development's market scenarios indicate that a format struggle could have significant adverse impact on sales growth. Sales of professional digital audio equipment could also be adversely affected, since demand for digital discs would presumably be lower if there were a smaller installed base of digital audio players.

For more information, please contact: Ann M. Conway, Market Research Analyst, Venture Development Corporation, One Washington St., Wellesley, MA 02181, 617-237-5080.

About Faire Fees

At-the-door registration for the 7th Computer Faire is \$15. Groups or individuals purchasing batches of 10 or more may take advantage of a 33% savings — \$10 each, prepaid. (Up to 5 unused regs may be returned after the Faire for a \$10@ refund.)

Faire registration covers all three days. It includes access to the 600+ exhibits of the Trade Exhibition. It includes access to the 100+ speakers in the Conference Program. It includes an extensive Program book that provides valuable addresses and cross-referenced product listings. (It does not cover the several in-depth, half-day and full-day seminar programs.)

Compare: Admission to "Evita" cost \$14-\$28. Miles Davis cost \$10.50-\$30. Ameri-

can Ballet Theatre is \$8.50-\$32. "Chorus Line" is \$11.50-\$23.50. "Napoleon" (a movie) is \$7-\$30. None of these provide offer information value. All last about three hours; not three days. Many of them charge several dollars for a relatively useless Program.

Also: New management has taken over the San Francisco convention facilities. In the past, there was no surcharge on electrical or janitorial services. Now, there is a 15% surcharge on top of rates that increase annually. Additionally, last year, First Class postage was 15-cents. Now, it's 20-cents. And, S. F. hotel taxes have gone up to 9.75% (on top of annual room-rate increases).

I think it's called inflation.

Computers used at New York Marathon

The distant rhythms of computer technology were harnessed to the breathing of long distance runners last October 25 for the 8th running of the famed New York Marathon.

Computers did, in a way, hit the streets a few years ago with computer-aided designs for improved running shoes, and it was only a question of time before computers would directly impact the very clothes of the runners.

For the first time, the more than 16,000 runners from over 35 countries wore computer-generated bibs — complete with machine-readable bar codes and 3-inch high identification numbers.

Three high technology firms joined their products together to form the unique system. They were Printronix, Inc., Irvine, California, manufacturer of impact matrix line printers; Computer Identics, Westwood, Massachusetts, maker of bar code readers and scanning wands; and Quality Micro Systems, Mobile, Alabama, a leading systems house and producer of packages in "intelligent" microprocessor controller boards.

The race marked the first application in marathon history in which machine-readable bar codes were produced by computer-driven printers — on the spot.

Conference Session

Handicapped Preschoolers and Computers

"Communication is the vital ingredient in the success of the learning process," says David L. Craig of the College of Education at Texas Tech University. In his talk, "Electronic Interaction with the Preschool Handicapped Learner," Craig says that the microcomputer can be a useful tool for young handicapped children. "Any communication mode can be interfaced with or adapted to computers," says Craig.

"Available to the consumer are a variety of devices which sense and transmit messages from virtually any voluntary muscle movement," says Craig. "If no muscle movement consistent enough for any of these devices is found, it is possible to tap electrical

Bar code markings are familiar to all of us, most notably, perhaps, on just about every item on the supermarket shelves. The alternating black and white bars are designed to store, or code, large quantities of information in a small space. They are easily read by scanner wands, and can be quickly transmitted to waiting computers.

In the New York Marathon's application, the bar-coded area on the 8 x 10-inch runner's bib required no more space than a theater ticket to store individual runner information such as the entrant's special registration number, sex assigned class, and in 1,000 cases, the "seeding" number.

No other marathon in the U.S. has as many runners as does the New York Marathon. Bar codes have evolved as a storage medium for the variety of data tabulated during registration and completion.

Bar codes were also used in 1980, but in a less sophisticated manner. They were pre-printed at a New Hampshire printing company, shipped down to New York, and, during registration, hand-stapled to an entrant's previously numbered bib. It was a time consuming and expensive process.

The key to making bar codes work

energy from a muscle-connected electrode for the signal."

In his talk, which will be published in the *Proceedings of the 7th West Coast Computer Faire*, Craig will discuss what he calls the "critical components" of the acquisition of a language system adequate to communicate via electronic devices, and will outline "motivation strategies inherent in operating the microcomputer."

Craig will illustrate his program, which offers the following for at least 600 students: class lists, program summaries, individual data files, pupil counts, mailing labels, program titles and teachers files.



inexpensively and quickly was possible with the use of four 300-line-per-minute matrix impact line printers from Printronix. The P300's print overlapping individual dots so precisely that completely legible and easily recognized numbers, letters and lines are formed.

Last October's New York Marathon runners saw their bibs generated in six seconds, complete with bar coded information and numbers.

The "brains" of the printers were provided by QMS with a small 10 x 12-inch controller board that was mounted inside the printers. This board told the waiting printer that information was

being read to it via Computer Identics' scanner wand, and that each piece of information was to be printed in a specific location and in designated sizes onto the bib.

During the four days of registration, the four P300s generated more than 16,000 bibs — translating to a 2 x 2.5 mile area, or five square miles.

Perhaps the most poignant realization of just how fast and how far computer technology had come was when Noel Johnson crossed the finish line.

Johnson is 82 years old, and was running marathons when New York City barely had its traffic lights.

Micro Applications in Medicine

Original papers, and proposals for workshops and tutorials, are now being solicited for presentation at the Sixth Annual Symposium on Computer Applications in Medical Care which takes place October 30 through November 2 at the Sheraton Washington Hotel in Washington D.C. The deadline for submission is March 15.

The Symposium will inform physicians, health care administrators, biomedical scientists, engineers, and other health care professionals about current and potential applications of computer technology to health care and to identify areas of research and development that need to be addressed. Participation is solicited from the medical and computer science perspectives. Topic areas include medical applications, computer systems and techniques, and demonstrated benefits. Papers accepted will be reviewed and published in the *Proceedings of the Symposium*.

ceedings of the Symposium.

For further information, please contact the Symposium Program Chairman: Bruce I. Blum, Johns Hopkins University, Traylor 514, Baltimore, MD 21205, 301-955-8379; or SCAMC, Office of CME, 2300 K Street, N. W., Washington, D.C. 20037, 202-676-4285.

New HP-125 Software

Microcomputer Consultants has announced that its Business Software Series is now available for Hewlett-Packard's new desktop computer, the HP-125. The software is being distributed on both 8-inch and 5 1/4 inch diskettes.

For further information, please contact Microcomputer Consultants, Box T, Davis, CA. 95617; 916-756-8104.

EQUIPMENT FOR SALE

For Sale: any or all of 10 Soroc IQ-120 terminals, includes one topless model (chain-saw art — Jim didn't like the fan whirring in his bedroom, so provided other ventilation). All are currently in use by Faire gnomes. 415-851-7075 evenings (west coast time).

Any or all available: five 64K piiceon S-100 RAM boards, all "strapping" options DIP-switched, now in use. 415-851-7075 evenings (w.c.time).

Genuine 6th Computer Faire T-shirts. Mitch, P.O. Box 1688, Palo Alto, CA. 94301

May be available after March: Zenith (Heath) Z-89 including 64K, 5 1/4" drive, dual 18" Data Compass drives, CP/M and HDOS, misc. software pkgs. 415-851-7075 evenings.

May be available after March: California Computer Systems CCS-300 CP/M system including 64K, dual 8" drives, CP/M and Oasis. 415-851-7075 evenings(w.c. time)

CROMEMCO Z-2D(W)- with WANGCO floppy disk: 4FDC board: dual PERSCI 8" disks: 64KZ RAM: TU-ART Digital Interface: TVI 912 CRT: DIABLO DTC 300 printer w/keyboard: CROMEMCO ASM, FORT IV, 16K BASIC, DBMS, TEXT FORMATTER: CBASIC: QSORT: OSBORNE acct packages. call Doug (408) 425-7035.

Expected to be available in February: About ten 5MB CDC Hawk cartridges and five 15MB CDC Phoenix cartridges (used on Alpha Micro system), no longer needed for backup. 415-851-7075 evenings (w.c. time).

May be available after March: Teletype Model-40 chain printer, 132-columns, upper & lower case chain, floor-mount sound enclosure, printing 120,000 address labels at the time of this writing. 415-851-7075 evenings. (w.c. time)

Several (legal) KTS telephones available: these are the kind with the 6 buttons at the bottom, Touch-Tone "dials". Why rent when you can own? 415-851-7610.

May be available around June: King Kong type Alpha Micro system, over 1/3 MB of memory, twelve RS-232 ports, 6-platter 90MB CDC Phoenix drive, 2-platter 10MB CDC Hawk drive, 8" Wango dual floppy drive, Dravac encryption board, AMOS, Alpha Accounting Package (elderly), Syndex database system, miscellaneous other applications pkgs. The Faire's workhorse for several years. 415-851-7075 evenings (w.c. time)

Genuine antique PDP-8/I, 16K core, 4 DEC tape drives (TC-01, TU-55's), twin 6' racks, weighs under one ton, OS-8, Dibol, etc., \$2K to a good home (or even to a glue factory). 415-851-7075 evenings (w.c. time).

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Videoprint Photographic Hard Copy

As Computer Aided Design applications become more complex users frequently require hard copy of graphics generated in their computer systems. The Videoprint by Image Resource is a system which produces easy to use hard copy which displays the full color spectrum. The Videoprint can be an instant print, such as Polaroid, 35mm slides, or 4-inch x 5-inch prints.

Videoprint has been used in applications using Patran, a software system from PDA Engineering in Santa Ana, California. The graphics developed

by this software represents three dimensional figures and requires complex use of color in its representation. The software is being utilized on a DEC VS-11.

The Videoprint is a photographic hard copy system which solves problems associated with off-the-screen photography of the CRT. Videoprint produces a full-tone scale color, eliminates distortion, and produces raster-line free prints and slides. Because the output of the Videoprint System is not limited to the few colors used in printer/plotter hard copy, the subtleties of a complex structure

generated in Patran applications can be analyzed from the hard copy.

Patran software is used by designers to analyze the impact of environmental conditions on structures. These include thermo-dynamic analysis, laser instrumentation, and mechanical stress analysis. Designers using many graphics terminals (DEC, RAMTEK, Megatek, Tektronix, etc.) can generate Videoprints.

For more information, please contact: Image Resource, 2260 Townsgate Road, Westlake Village, CA 91361, 805-496-3317.

(continued from page 13)

MAKING THE BIENNIAL ELECTRONIC JOB-HOP EVEN EASIER

IEEE (the Institute of Electrical and Electronics Engineers) announced an interesting new member service — a "Professional Abstracts Registries". This is a computerized national employment information system. For more info, call 800-431-2616 (or 914-762-2522 in NY state).

QUALITY HAND-HOLDERS

We liked the Mariner so much, we got one for our own in-house use. Now, we could have taken a week or two and bumbled through the copious documentation to set it up. Instead, we took our own off-given advice, and chose the more sensible — and cost-effective — approach of having a knowledgeable systems house provide a hand-holder to install the unit and teach us about the ON-button and such things.

After watchin' 'em work, and seeing the manner in which they are supporting us, we are delighted to recommend them to other folks who prefer pleasure to pain in dealing with things technical: Our contact was Don Elmer, a knowledgeable computerizer and systems integrator who specializes in Micromation gear. His company is Computer Applications (Berkeley, 415-848-9110). He is also closely allied with a group of solar folks specializing in computer applications related to thermal engineering.

ALPHA HANDS

While we are ranting about unusually supportive technofolks, we must mention two unusually outstanding and knowledgeable Alpha Micro dealers — Alpha Information (Palo Alto) and Computer Alternatives (San Rafael). We have been running a large Alpha Micro system, in house, for several years, and were often less-than-enchanted with the manner in which the factory ignored its end-users.

What the manufacturer lacked, however, has been more than made up for by those two local Alpha dealers. When we needed help, they were there — including nights and weekends. When we had obtuse

(continued on page 21)

IEEE Tutorial Week in Europe

The IEEE Computer Society's highly successful Tutorial Week series, initiated three years ago in San Diego, is being exported to Europe. Organized in three tracks over five days and covering VLSI technology, computer graphics, software design and test, and local networks and office automation, Tutorial Week Europe 82 will be held this April 24-28 in Hanover, Germany, (concurrently with the Hanover Fair).

The 60,000-member Computer Society, by far the largest group within the 205,000-member Institute of Electrical and Electronics Engineers, already sponsors two such Tutorial Weeks in the U.S. — one in Orlando in March, the other in San Diego in December. The

keys to their popularity, according to Computer Society Tutorials' Chairman Joseph P. Fernandez of IBM San Jose Research, is their currency.

"Technology is moving at such a rapid pace," says Fernandez, "that schools are hard-pressed to keep up. And yet, the working computer engineer or software person must stay current. Our tutorials are given by practicing professionals, and they zero in on the fastest-moving areas of computer technology."

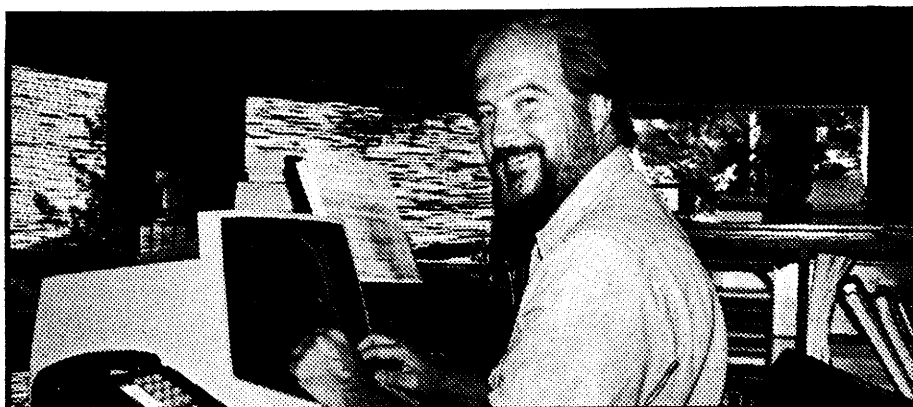
Track 1 consists of three days devoted to the topic of "Software Design Strategies," conducted by Glenn D. Bergland and Ronald D. Gordon of Bell Telephone Laboratories, followed by two days on "Software Testing and Validation" and "Automated Software Tools," conducted by Edward Miller of Software Research Associates.

Track 2 consists of a five-day sequence devoted to "Local Computer Networks and Office Automation," conducted by Kenneth J. Thurber and Harvey A. Freeman of Architecture Technology Corporation.

Track 3 begins with a three-day segment conducted by Rex Rice on the subject of "VLSI Design Technology," followed by two days on computer graphics, conducted by Kellogg S. Booth of the University of Waterloo.

All speakers, according to Fernandez, the principal coordinator of the event, have given similar presentations at previous Computer Society conferences in the U.S.

Registration fees for Tutorial Week Europe are \$140 per day for non-IEEE Computer Society members, \$125 for members. For program information write to Tutorial Week Europe, Box 639, Silver Springs, MD 20901.



The Computer Chronicles

The Computer Chronicles focus is personal computing; in a wide variety of applications, hardware and new technologies. Jim Warren, the Chronicles host, talks with leading designers, engineers and artists in the micro field.

Watch The Computer Chronicles on Channel 60 and on cable tv throughout the Bay Area.

Thursday 7:00 PM
Friday 9:30 AM
Saturday 5:30 PM

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Sixth Faire Prize Winners

Yox, Robert H
Vierra, Joe
Verdery, Doug
Thom, D
Southern, Derek L
Shuten, Wendy
Seelig, Frank M
Rhoades, David
Presshurger, Tom
Powers, John T Jr
Pinar, Daniel
Orsini, Greg
O'Reilly, James
Niemyer, Henry
Millan, J R
Mastainich, J
Main, Robert
Macmillan, D C
Latz, Richard
Lamb, Jim
Krueger, K
Kouzoujian, Seda
Johnson, Kathleen & Steve
Hosoda, Bryan
Hockabout, Kent & Sean
Hertzfeld, Andy
Hattison, Bonnie
Harp, R
Gutmou, R
Goggin, Jill
Glaser, Stan
Gibbs, Allison
Flores, Roger
Fleischman, Mary
Flanigan, Patrick V
Clark, Steve
Chodora, Chuck
Chinn, Frank
Cault, Robert
Carpenter, Margaret
Bucholtz, Tom
Beatrice, E S
Baumsteiger, Richard
Bascom, R
Barto, R
Barnes, John
Bardwell, Charles
Bancroft, Daniel
Baker, Linda

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Burlingame Ca 94010
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Santa Clara CA 95051
Atherton CA 94022
San Ramon CA 94583
Vacaville CA 95688
Alameda CA 94501
Cupertino CA 95014
Berkeley CA 94701
W. Lk Vlg CA 91361
San Francisco CA 94111
Los Altos CA 95031
Anaheim CA 92801
Sausalito CA 94965
Redwood Cty CA 94062
Olympia WA 98502
San Francisco CA 94116
San Jose CA 95125
San Jose CA 95120
San Francisco CA 94108
San Jose CA 95131
Albany CA 94706
Piedmont CA 94611
San Rafael CA 94903
San Francisco CA 94124
Samona CA 95476
Hayward CA 94545
Mill Valley CA 94941
Tracy CA 95376
San Francisco CA 94102
Mtn View CA 94042

(continued from page 20)

technical questions about obscure system innards, they could consistently answer them.

There are some computer dealers who are long on marketing and mouth, and all-too-short on technical ability and support — for which the computer naive must be most wary. Computer Alternatives and Alpha Information are competent at marketing, but — much more important — they have the in-house technical skill, parts inventory, and accessibility to provide the kind of support that is absolutely essential for business people who choose to remain competitive and efficient by computerizing.

GETTING OFF THOSE MAILING LISTS

The Post Office offers you some protection against sex-related junk mail, but there often seems to be no way to get off of all the rest of those junk mail lists.

Not so. Many of the lists are provided by mailing list companies that belong to the Direct Mail/Marketing Association. And DMMA maintains a "Mail Preference Names" list. We understand this is a list of names to whom junk mail is *not* to be sent.

BILLIONS

(A computer application, no doubt) The Mohawk Valley Section of the IEEE has pointed out that:

A billion seconds ago, we were in World War II, prior to the A-bomb.

A billion minutes ago, Christ was still around.

A billion hours ago (57,000 years), cave-men — and cavewomen — were praying to black obelisks from the sky.

But, a billion dollars ago (newspapers use that as a shorter version of \$1,000,000,000.00) was just yesterday in terms of 1981 U. S. government expenditures.

HELP!

We know there are professional slave ships that provide eternal data entry keyboarding services, and we need some of that service (e.g., we still have to enter some of the statistics from last year's 31,700+ Computer Faire attendees). But, we don't know where such services are. If you know of someone who is reputable and economical, please drop us a note.

WORTHY COMMENTS

Dave Gomberg, an ex-computer distributor and long-time computer pro recently said that a manufacturer's questions *should* be: "What's the right way to solve a problem?" then, "Can we afford to do it?", rather than merely, "How much does it cost?"

And, we don't care if it is saccharin: "The world should always be a little better because a man [person] has lived." — Lord Fauntroy's mother.

WORD MONGERING

This issue's award for outstanding (or is it outrageous?) word wrangling must go to The Calculating Lady Computer Services of Marina del Rey, California.

A lurid observer of the computer scene suggested that internal documentation must be for computer hackers (ug!).

YOUR VERY OWN PHONE SYSTEM

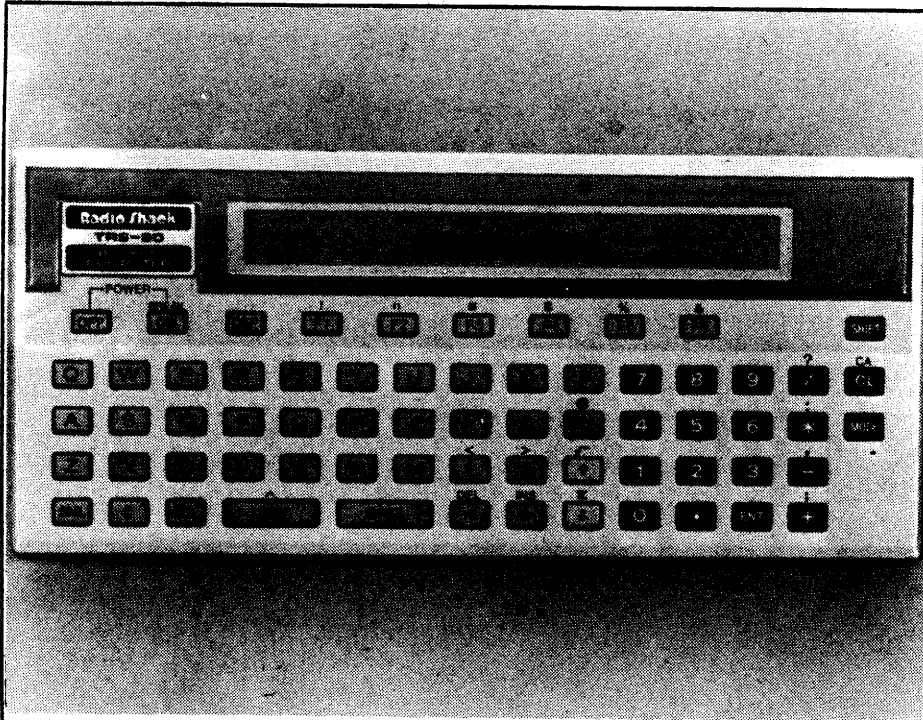
You do know, don't you, that you no longer have to eternally rent your phone gear from the local telecom monopoly? Among other things, we have run across a dandy 16-station microprocessor-based, 2-wire phone system from Mitel (a Canadian firm, also big in the semiconductor racket) for a very reasonable purchase price. They have bigger ones; they also have (or are about to have) very small systems appropriate for homes-with-teenagers. Our info source has been a highly helpful and unusually equitable dude named Jim Gallaway of Gallaway Enterprises (Redwood City, 415-367-1101).

HELPFUL HANDS FOLKS

We have found a very helpful group that provides hand-processing — e.g. envelope stuffing, stamping, hand labeling, etc. It's the Vet's Task Force operating through the VA Medical Center in Palo Alto (415-493-1413). They've been operating for well over a decade, offer fast-turnaround, well-done, carefully monitored work, are price-competitive with commercial firms . . . and provide financial support for a some folks worthy of the support. We recommend 'em.

TRY IT BEFORE YOU BUY IT

We hear that a Los Gatos mob named SoftLink, using a system called SoftLock, is (continued on page 23)



Radio Shack TRS-80 Portable Computer

Radio Shack, a division of Tandy Corporation, is demonstrating working models of a powerful new handheld portable computer. The new TRS-80 Pocket Computer Model PC-2 (26-3601) will be available soon for under \$300 at Radio Shack stores, Computer Centers and participating dealers. This new handheld computer offers advanced programming, operating and communications features that extend the reach of portable computing.

Among its features are its capability for internal expansion with plug-in RAM and/or ROM modules, and for external expansion through a 60-pin I/O bus connector. The PC-2 features a 16K (ROM) Extended BASIC language interpreter with the ability to process words and messages. Programmable function keys and an LCD display with upper-, lower-case, scientific and user-definable characters provide a human interface.

The TRS-80 Model PC-2 Pocket Computer's central processing unit is a high speed 8-bit custom CMOS microprocessor. The PC-2's built-in memory includes 16K of ROM and 2640 bytes of user memory. All memory information is retained even when power is off.

This 2640 byte internal memory can be expanded with plug-in modules to add up to 16K bytes of RAM, ROM or both combined. This extra memory capacity allows room for larger, more complex programs. A 4K RAM Expansion Module (26-3615) will be available by the middle of the year for \$69.95.

These advanced capabilities open up many application areas for the PC-2, including engineering, scientific and medical calculations; banking, credit, insurance, investment and financial applications; and more.

The TRS-80 Model PC-2 Pocket Computer features a 65-key "typewriter-layout" keyboard with both alphabetic keys and a ten-key numeric pad. In addition, there are six function keys programmable for 18 functions, 18 "soft keys" and 10 pre-programmed command keys. An 80-character input buffer and cursor command keys permit corrections within a line before entry.

The PC-2's fully-addressable 7 x 156 dot matrix liquid crystal display adds to its flexibility. It provides 26 upper- and lower-case alphabetic characters, plus numbers, graphics and special characters used in engineering, science and elsewhere. Automatic scrolling displays the most recent 26 characters to help keep operations clear; a manual "playback" mode is available for lines longer than the 26 displayed characters.

The TRS-80 Model PC-2 Pocket Computer Printer/Cassette Interface uses built-in rechargeable batteries; a U. L. listed AC adapter/charger is included. The Printer/Plotter/Interface powers the host PC-2 when they are connected to help lengthen the life of the PC-2's own batteries. The PC-2 automatically switches the printer on and off.

For more information, please contact: Radio Shack, 1800 One Tandy Center, Ft. Worth, TX 76102.

Conference Session

Simulation Training Research

Dr. Allen Munro of Behavioural Technology Laboratories at the University of Southern California has developed an inexpensive experimental or research on the kind of training for which simulators are typically used. He will give a talk, "Simulation Training Research with Microcomputer Systems," at the 7th West Coast Computer Faire.

"We draw a distinction between the teaching of knowledge systems and the training of dynamic skills," says Dr. Munro, "It cannot be assumed that those techniques which have been found to be effective for teaching knowledge systems will also be effective for teaching dynamic skills." Examples of dynamic

skills are vehicular control and observational and decision-making abilities.

The project has four goals: to find pedagogical principles for computer-based training of dynamic skills; to model the cognitive processes involved in the exercise of such skills; to study the acquisition of complex skills; and to study the consequences of voice I/O in simulation training.

Dr. Munro's talk, to be published in the *Proceedings of the 7th West Coast Computer Faire*, will detail the functions of such a computer-based pedagogical tool, as well as psychological and technical issues which arise from its implementation.

R&D Partnerships and Software Development

"Research and development (R&D) limited partnerships for the development of software and other computer technology are a direct answer to the businessman's need for capital," says Attorney Fred Greguras of Omaha, Nebraska.

In his Faire talk, "Raising Capital for the Development of Software and Other Computer Technology Using R&D Partnerships," Greguras will explore the use of R&D limited partnerships in developing technology-based products. These partnerships can be important alternatives to the use of tax credits, says the attorney.

"An R&D limited partnership can provide a means of financing the development of technology, of shifting the risk of development and the capitalization of a business activity without giving up control in the overall business enterprise," says Greguras. His talk will be published in the *Proceedings of the 7th West Coast Computer Faire*.

Cookbook on a Computer Disk

The Computerized Shopper has announced the publication of the first completely automated cookbook. "Dinner on a Disk" contains over 100 full screen "pages" of proven recipes.

Published directly on a 5-inch diskette, "Dinner on a Disk" requires no technical training or knowledge. Just insert in your disk drive, boot up and pick a category. The computer will show one recipe after another each time you press Return.

No data input is necessary! These recipes, collected over a 27 year period, are already on the disk and ready to be displayed.

"Dinner on a Disk," is available now for TRS-80 and Apple users for \$14.95 with a CP/M disk available soon. For more information, please contact The Computerized Shopper, 3545 El Camino Real, Palo Alto, CA 94306, 415-856-7467.

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Around the World in a Gridapple

Computerized map-making and plotting packages have been in widespread use for almost a decade, and have often been available only on large-scale, expensive computers. In his Faire talk, "A MicroComputer-Based Geographic Information System," Benjamin Pierce introduces Gridapple, a geographic data processing package.

"Customized for the Apple microcomputer, Gridapple is intended as a low-cost alternative which retains all the essential features needed to digitize and edit maps, perform various types of analyses, and generate several forms of high-quality output," says Pierce.

Pierce will describe the design and implementation of Gridapple, the history of the GIS field, and the problems and delights of seeing the world by computer. Pierce's talk will be published in the *Proceedings of the 7th West Coast Computer Faire*, available at the March show.

Bionic Word Processing

Bradley C. Stewart of the Covox Company says he has "a novel and useful method of processing human speech for machine interpretation." This method is based on the Covox Analog Processor, a Bionic analog processor which extracts the fundamental cues of speech.

"These slowly varying cues reveal those specific features of speech sounds which are associated with intelligibility. And it does so in an optimum noise resistant manner," Stewart says.

In his 7th West Coast Computer Faire presentation, Stewart will discuss the shortcomings of conventional human speech processing, spectral analysis, human speech cues, and applications. The Covox Co., of Santa Maria, California, markets a speaker independent voice commander for use in industrial applications.

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Preschoolers' Visual Discrimination

For the last two years, the Department of Obstetrics and Gynecology of the University of Tennessee at Memphis has been implementing software systems designed to handle a range of functions particular to the academic medical environment. Dr. Thomas Abdella, in "Microcomputer Applications in Academic Medicine," will discuss his department's search for greater efficiency.

Among the uses to which they put their system is test grading, which, Abdella says, "is clearly an improvement over the manual methods and it is faster and more flexible than the university test-scoring service." His department

also uses graphics generation programs for such projects as the production of 35mm transparencies used in presentations and lectures.

One of the most useful (and most difficult to implement) projects was the clinical database management system. Abdella attributes the difficulties to "the inadequacies and unreliability of the available commercial software" but notes that "in spite of the initial difficulties it has turned out to be the single most important function of our microcomputer project." Dr. Abdella's paper will be published in the *Proceedings of the 7th West Coast Computer Faire*, available at the show in March.

Stock-Market Software Review

"Stock-Market software to support the small investor on his desktop computer is a new product — even on the short-term timescale of computer technology," says R. E. Packer.

Packer's 7th Faire talk, "Which Stock-Market Software?" will present software for the small investor by division into four levels, with example packages described. Levels covered will include: straightforward accounting programs; building and managing a database of stock quotes and information; timing transactions; and total portfolio management.

Best of the Computer Faires

Conference Proceedings of the

West Coast Computer Faires

(1)

THE BEST OF THE COMPUTER FAIRES, VOLUME I Conference Proceedings of the 1st West Coast Computer Faire

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Computer Art Systems	2
Music & Computers	46
Electronic Mail	5
Computer Networking for Everyone	14
Personal Computers for Education	38
Residential Energy & Computers	2
Computers & Systems for Very Small Business	4
Entrepreneurs	6
Speech Recognition & Speech Synthesis by Home Computers	14
Tutorials on Software Systems Design	11
Implementation of Software Systems & Modules	14
High Level Languages for Home Computers	15
Multi Tasking on Home Computers	9
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Micro Peripherals	16
Amateur Radio & Microcomputing	15

BULK ORDERS

Computer Faire proceedings may be ordered in bulk quantities at a discount. For complete details, write or phone Computer Faire, 333 Swett Road, Woodside CA 94062, (415) 851-7075.

(5)

THE BEST OF THE COMPUTER FAIRES, VOLUME V Conference Proceedings of the 5th West Coast Computer Faire

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(continued from page 21)

now offering access to proprietary software via a SoftRack — a retailer's rack containing about 15 different software packages. E.g., Spell Binder, MicroPlan, SuperCalc, Roots/M, etc., including mailing list, accounting, and general ledger packages.

Here's what's different about it. In the past, you had to accept a brief demo of a proprietary software package at a retailer's site, or else purchase it for the full price and hope it would meet your needs. Now, you can pay only a fraction of the full price and get a complete software system that interests you. It is encrypted (by a "heavy" encryption technique rumored to be in use by the CIA) to limit it to work only with a few demonstration files.

Then, in the privacy of your own home — or office — you can experiment to your heart's delight and become familiar with the system's capabilities (and limitations). If you decide you like the system after using it as much as you wish on your own installation, you can pay the dealer the balance of the full price of the software, and get a "key" that unlocks the system you were using so it has the full file access of the original proprietary package.

If you decide the software doesn't meet your needs, or isn't what you thought it was, after all, then you have only spent a fraction of the full price of the system. (These tidbits furnished by Friend Mitch Strucinski.)

A HEALTHY JOB

The National Library of Medicine, a N. I. H. facility in beautiful downtown Maryland, is looking for a Director who can provide the "leadership and scientific excellence necessary for the position." It pays \$54K-\$61K. For details, call Ms. Graves (301-496-4943).

THE PUB GLUT GROWS

Since there is such a dirth of periodicals about microcomputing, several more are starting up.

Dave Bunnell and Jim Edlin are starting *P. C.*, a slick mag addressing the IBM personal computer (1526 Irving, S. F. 94122). To put it mildly, it's goin' wild!

Dave entered this racket as a tech writer for MITS, back before MITS invented the Altair. He later became the Publisher of *Personal Computing* for Benwill Publishers for a while, then saw the nature of technir-

vanna and moved to the Bay area. Jim started as a very potent marketing and p.r. guy who, we believe, was the main reason for the success of the first micro show in Chicago, for which he did the promo. He, also, saw the etching on the techwall and moved to the B'area. Dave was writing for Osborne until becoming publisher of *P. C.* Jim was doing all sorts o' things including writing a market-observer column for *InfoWorld* until becoming *P. C.*'s editor.

We hear rumors — but no specifics — that there are at least two other IBMish rags also rushing to start up.

For business folks who have already gotten a computer and may now be trying to figure out what to do with it, Henry Sacks is starting *Business Computing Systems*, a controlled circulation (= free) mag with the first issue coming in September. Henry is the founder of the old *Mini Micro Systems* and almost unique among computer/electronics publishers in that he came in through the technical editor route, rather than being an ad sales type/hype. He is doing this new rag under the auspices of Cahners Publishing, the largest publisher in the world having several hundred magazines to its name. (221 Columbus, Boston 02116).

A LAST PASS THROUGH THE PILE-FILE

If you're into secret codes and encryption (and decryption), you might take a look at *Cryptologia*, a subscription journal edited by Brian Winkel, Rose-Hulman Institute of Technology, Terre Haute, IN 47803.

You did know, didn't you, that *Byte*, the largest magazine addressing microcomputing, is now printing 260,000 copies per issue?

Also, we received a dandy bimonthly tabloid newspaper called *Consulting Opportunities Journal* out of Washington, D.C. (202-296-0436). The 28-pager we got was loaded with information useful to consultant types, ranging from tax hints, to promotion suggestions, to consulting opportunities.

And, we have a letter dated last summer, sayin' that International Robot Events Limited (415-431-1677) is gonna hold the First International Robot Exhibition in San Francisco's California Academy of Sciences in the summer of 1982, a 3,500 square-foot exhibition that sounds like fun. (comparison: the Computer Faire occupies about 120,000 sq.ft.)

IBM to Publish Programs

Computer program authors who write applications for the IBM Personal Computer may have them considered for publication by the company's Personal Computer Software Publishing Department.

IBM employees and external authors — from professional programmers to hobbyists — can submit programs for consideration.

The department was formed to ensure that IBM Personal Computer users will have a continually expanding library of quality applications. It will complement software marketed by independent software firms and will provide an opportunity for authors to have their programs published by IBM.

Software submission information packets provide additional information and submission instructions and are needed by authors before they submit programs to IBM. Packets can be obtained from: IBM Personal Computer Software Submissions, Dept. 765, Armonk, N. Y. 10504.

A full day of speakers on Educational & Preschool Computing will make presentations on Saturday at the Faire.

FOG (the First Osborne Group) will meet at the Faire to trade ideas and experience.

First Meeting on Micros in OB/GYN

The first computer conference sponsored by the American College of Obstetricians and Gynecologists for member education; pertaining to mini and micro computer tools to assist in better patient care, will be held in San Francisco's Fairmont Hotel, March 18th & 19th, the Thursday and Friday of the 7th Computer Faire weekend. For further information, call 202-638-5577.

Construction Software Directory

Contractors now have a single source reference to locate software written specifically for construction.

Construction Computer Applications Directory (CCAD) contains listings of over 1000 software programs for construction contractors produced by over 150 vendors. These include products for microcomputers, minicomputers and mainframes.

Also included in the Directory are two yearly updates, listings of construction consultants and a special section entitled "A Software/Hardware Evaluator for Construction Users" by Larry True of Demand Construction Services, Inc.

For more information, please write or call: Construction Industry Press, 1105-F Spring St., Dept D., Silver Springs, MD 20910, 301-589-4884.

12th Computer Science Institute

Thirteen intensive computer short courses will be presented by an outstanding faculty under the direction of Professor Ira Pohl, University of California, Santa Cruz. The courses are designed to give students an immediately useful increment of knowledge and skill.

Here is a list of those offerings:

COMPUTER GRAPHICS

Kellogg Booth and Brian Barsky July 12 - 16. \$750

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Gio Wiederhol July 12 - 16. \$750

INTRODUCTION TO LOCAL AREA NETWORKS

Charlie Bass and John Davidson July 19 - 23. \$750

MODERN PROGRAMMING METHODOLOGY

Gary Levin July 1 - 23. \$750

AN INRODUCTION TO ADA

David Watt July 26 - 30. \$750

DATA MODELLING AND DATA BASE CONCEPTS

T. William Olle July 26 - 30 \$750

DISTRIBUTED SYSTEMS

Alfred Spector August 2 - 6 \$750

ARTIFICIAL INTELLIGENCE: THEORY AND APPLICATIONS

Nils Nilsson August 2 - 6 \$750

OPERATING SYSTEMS

Alan Shaw August 9 - 13 \$750

COMPUTER SYSTEMS ARCHITECTURE

Jean-Loup Baer August 16 - 20 \$750

ADA PROGRAMMING METHODOLOGY

Peter Wegner and Dan Berry August 16 - 20 \$750

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Gary Linstrom August 23 - 27 \$750

THE DESIGN AND IMPLEMENTATION OF COMPILERS AND INTERPRETERS

Robert Russell August 23 - 27 \$750

A brochure giving details of the courses will be available by April. For a copy of this brochure or for further information, please write to Anne Earl, University of California Extension, Santa Cruz, CA 95064, or phone 408-429-4534.

Conference Session

French Microcomputer Industry

J. P. Lamoitier, of SYBEX, Inc. in Berkeley, California, will speak at the 7th West Coast Computer Faire on "The Microcomputer Industry in France." In his talk, to be published in the *Proceedings* of the Faire, available at the show, Lamoitier will discuss each of the three areas of hardware and systems and applications software for both 8- and 16-bit microcomputers.

Conventional applications software presents some problems to the French, according to Lamoitier, with the exception of general purpose products, such as word processors. "American commercial applications software is not compatible with the French market because the business needs and situations are not the same," says Lamoitier.

Lamoitier says, summing up the situation, that "present circumstances are not favorable for the development of a microcomputer industry in France, so the importers still have a bright future ahead of them."

Conference Session

Medical Imaging with Micros

The minicomputer has given way to the microcomputer, at least in Dr. Michael Richardson's field. Dr. Richardson, who will speak at the 7th West Coast Computer Faire, says digital image analysis is now available to the physician with a personal microcomputer. "I feel that microcomputers such as the Apple II are capable of digitizing, displaying, and manipulating medically useful images", says Richardson.

The problem with small personal computers, he says, is that they can't display true gray scale graphics. "Medical images, on the other hand, usually contain many subtle shades of gray", Dr. Richardson says. In his illustrated talk, which will be published in the *Proceedings of the 7th West Coast Computer Faire*, Richardson will detail a remedy for the gray scale problem known as "dithering".

The physician will also discuss hardware and software options he found useful in making and displaying the images.

* S P S *

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