

--- FREE ---

SILICON GULCH GAZETTE



ALL OF THE NEWS ABOUT THE

2ND WEST COAST COMPUTER FAIRE IN SAN JOSE, CALIFORNIA

March 3 - 4 - 5, 1978

9am-6pm 9am-6pm Noon-5pm

VOLUME 2, NUMBER 1

COMPUTER FAIRE, BOX 1579, PALO ALTO CA 94302

DECEMBER, 1977

Rumors Mongered Here

FACTS & FANTASY FROM THE SILICON GULCH RUMOR MILL

Jim Warren, Computer Faire Chairbeing

One of the more entertaining features of working seven days a week on various personal computing projects is the incredible collection of random data that crosses my desk. If information leaked from the military establishment as readily as it does from the electronics industry, the "Pentagon Papers" would never have been kept secret for as long as they were.

Anyway, I would like to go through the "pile file" of facts and rumors collected in recent weeks, and offer them for your entertainment:

THE MEDIUM is a phone-in, have-and-want, matching service in San Francisco. Essentially, it uses the telephone as a want-ad exchange medium. If you have something to offer, you can phone in and have it listed. If you want something, you can call and ask where to get it.

Right now, the files are maintained on 5x8 cards, however, Seth Russell, the creator and operator of this service is looking forward to placing the entire system on a computer -- a personal one, of course. Additionally, since Seth has a personal interest in technology for people, he is about to institute a special information exchange category in The Medium called, "The Technico-Phreæque."

Incidentally, The Medium maintains two files -- one is an item file; the other is a personal file, implemented by indirect pointers and privacy "locks" that assist in Seth's maintaining confidentiality of personal data.

The Medium may be reached -- noon to 6 p.m. -- at (415) 431-0945. It's located at 3942 - 17th St., San Francisco CA 94114.

SELECTRIC TERMINALS FOR \$475 are available from Newman Computer Exchange. Chuck Newman was telling me that he managed to pick up a bunch of 'em, including units that have RS-232 interfaces, 10-pitch machines and 12-pitch machines, and 6 or 8 lines/inch. They include a 90-day parts warranty, and documentation is available for an additional \$25. The \$475 price is for used machines in good working condition. For \$675, you can get a fully reconditioned machine.

Newman is one of the largest computer equipment exchanges in the U.S., and one that I can recommend without hesitation. They are located at 1250 N. Main St., P. O. Box 8610, Ann Arbor MI 48107; (313) 994-3200.

IT'S NOT ENOUGH that George Morrow dreams up a dandy company name like "Morrow's Micro-Stuff". Now, he has his finger in a new company named "Thinker Toys." And, of course, where else would such a sophisticated organization be located than in Berkeley, California (1201 - 10 St, 94710; (415) 527-7548).

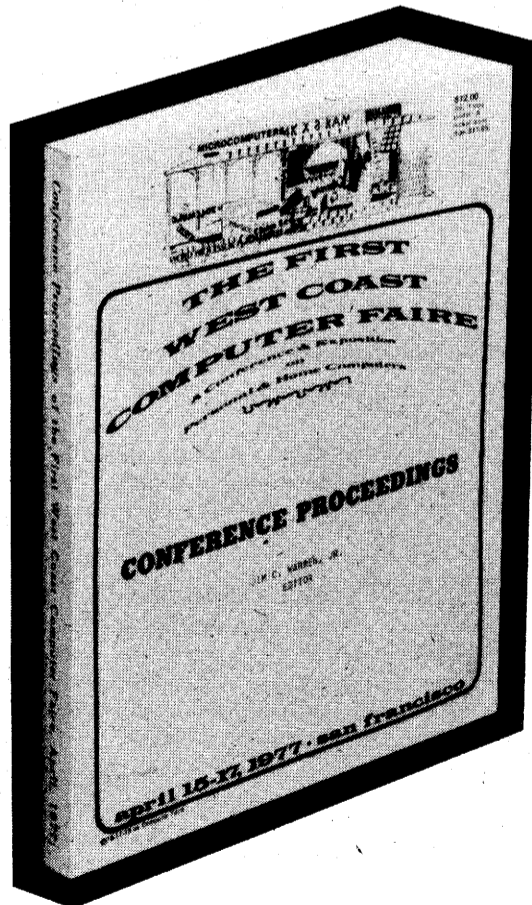
It's even worse than I thought. I just talked to George and found out that Thinker Toys is intended to be a sorta co-op marketing organization for several hardware and software suppliers. Including "Soft Core," a software house that produces a system called

(please continue on page 10)

FIRST COMPUTER FAIRE CONFERENCE PROCEEDINGS NOW AVAILABLE

The *Conference Proceedings of the First West Coast Computer Faire* has finally been published. Containing over 330 pages of abstracts, tutorials and technical talks presented by more than 90 speakers at the First Faire, this publication is of historical as well as technical value in the computer field: This is the first time the papers from a major conference exclusively devoted to home and hobby computing have ever been gathered together and published.

The papers and abstracts are grouped under 25 different Section headings, ranging from the Friday and Saturday banquet Speeches, and Tutorials for the Computer Novice, through Computer Art Systems, and Music & Computers, to Bus & Interface Standards, and Tutorials on Software Systems Design. These include presentations by such well-known figures as science fiction author Frederik Pohl, Professor John McCarthy -- the Director of Stanford's Artificial Intelligence Project, Carl Helmers -- the Editor-in-Chief of *Byte* Publications, and John Chowning -- the Director of the Computer Music Project at Stanford University.



HOW TO OBTAIN A COPY:

Copies of the *Proceedings* may be purchased in most retail computer stores, or may be ordered directly from the Computer Faire, Box 1579, Palo Alto CA 94302. When ordering direct, payment must accompany the order -- \$12.68 outside of California, \$13.40 for orders shipped to California addresses. This payment includes shipping and handling charges, and tax where applicable. Copies are in stock and will be shipped by UPS or parcel post within one week of receipt of order and payment.

PERSONAL COMPUTING FOR YOU

Dr. Charles F. Douds, DePaul University, Chicago IL 60604
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Winnetka IL 60093

No longer do you have to be intimidated by those super-giant computers. Time sharing costs can be a thing of the past. The TV set need not mesmerize your children. You can be the master of your own personal computer!

You can have a personal computer system today for about the same cost as a good Hi-Fi system. It can be used in a small business, in research, or simply for your own enjoyment. Only your imagination will limit the possibilities, for in addition to computation, microcomputer systems can communicate over phone lines to other computers large or small, can access data bases available on timesharing networks, can control security systems, TV cameras, generate music or visual art.

Interested? Want to learn more? Hopefully you will begin by experiencing a microcomputer in operation. A good place to do this is at a computer store. There are now over 300 in the USA. Or visit a club. There are over 150. The computer hobby magazines publish lists.

Then acquire some familiarity with the field, its language and its products. There are now
(please continue on page 8)

CONFERENCE SESSIONS JAMMED AT THE FIRST FAIRE

One expects the exhibits to be crowded at a computer show, and the technical sessions varying from full-houses for popular subjects to speakers talking to themselves about other subjects. Not so at the First West Coast Computer Faire's sessions. They were practically all jammed. There seems to be two reasons for this: the intrinsic interest of many of the topics being presented, and the attendees genuine interest in personal computers.

The attendance at the sessions makes it obvious that the attendees were there because they wanted to learn and to share their knowledge. At the "big computer" conferences, a lot of faces show ennui, they're there because their company sent them. At the Faire, however, some faces showed exhaustion, but nobody seemed bored.

As the contents of the *Conference Proceedings* indicates (see pages 4 and 5), the overall quality of the talks were quite high. Some of the presentations were not up to their title, but that is to be expected. Papers are only refereed for their content, not their author's stage presence. On the other hand, there were many speakers who were more than informative and who were as witty and entertaining as they were knowledgeable.



AN INVITATION TO SPEAK AT THE 2nd WEST COAST COMPUTER FAIRE

If you are an amateur or professional working in the areas of home, personal, or hobby computing, you are encouraged to present a progress report on your work (or play) at the Second West Coast Computer Faire, to be held in San Jose, California -- in the middle of "Silicon Valley", at the southern end of the San Francisco Peninsula -- March 3-5, 1978.

This is expected to be one of the largest conventions held in 1978 to be exclusively devoted to home and hobby computing. It is an ideal opportunity to gain exposure for your work, obtain feedback and additional ideas, and also have the opportunity to meet with almost every other leader in this rapidly changing computer subculture.

The Conference Program at the First West Coast Computer Faire, held last April in San Francisco, was the largest and most comprehensive such program ever held. Over 100 speakers and panelists discussed an extremely broad range of personal computing topics (see pages 4 & 5 for a listing of most of the papers that were presented).

It should be noted that the speakers varied from internationally-known computer scientists through rank computer amateurs with less than a year's experience in this new field -- all of whom had valuable comments to offer. "The old are never too old to learn; the young, never too young to teach."

Those interested in speaking should contact Jim Warren, the Computer Faire Chairbeing, *immediately*.

HOW TO PROPOSE A TALK:

Please forward a brief abstract of your proposed presentation, as soon as possible. This abstract may be as short as one paragraph, and should certainly not exceed one page. It simply outlines what you wish to present.

You will receive either an author's kit including detailed instructions regarding the format in which you are to submit your paper, or notification that the talk you proposed would not be appropriate for the Computer Faire. Such notification will be sent within one week of the Faire's receipt of your



abstract. Most proposals may be expected to be accepted. Any proposals that are rejected will have been reviewed by the Conference Program Committee prior to rejection. Rejections will not be the action of any single individual.

For your talk to be scheduled in the Second Faire's Conference Program, you MUST submit a full-text paper covering your presentation, appropriate for publication in the Conference Proceedings of the Second West Coast Computer Faire. In that way, your presentation will be available to those who are unable to attend your talk or the Faire, as well as being published for later reference and review by those who do attend your talk. This paper must be prepared in the format specified in the author's instructions, and submitted as camera-ready copy by the deadline indicated below. And, of course, the Conference Program Committee reserves the right to reject any paper that is submitted, if the Committee finds it to be inappropriate for the Faire's Conference Program.

REVISED DEADLINES FOR SPEAKERS:

Publicity prepared earlier for some of the major national magazines indicated that the deadline for abstracts was December 15th, and for full-text, camera-ready papers was January 2nd. After considering the reality of the December holiday, and recognizing that not everyone may be as fanatically dedicated to this field as the Faire's leaders, these deadlines have been revised:

Title & brief abstract

January 2nd (preferably earlier)

Full-text, camera-ready paper in specified format

January 16th -- ABSOLUTE DEADLINE!

These deadlines are the latest possible that will give sufficient time to publish the *Proceedings* and have them available at the Second Faire. A complimentary copy of the *Proceedings* will be given to each of the authors of the accepted papers.

Highlights of the Proceedings

SHARING YOUR COMPUTER HOBBY WITH THE KIDS

How to present computers to kids? Liza Loop discussed tested methods in her paper at last April's Computer Faire. How to contact a school. Liza suggested the contacts. What image the computer should project? Liza outlined an appropriate project.

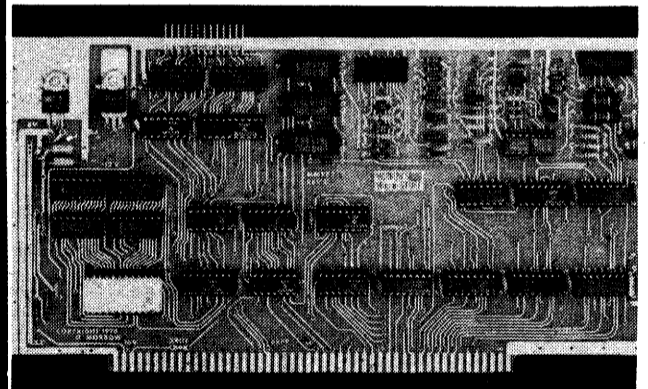
The talk, given in the Personal Computers & Education Conference Section, looked into the why's, how's, and what's of bringing computers meaningfully to kids. Not to give too much away but just a few hints from her paper: The TTY may be more fascinating than the CPU. Save games for *after* they've done their work; you'll never get their attention back. *Wait* for questions, and respond to them before proceeding.

Liza Loop is the founder and President of LO*OP Center in Cotati, California. Her full-text paper is one of the 90+ papers and abstracts contained in the *Conference Proceedings of the First West Coast Computer Faire*.

MORROW'S MICRO-STUFF INCLUDES A COMBINED CASSETTE INTERFACE - I/O BOARD

Fully compatible with the S-100 bus and Kansas City standard data format, this board links your computer to three inexpensive audio cassette machines for mass memory applications (including sort and merge operations). A serial port allows simultaneous communication with a Teletype incorporating reader control, as well as any RS-232 serial device (such as Modem or video terminal); a general purpose, 8 bit parallel port with handshaking signals accommodates such devices as an ASCII keyboard or tape reader. The board carries firmware in 1/2 Kbyte of p-ROM, which stores all routines needed for cassette interfacing, UART simulation, and data transfer between the microcomputer's memory and the 1/2 Kbyte of onboard RAM.

Buffers isolate internal data paths from the bus; onboard regulation simplifies power requirements. Available both in kit form (\$120) and assembled/tested/warranted (\$165) by mail or from many computer stores. Includes documentation. Available from stock.



PILOT INTERPRETER IN RE-ENTRANT FORTRAN II

EDUTECH Project has just released a Stand-Alone PILOT Interpreter/Editor System for mini-computer systems with a FORTRAN II (or higher) level compiler.

The System is written in mini-computer compatible FORTRAN II. The FORTRAN code is upward compatible to FORTRAN IV and FORTRAN V. There are no 'programming tricks' or non-standard code.

The System consists of an EDITOR, INTERPRETOR/EXECUTOR, and LIBRARY FILE facility.

The standard PILOT instructions are implemented as per PILOT73.

PI/ES is written in re-entrant code such that it may be easily adapted to multi-user time-sharing environments.

The System is currently up and running on a UNIVAC 70/7.

The PI/ES resource is being offered to PILOT Exchange members on a per installation basis.

Interested parties are urged to contact: Don Black, Edutech Project, PO Box 1023, Encinitas CA 92024, (714) 729-9095.

Please include a description of your system and application in order that we may make a more accurate analysis of your requirements.

SILICON GULCH GAZETTE

The Computer Faire
Box 1579
Palo Alto CA 94302
(415) 851-7664

Jim C. Warren, Jr.
Jef Raskin
Bob Reiling
Catherine Miya
Hans McClutchen
Flannigan, Brannigan & Shenanigan

Chaircreature
Secondary Word Monger
Operations Manipulator
Fastest Draw in the Gulch
wild Game Editor
Solicitors

1978
March 3-5
9am-6pm 9am-6pm Noon-5pm

SPEAK!

AT THE

SECOND WEST COAST COMPUTER FAIRE

A Conference & Exposition
on
Personal & Home Computers

Convention Center
San Jose, California

- Tutorial Talk about our Tantalizing Thinkertoys
- Comprehensively Comment on your Complex Computer Calisthenics
- Describe Daring Digital Deeds

CHOOSE YOUR OWN TOPIC(S)

Topics at the FIRST West Coast Computer Faire included:

<ul style="list-style-type: none"> † Tutorials for the Computer Novice † People & Computers † Human Aspects of System Design † Personal Computers for the Physically Disabled † Legal Aspects of Personal Computing † Amateur Artificial Intelligence † Computer Art Systems † Music & Computers † Electronic Mail † Computer Networking for Everyone † Personal Computers for Education † Amateur Radio & Computers 	<ul style="list-style-type: none"> † Residential Energy & Computers † Computers & Systems for Very Small Businesses † Entrepreneurs † Speech Recognition & Speech Synthesis by Home Computer † Tutorials on Software Systems Design † Implementation of Software Systems & Modules † High-Level Languages for Home Computers † Multi-Tasking on Home Computers † Homebrew Hardware † Bus & Interface Standards † Microprogrammable Microprocessors for Hobbyists † Commercial Hardware
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NOTE: The *Conference Proceedings of the First West Coast Computer Faire* carries over 320 pages of these tutorials & technical presentations, many discussing the state-of-the-art in home & hobby computing. The *Proceedings* is immediately available from Computer Faire (within California, \$13.40; outside California, \$12.68; foreign, please write for rates-payment must accompany order), or from your local computer store (a dastardly dis-service to you if it's not!).

FOR YOUR TALK TO BE PUBLISHED

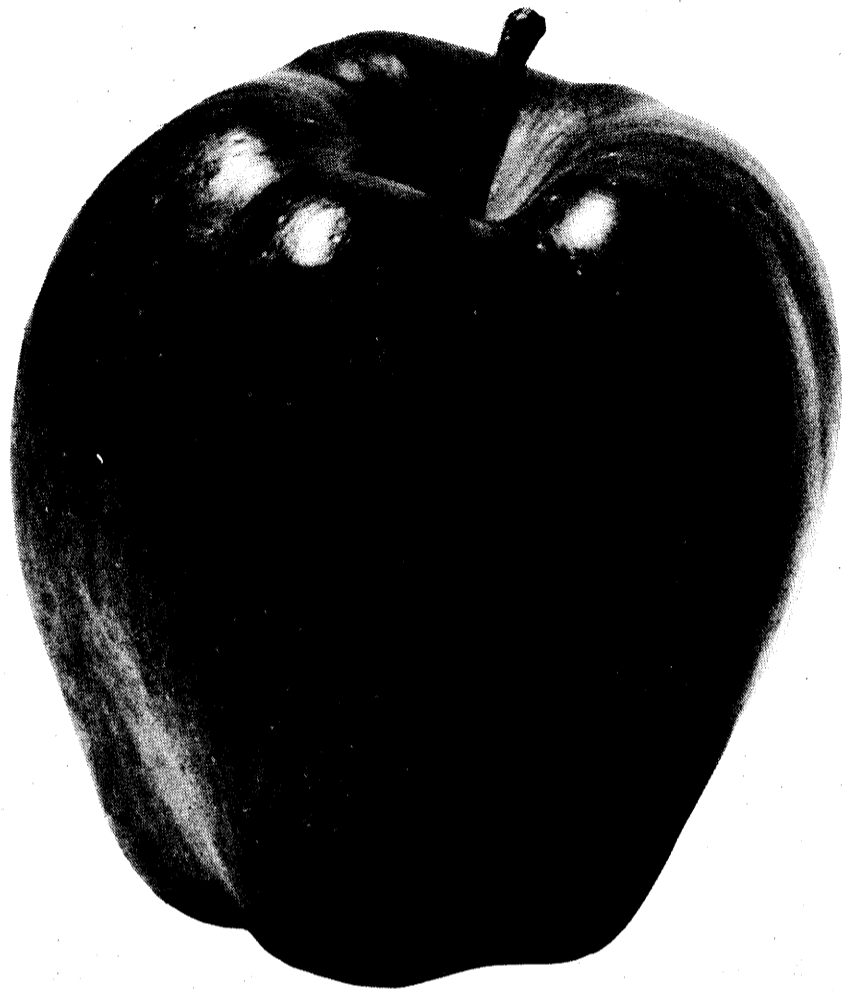
in the *Proceedings of the SECOND West Coast Computer Faire*,
which will be available at the Faire,

abstracts & camera-ready papers will be needed.

CALL or WRITE:

† Tell us your topic
→ † Request Speakers' Instructions ←
Deadline for submitting title & brief abstract of your talk(s): 1978 Jan 2
← Deadline for submitting camera-ready, full-text paper in specified format: 1978 Jan 16 →

COMPUTER FAIRE
BOX 1579, PALO ALTO CA 94302
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**Visit Apple at the
second and third
West Coast Computer Faires.
We'll be there.**

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Highlights of the Proceedings

TUTORIAL ARTICLES FOR NOVICES

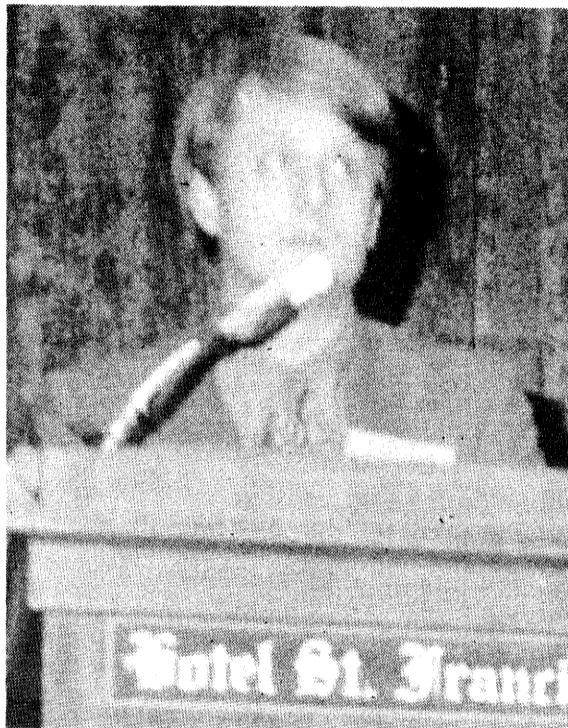
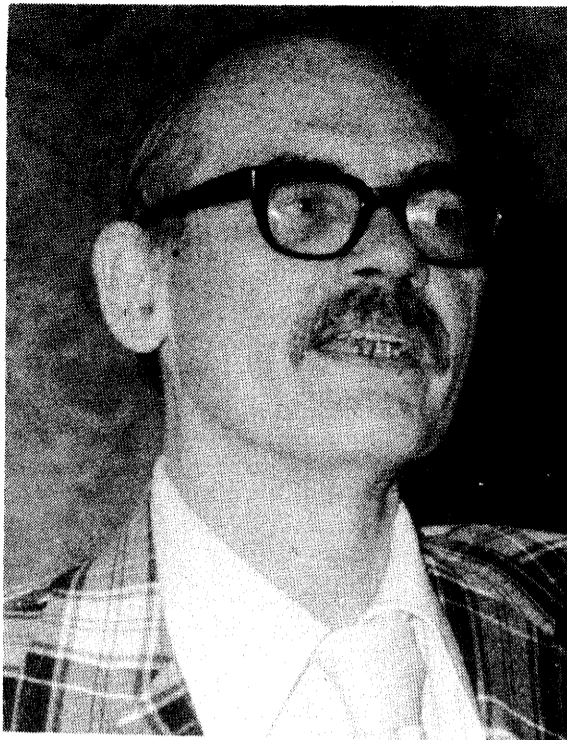
The articles in the Proceedings of the First West Coast Computer Faire aren't all for experts. One section of the book is aimed at rank beginners. It even includes an article that lets you in on the major buzzwords. (At least you can sound like you know what is going on.)

An article by R.J. Nelson goes into the more computery aspects of the advanced programmable calculators. Especially interesting is his bibliography of sources for "inside" information on calculator abilities even the manufacturers aren't aware of.

CHAIR A CONFERENCE SECTION AT THE 2nd COMPUTER FAIRE

Interested in a particular topic in the realm of personal and home computing? Why not organize a Section or a Panel group on the topic for the Conference Program of the Second West Coast Computer Faire? It will give you the opportunity to put together exactly the set of speakers you would like to hear. It will give you an opportunity to meet with them and exchange ideas with them. It will give you the opportunity to share your special interest with the 10,000-15,000 others who are expected to attend the Second Faire.

You do not need to be an expert in the area in which you are interested. As the Chairperson for a Section or Panel, you need only be interested in the topic, and willing to accept the responsibility for organizing the group. Assistance and suggestions will be readily available from the Computer Faire leaders. Why not make the Computer Faire your Computer Faire?



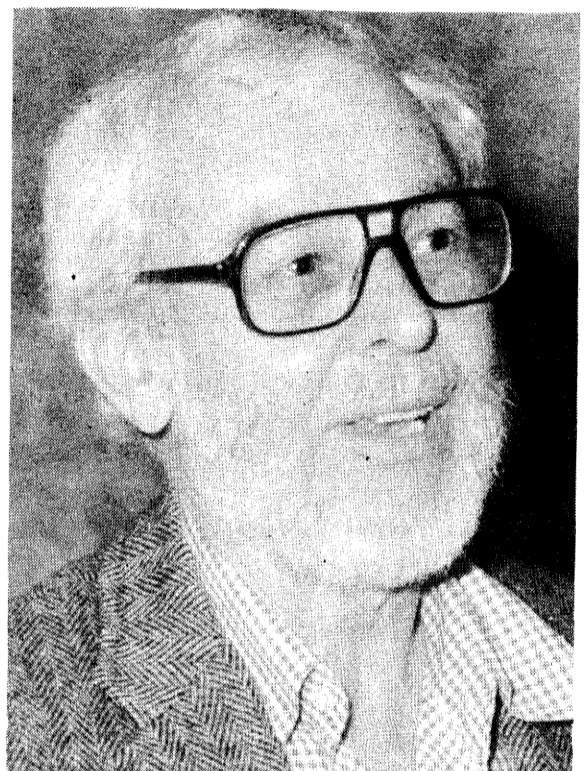
Highlights of the Proceedings

BANQUET PRESENTATIONS DELICIOUS

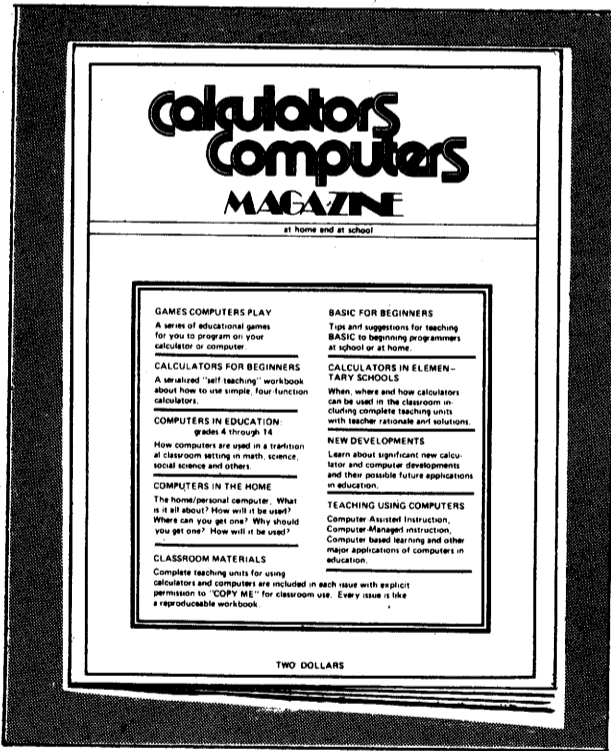
The Proceedings of the First West Coast Computer Faire open with the fascinating musings of the well known, and highly popular science fiction author, Frederik Pohl. It is instructive to compare his list of Sci-Fi wishes with the actual accomplishments of the microcomputer's first few years, as represented by the rest of the Proceedings. A lot has been done that would have been fiction a very short time ago.

Another banquet talk, presented as an abstract in the Proceedings, discusses John Whitney's visionary experiments combining music and computer graphics.

A good feeling for how far we've come -- and how little some things change can be obtained by reading Professor Henry Tropp's historical essay "The 1940's: The First 'Personal Computing' Era". Lastly Ted Nelson presents what he hopes will become history in "Those Unforgettable Next Two Years." Save the Proceedings and see if he's right.



YOU KNOW HOW TO USE THE NEW PERSONAL COMPUTERS. HOW WILL YOU GET YOUR SON, DAUGHTER, WIFE, HUSBAND, OR FRIEND INVOLVED IN YOUR EXCITING HOBBY? HERE IS THE MAGAZINE DESIGNED TO HELP YOU, HELP THEM!!



CALCULATORS/COMPUTERS Magazine is designed for beginners, to teach them the basics of computing using computers and calculators. Now YOU can teach these beginners to use your computer, to understand your programs, to program in BASIC and other languages, to learn hex and other mysterious jargon...

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1st FAIRE HAD MASSIVE ATTENDANCE 2nd FAIRE TO BE EVEN BETTER

The First West Coast Computer Faire recorded almost 13,000 attendees who came to see more than 200 booth-fulls of personal, small business, and hobbyist computer equipment and accessories. In the Conference Program, there were about 100 talks and papers presented in the space of two days.

The statistics don't begin to give the "feel" of the Faire. The bustle and noise on the main floor, the excited way people rushed through the halls, the smell of frankfurters (??). Many of the talks drew wall-to-wall attendance.

The lines of people waiting to get into the Faire stretched, at times, around the block. It looked like a showing of Star Wars. Security at the Faire was as leak-proof as a sieve, and uncounted (literally) hundreds slipped in.

The organizers say that the Second West Coast Computer Faire will solve these problems by spreading out the event over an extra day, structuring the ticket prices to even out the crowd distribution, and making it easier for pre-registered people to get in without standing in line. The Faire will also have the advantage of utilizing the brand new San Jose Civic Auditorium. The First Faire was 33 weeks in the making. The Second Faire will have had 85 weeks of planning: the first 33, plus a year's additional experience.



**THE FIRST COMPUTER FAIRE:
ONE PERSON'S IMPRESSIONS**

By Jef Raskin, Bannister & Crun, Brisbane, CA

I saw the Faire from many angles. I was a speaker, helped in an exhibitor's booth, worked as a reporter, and I am enchanted by personal computers and would have been there anyway.

I have been to many computer shows, so I knew enough to wear comfortable shoes. Let me start with Friday. The Faire wasn't open, but the exhibitors were setting up. As the intrepid equipment reviewer from *Dr. Dobb's Journal*, I was admitted under press credentials, and wandered around, moving boxes for this manufacturer, holding signs in place for another (make the right side just a wee bit higher please!). And, asking questions, bringing customer complaints to vendors' attention, and getting responses that ranged from gratifying, to "we're too busy; see us tomorrow." Of course, tomorrow was Faire Stampede Day, and then they didn't have time to breathe, much less talk to me.

One of the nice things that the personal computer revolution has achieved for the world is computers that work when they are plugged in. Very little fuss. Once most personal computers are up and running, they tend to stay up and running. Among the exhibitors, was much less gnashing of teeth and tearing of hair at the Faire than at most of the "Real" computer conventions. With few exceptions, I saw the computers brought in the doors, put on the tables, plugged in, turned on and start running. There were various power failures as fork lifts ran over the cables and that sort of thing, but through it all, the micros ran their little crystals to the bone and generally performed very nicely.

Being at the Faire on Saturday was like getting caught in an unexpected rainstorm. All was peaceful and quiet as gathering clouds, uh, crowds, formed just outside. Even before the doors were open they began to seep inside. Within a half hour of opening, you couldn't find a corner unoccupied. It was a wonder and a pleasure. A very large percentage of the hobbyist and personal computer manufacturers were there, and you could see and touch all the gadgets you had heard about. You could meet all the people you had read about.

And then there were the sessions. Most of them SRO (Standing Room Only). The talk I gave on "Pipe Organs and Microcomputers" was attended by at least 300 people, with dozens wandering through, lost in the huge building, trying (no doubt) to find the fabled session on "Sex and the Microcomputer". I tried to attend a few sessions as an auditor -- two of these I only heard from *outside* the doors. No room inside! At the next Faire, the organizers promise, there will be more time. There had better be!

My overall impression was very good. I learned a lot, saw a lot, and (after giving my second talk) was completely bushed. Negative points? Too much noise, too little time, too many people, the room numbering scheme in the building was inscrutable (not the Faire's fault), my feet hurt. Most wonderful thing there? The people: friendly, interested, alert and apparently happy in spite of the mobs and chaos. Most impressive technology? The mere existence of the show. Biggest surprise? That San Francisco's Civic Auditorium, at which I have seen many shows, was overrun completely, and filled to the gills, by a show whose topic was but two years old -- that Auditorium is the largest convention facility in Northern California. Whole Earth show held a few weeks later in Brooks Hall, wasn't nearly as crowded even though it featured solar heating, electric cars and all the latest in automatic clam chowder makers -- everybody lives in a house and/or eats clam chowder. (But then again, it went on for five days.)

The First West Coast Computer Faire -- I was impressed.

**SUGGEST A BANQUET SPEAKER
FOR THE 2nd FAIRE**

The First Computer Faire had four outstanding banquet speakers for the two banquets: science fiction author Frederik Pohl, computer artist John Whitney, fantasy Ted Nelson, and computer historian Henry Tropp. Two banquets are being planned for the Second Computer Faire, and speakers of similar quality are being sought.

Please forward your suggestions of outstanding speakers to the Computer Faire, Box 1579, Palo Alto, CA 94302. Nominees should be excellent speakers, knowledgeable in some field related to personal computing, consumer technology, or the future of technology for the general public. There is no limit on their notoriety (last year, along with the banquet speakers mentioned above, we also invited such internationally known figures as Isaac Asimov and Arthur C. Clarke . . . both of whom were unable to attend). What the Faire organizers are seeking for the banquets are outstanding, knowledgeable, and fascinating speakers. Since it's *your* Faire, *you* should have a hand in the choice of those speakers.

**GET YOUR FREE COPY
OF THE NEXT GAZETTE**

Send us your name and mailing address -- and the names and addresses of any friends you think might like to receive our sophisticated newspaper -- and we will be happy to see that you (they) receive the next issues of the *Silicon Gulch Gazette*. We will be cranking out two or three more, prior to the Second West Coast Computer Faire.

Although the primary purpose of this rag is to spread the word about the Faire, we will also manage to include miscellaneous tidbits of possible interest to computer hackers and hobbyists.

For the archival file types: We published three issues of the *Gazette* prior to the First Faire. They were numbered Volume 0, Numbers 0-2 . . . an entertaining numbering scheme, but one that caused nothing but confusion (so much for the theory of adjusting human eccentricities to those of machines). Therefore, this issue is being numbered Volume 2, Number 1 --for the 2nd Computer Faire, first propaganda release. It is the next issue following Volume 0, Number 2 . . . which, of course, was the third issue of the first volume. You do understand, don't you?



Get Your FREE Subscription*
Find out all the LATEST details about the
**SECOND
WEST COAST
COMPUTER FAIRE
COMIN' ON STRONG**

- A Major Conference Program
(published *Faire Proceedings* to be available, on-site)
- Banquets with Fascinating Speakers
- A MASS of Exhibits

5 Months Before the Second Faire,

the following 50 companies had already formally requested exhibit space:

- | | | |
|----------------------------------|------------------------------------|------------------------------------|
| Administrative Systems, Inc. | Dymax | Osborne & Associates, Inc. |
| Anderson Jacobson, Inc. | Electronics Emporium International | Paratronics, Inc. |
| Apple Computer, Inc. | Godbout Electronics | People's Computer Co. |
| Berg Publications | Heuristics, Inc. | Phonics, Inc. |
| BITS | Ibex | Promedics Data Corp. |
| Byte Publications, Inc. | Integrand Research Corp. | Quay Corp. |
| Byte Shops of Arizona/Micro Age | Interface Age | RCA Corp. |
| California Business Machines | International Data Systems, Inc. | SD Sales Co. |
| Camelot Publishing Co. | Ithaca Audio | Smoke Signal Broadcasting |
| Cherry Electrical Products Corp. | Jade Co. | Solid State Music |
| CMC Marketing Corp. | Micromation, Inc. | Southwest Technical Products Corp. |
| Compucolor Corp. | Motorola, Inc. | Standard Engineering Corp. |
| Computer Kits, Inc. | Mountain Hardware, Inc. | Sybex, Inc. |
| Computer Warehouse Store | Neutronics | Tri-Tek, Inc. |
| Creative Computing | Newman Computer Exchange, Inc. | United Technical Publications |
| Cromemco, Inc. | North Star Computers, Inc. | Ximedia Corp. |
| Digital Group | | Xybek |

FIRST West Coast Computer Faire

HAD

- almost 13,000 people
 - around 180 exhibitors
 - almost 100 conference sessions
 - four banquet speakers
- all in just TWO days*

SECOND West Coast Computer Faire

is THREE days long

March 3 - 4 - 5, 1978

9am-6pm 9am-6pm Noon-5pm

San Jose Convention Center, San Jose, California
in the middle of Silicon Valley

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for all the latest details:

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- The *Gazette* -- a tantalizing tabloid touting the Faire & offering

"hot news" and "raging rumor" regarding home & hobby computing.

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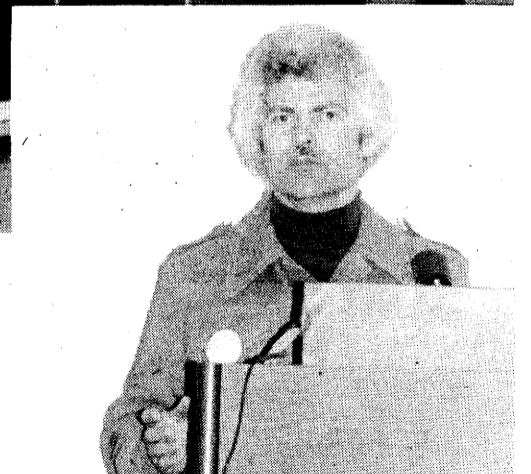
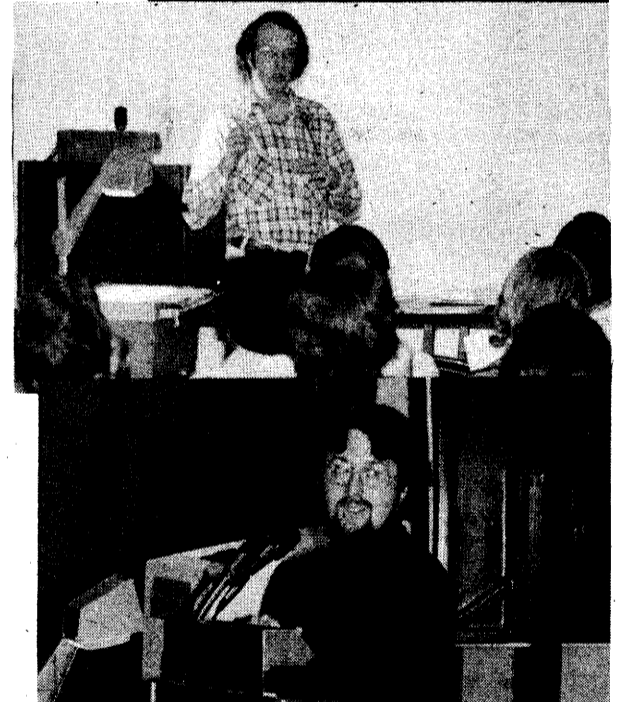
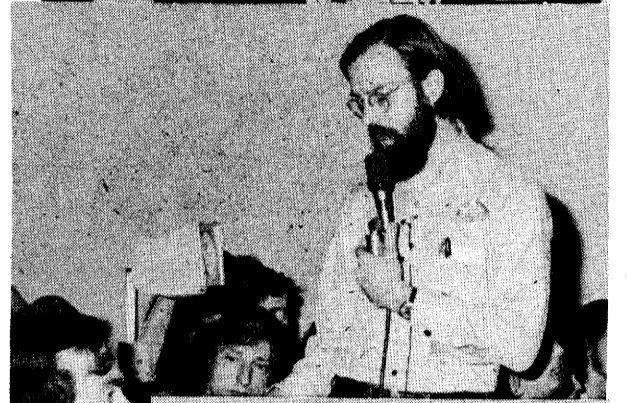
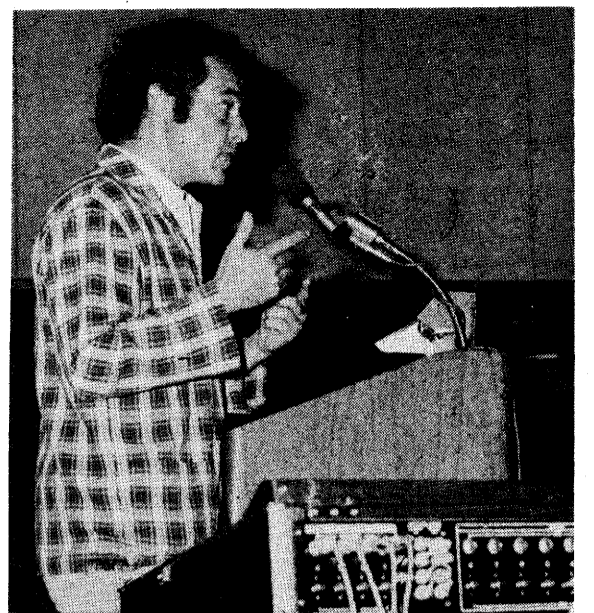
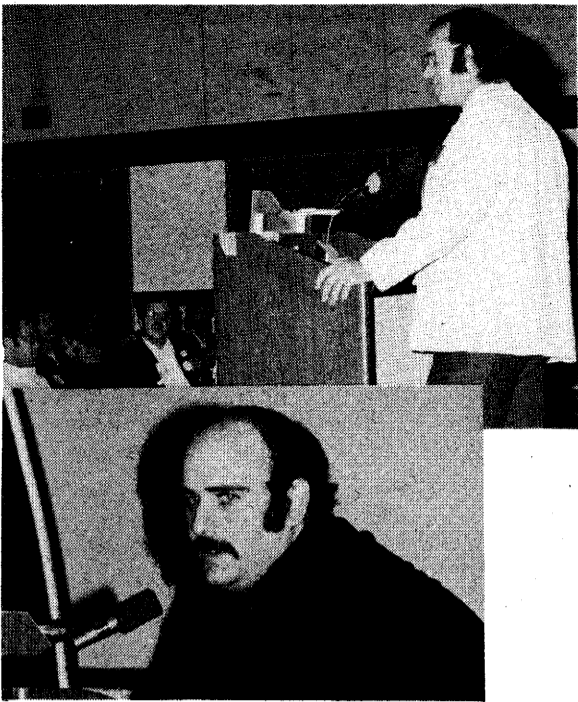
THE FIRST
WEST COAST
COMPUTER FAIRE

CONFERENCE PROCEEDINGS

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*ACM: Association for Computing Machinery
 IEEE-CS: Institute of Electrical & Electronics
 Engineers - Computer Society

NEW PACKAGED COMPUTER SOFTWARE AVAILABLE FOR SMALL BUSINESS USE

The "computer revolution" has progressed another stage with the introduction of a complete set of programmed software designed specifically for small businesses utilizing mini computers, according to Pete Roberts, president of Computer Kits, Inc., Berkeley, California.

"With this new business system, a small business can purchase any or all of the software required for accounting, payroll, word processing and inventory management," Roberts said.

Computer Kits, Inc., which opened a year ago, sells computer hardware, software and expertise to non-professional computer users. The store offers top-of-the-line components in kit form or as fully assembled systems.

"The availability of this software package from Altair Software Distribution Company makes mini computer kits and fully assembled systems even more practical for small businesses," Roberts said.

Until now, a small business that purchased a mini computer would generally have to hire an outside source to write appropriate programs.

The ASDC software, utilizing BASIC language, operates on an Altair computer with minimal peripheral equipment, Roberts said.

The ASDC Business System was introduced at the recent Mini-Micro Computer Conference and Exposition in San Francisco. Prices for the individual programs range from \$1,200 to \$2,400. They include general ledger, receivables, payables, payroll, inventory management, point-of-sale, word processing, timekeeping and utilities. Fee for the complete package is \$14,100.

Roberts noted that while Computer Kits sells hardware and software from various manufacturers, including the full Altair line, the young company is also manufacturing some supplemental hardware of its own that is unavailable elsewhere.

One of the Computer Kits' proprietary products is Power-Start, an autoloader board that eliminates the keying of "bootstrap" programs; eliminates the need to set computer front panel sense switches; and allows operation of an Altair 8800 without a front panel.



COMPUTING AUTHOR MAKES SUCCESS OUT OF FAILURE

Ever wonder why nobody writes about computing projects which failed? Why every conference, every proceedings, every paper tells you how great it is (or is going to be), but nobody confesses that they've screwed up?

Well, Seattle computing devotee Bob Glass decided that confession might be good for the soul. So he wrote a book about failure, titled it "The Universal Elixir, and Other Computing Projects Which Failed," and it's just been published by Computerworld.

"Projects Which Failed" is a sometimes funny, sometimes sad series of stories about computing boobos. All of them are based on truth, with fictionalized names and places to protect the innocent (or, for that matter, the guilty!)

The author is a computing research specialist, and has worked for several computer centers in the West and Midwest. (For obvious reasons, he won't say which ones!) He also writes for Computerworld under both his own name and the pen name "Miles Benson", and is active in his local Association for Computing Machinery chapter.

The book is available in paperback from Computerworld, 797 Washington St., Newton, Mass., 02160. The cost is \$7.50, plus \$1.50 postage and handling.



(continued from page 1)

several magazines devoted to the subject. See the list on the back. Pick up some issues at a computer store or subscribe. There will be many strange terms if you are not already "into" computers, but many articles will explain some of them. A good book introducing the field adequately has yet to appear.

If you have a specific application in mind, describe it briefly in a paragraph and visit a computer store. You will find most of them have at least one or two people who can give you solid advice about what you need.

If you can get to one of the microcomputer shows aimed at the hobbyist or individual user, the manufacturers will be able to provide many specific suggestions about their new products. You are not too likely to obtain useful information at these shows or tutorials aimed at design engineers or large computer system users. Somehow the commercial computer people have not yet been able to appreciate the personal computer.

Let's take a brief look at the equipment. There are various starter kits and evaluation sets available. Some of these are best suited for learning about the hardware. Others are good for learning machine language programming. However, they tend to be difficult to expand into a useful and neat typical system. Not surprisingly, their resale value tends to be low.

For general applications you will need the microcomputer itself, additional "boards" to go in it, a cassette recorder (the \$40 variety will usually get you started), and a video monitor or TV set. You can do a great deal with this. Working with video output is a real pleasure. Why be knee-deep in useless paper all the time?

But eventually you will want hardcopy. If you don't mind being knee-deep in paper, you can start with a teletype (often abbreviated as TTY). The old "Baudot" machines can be had for \$25 - \$75, but have a few special problems. Check with an amateur radio operator or "ham" magazine in your local library.

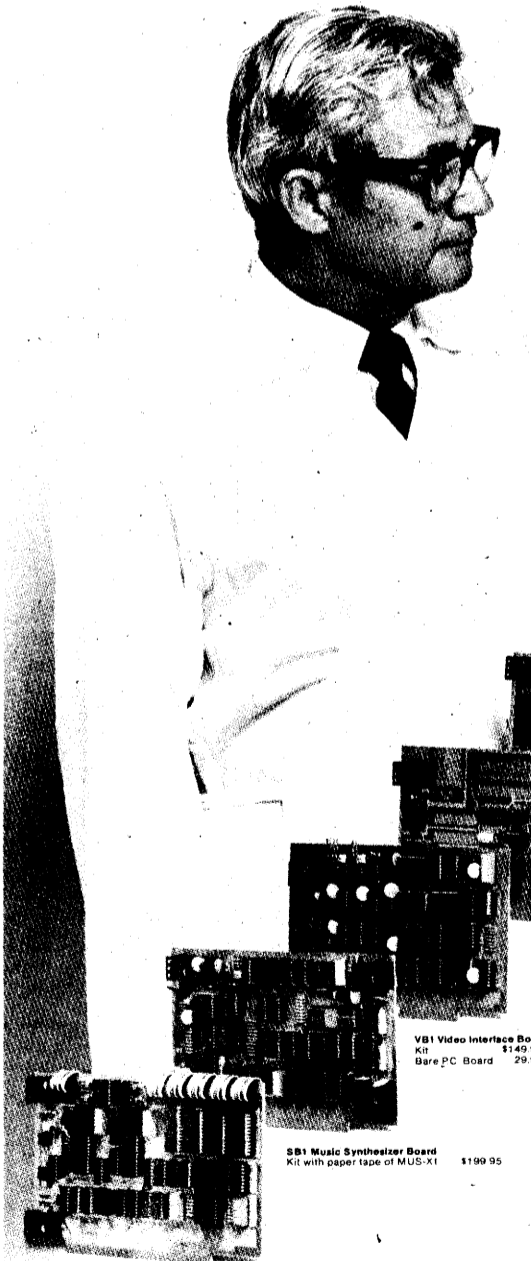
A modern or old teletype can replace the keyboard and video. Other hardcopy devices can be used, but in general, such machines will cost nearly as much as the rest of the system.

Before you get too excited about the cost of the microcomputer itself, check what comes with it. Some products are stripped of everything needed to make a total system. Their quality may be excellent, but a number of other parts will be needed. Always ask, "What else will I need?" and "How might this disappoint me?" (Were you expecting lower case alphabet as well as upper case on the video, for instance?)

To make a computer work, it must be programmed. You can purchase programs or you can do the programming yourself. Many people find this to be very challenging and very satisfying. With a personal computer you can deal with it on your own terms. The "mystery" and mystique of the software sect is stripped away.

Programs are entered into the memory of a microcomputer by typing them on a keyboard or loading them in from a punched paper tape or magnetic cassette tape.

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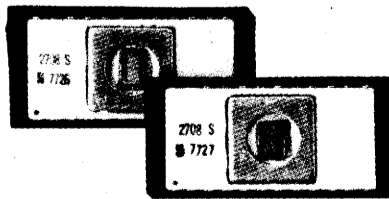
Right from the start we design our boards with our customers in mind. Extra features are added that will aid in expansion, not hinder program design and development. All first class parts are used and they're checked to make sure you have years of trouble free operation. Plus, every kit comes complete with assembly instructions and user information to make assembly a snap and operation a pleasure.

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ORGANIZATION FOR STANDARDIZING THE "S-100" DEFINITION PROPOSED

Steve Edelman of Ithaca Audio is actively pursuing the formation of a group to detail and publish a complete specification for the so-called "S-100 standard" -- which has never been completely defined.

Steve hopes to have the organization well under way by the time of the Second West Coast Computer Faire, and will be Chairing a meeting on the topic during the Faire (San Jose, California, March 3-5, 1978).

For more information, contact: Steve Edelman, Ithaca Audio, P.O. Box 91, Ithaca, NY 14850, (607) 273-3271.

SAN FRANCISCO BAY REGION ACM ACTIVITIES

This is an invitation to join with the many other computer and information processing professionals who participate in the variety of activities that take place, monthly, in the greater San Francisco Bay region, under the auspices of the Association for Computing Machinery.

The San Francisco Peninsula ACM Chapter has been active since 1956, having formed less than ten years after the national ACM was organized. Its programs include monthly dinner speakers, seminars, low-cost tutorials and professional training programs, youth group activities, a computer exhibit, and sponsorship of national computer conferences in the Bay region.

- Herb Grosch, Peter Neumann, Grace Hopper, Lowell Amdahl, John McCarthy, Walter Bauer, Bill McKeeman, Robert Noyce, Paul Armer, George Glaser, Arthur Anderson

The Golden Gate ACM Chapter "spun off" from the south Bay group in 1970 in order to better serve the interests of the north Peninsula, East Bay, and Marin area computer professionals, many of whom have primary interests in the areas of business data processing.

- Stuart Madnick, Sloan School of Management, MIT, Bruce Rosenblatt, Consultant, Standard Oil CO., Hank Epstein, Stanford Center for Information Processing, Robert Bemer, Honeywell Information Systems, Jerome Grossman, Director of Ambulatory Care Massachusetts General Hospital, Doug Englebart, Director, Human Augmentation Research Center, Stanford Research Institute

The San Francisco Peninsula Sigplan Chapter has been active for over half a decade. It offers a number of technical sessions each year, and has presented some of the top specialists in programming languages, including:

- Bill McKeeman, Niklaus Wirth, Jean Sammet, Jay Earley, Franklin DeRemer, J.J. Horning, Jeffery Ullman, John McCarthy, Robert Floyd, C.A.R. Hoare, Susan Graham, Maurice Halstead

The San Francisco Peninsula Sigmicro Chapter has been active for several years. It has already a number of exciting programs. Due to its proximity to "Silicon Valley", this SIGMICRO Chapter tends to concern itself as much with microprocessor developments as with microprogramming. Its speakers have included:

- Wayne Wilner, Burroughs, Justin Rattner, Intel, Mike Flynn, Stanford and Palyn, Bill Kahan, UC-Berkeley, Mike Galey, IBM, A.J. Nichols, Intel, Alan Kotok, DEC, John Tartar, U. of Alberta, Frederico Faggin, Zilog

The Golden Gate SIGBDP Chapter conducts both a speakers' program and an active program of low-cost tutorials and seminars in the areas of business data processing. Its monthly programs are unusual, in that they tend to follow a 'news conference' format.

Finally, the San Francisco Bay Area SIGDOC Chapter started in 1976. Its leaders are enthusiastic and have been conducting an active program in the area of systems documentation.

So, come on and join the activities. Expand your professional contacts and friendships. Share your expertise and experience with others, and vice versa. Accelerate your professional growth and enhance your technical knowledge and skills.

For further information write: "ACM" at either Box 60355, Sunnyvale CA 94088, or, Box 26044, San Francisco CA 94126.

JAPAN AGAIN SHOWS MAJOR INTEREST IN COMPUTER FAIRE PLANS

The Japanese article, discussing plans for the Second West Coast Computer Faire, reprinted below in reduced size, recently appeared on page 3 of a major electronics newspaper, published in Japan. It appears likely that there will again be a major tour group coming to attend the Second Faire, as occurred with the First Faire.

A clipping of this article was sent to the Computer Faire by Kay Kazuhiko Nishi, the Editor and Publisher of ASCII, one of the two major Japanese computer hobbyist magazines. Incidentally, it was accompanied by a copy of an ad that will be appearing in Japanese periodicals in December for a Sord microcomputer that appears somewhat similar to Commodore's Pet or Processor Technology's Sol.

来年三月シスコで開催
第二回ウエストコーストコンピュータフェア主催者PRに力
(3) 海外の業界動向昭和52年10月21日(金曜日)
わニ... 第二回「ウエスト・コースト・コンピュータ・フェア」が来年三月三日から五日まで、サンフランシスコ近郊のシリコン・バレーで開催される。

主催者は今までの10年間の経験を踏まえ、主催者側は一人から一万五千人の入場者を募り、そのうち五百五十名から千名程度を招待する。これは同年六月NCC(全米遠征会議)が開催されるため、招待する面があり、比較的若い世代の予測となっている。しかし今回のフェアについては、

プース(展示間)の使用料などについては決定していないものの、第二回フェアでは各出品者が個々のサービス業者と契約していたが、今回からリース使用料の中にレンタル設備料など一切を含むこととする。また、NCCの会場も五、五〇〇名程度の規模である。会場は半導体業界の中心地シリコン・バレーのサンセコンベンション・センター。

主催者側としては、同様の調査団を編成する計画である。東京建設計画を支援

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(continued from page 1)

ATE (Assembler and Text Editor). I pointed out that this conversation was rapidly degenerating, but George pointed out that he only marked Soft Core products; he didn't deal in hard core (which is reasonable for a designer who uses only semiconductor memory).

MICRO is the name of a new newsletter focusing on the 6502. It is being published by Robert M. Tripp, the guy who published the *Computerist* newsletter for several New England amateur computer groups. The first issue, dated Oct-Nov, 1977, ran to 32 pages, including hardware and software articles about such 6502-based machines as the KIM-1, Apple II, and PET.

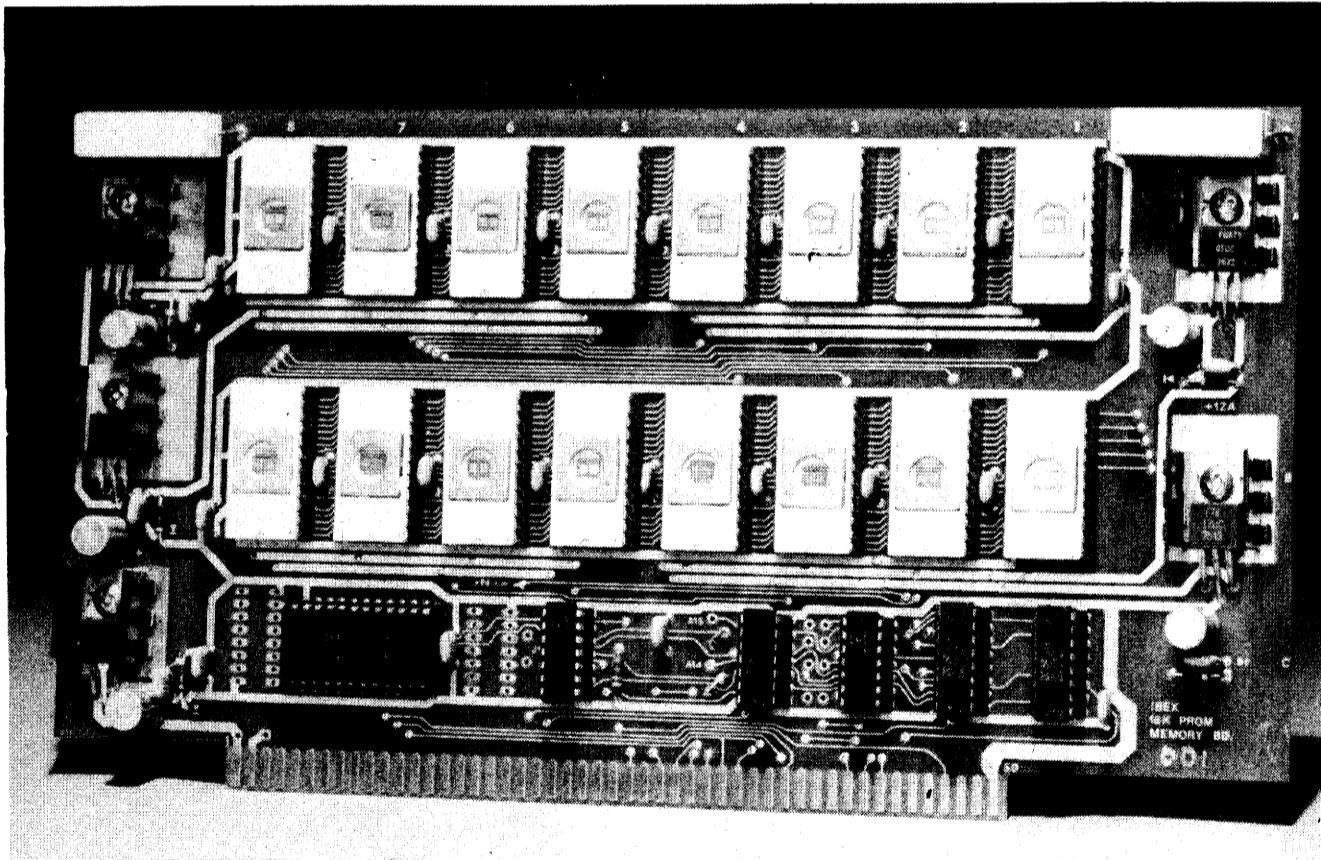
MICRO is to be published bi-monthly, carries advertising, has a yearly subscription rate of \$6, and is available from The Computerist, Box 3, S. Chelmsform MA 01824.

STARSHIP ENTERPRISES, Inc. recently

dropped by to demo their inventory control software package. It was running on a collection of Cromemco boards in a TEI cage with a trio of North Star mini-floppies. Though programmed in that popular interactive assembly language, Basic, it was rawther impressive. It appeared to be flexible, reasonably fast (for a lil' ol' microcomputer with floppie diskies), and comprehensive. As I understand it, complete documentation and annotated source code comes with the package -- all for a very reasonable wee fee.

Jim DuLaney, the chief software hacker for Starship Enterprises, stated that this was just the first of a variety of very-small-business software packages that would be available from them -- all designed to interface to each other where appropriate. SE is located at 4506 Montrose, Suite 209, Houston TX 77006; (713) 526-1668.

THEIR TEI CAGE, was, in some ways, even more interesting than their micro-business software. Being buried out here in the wilderness, I hadn't



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stumbled across the TEI boxes before the Starship Enterprises' demo. Jim and his partner, Richard Hernlund, Jr, had some very positive things to say about the TEI gear.

1. TEI is a long-time, very large manufacturer of electronics crates. (E.g., they build their transformers and power supplies starting with wire, paper, and basic materials. It seems that TEI has been in the manufacturing business for a long time, and is just now starting to work its way into the hobbyist market -- instead of being a hobbyist working their way into the manufacturing market as is more "traditional" in our subculture.

2. The cage comes in kit form, includes a 22-slot S-100 bus board and power supply, and is quite small for its capacity.

3. The power supply is touted as a constant-voltage supply that Jim said continued to work when his Lear-Siegler terminal bleeped and went dead (he lives in one of those massive apartment complexes where everyone turns on their electric stove at 5:30 p.m.).

4. They were handling it more like union truckers than like nervous computer hackers with delicate electronics equipment . . . and had been handling it that way at demos all the way from Texas -- and it was still working, glitch-free.

I was impressed. TEI is marketed through CMC Marketing Corp., 7231 Fondren Road, Houston TX 77036; (713) 774-9526. And, no, Jim and Richard were not TEI marketeers; merely very pleased users. Interesting note: Evidently TEI is *strictly* a manufacturing operation. My understanding is that they do not sell single quantities, directly; only through CMC.

The following tidbits are rumors of varying reliability -- or unreliability -- belched forth by the Silicon Valley electronics gossip mill. The Gazette makes no claim that they are factual -- only that they are interesting, and have some taint of actuality.

HEWLETT-PACKARD is rumored to be working on a "small 3000" called the Amigo. Not exactly personal computing, but certainly is rumor-mongering.

BALLY IS BUYING AMI, according to an elderly note of an unconfirmed rumor in my file. Bally is a big slot-machine and games manufacturer (again, according to my unreliable source).

200 PROGRAMMERS are supposed to be working constantly under a mountain near Omaha on updating the software that controls Minute Man missiles, according to an equally questionable rumor. If it's true, though, it really makes you feel safe, huh? Or, do you *know* about the likely reliability of software created by a "team" of 200?

HARDWARE HACKERS HISTORICAL GRAFFITI: This is supposed to be documented in the old MIT Rad Lab series. It seems that, back in the '40's, Sylvania had a research project to find out why 1-N-23 microwave rectifiers appeared to be amplifying at IF frequencies. They appeared to be showing negative resistance. It seems that the research project tried like hell to get rid of this strange anomaly -- which eventually became the basis for point-contact transistors.

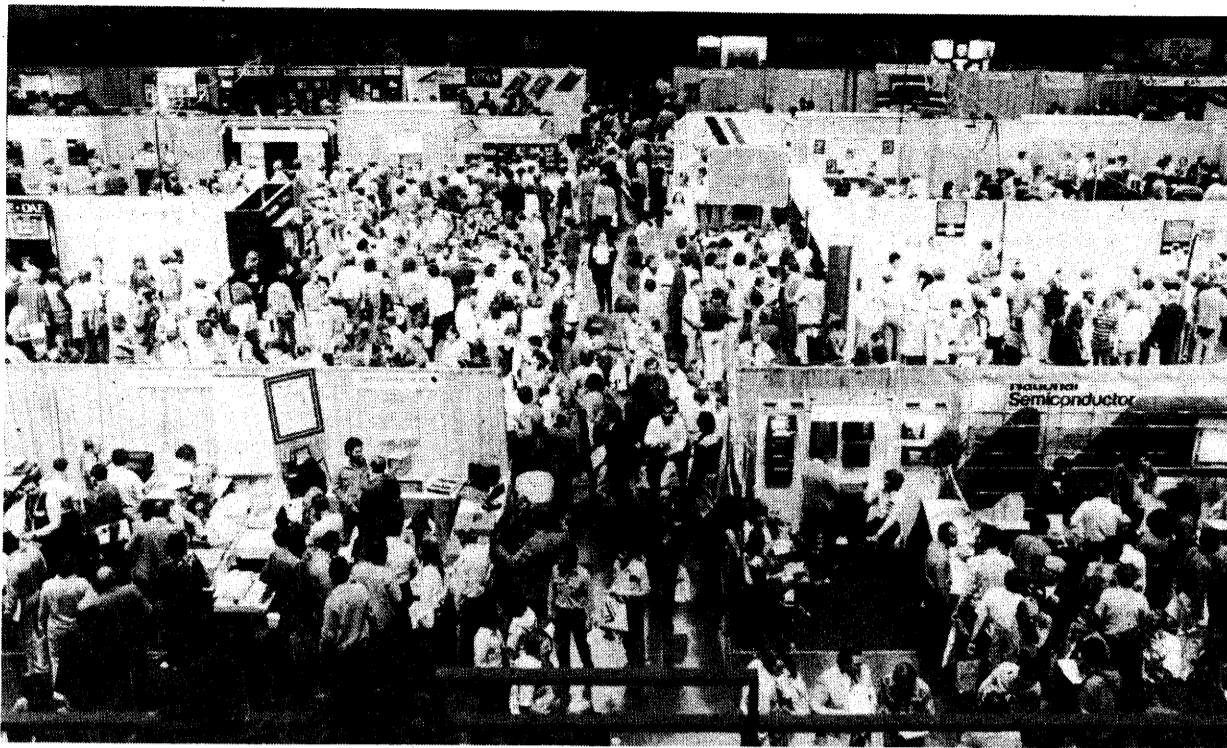
While we're on historical notes, it might be mentioned that Motorola is supposed to have purchased access to all known semiconductor technology from Bell Labs for \$7,500 around 1950. Such a deal . . .

Amazing! I don't have a single Zilog rumor in my file. Why, it's been absolutely *weeks* since the last Zilog rumor.

GODBOUT IS ABOUT TO ANNOUNCE A MEMORY KIT FOR HEATH'S H-8. It will be a 12K memory priced about the same as Heath's 8K kit, according to Bill Godbout.

THEN THERE WAS THE COMPILER MANUAL THAT SAID "The Error Message: These are English phrases or sentences which attempt to diagnose the problem." That compiler recently emitted the following error message: "RCLASS=0 ON INSISTING GET."

Obviously.



JUST A BRIEF NOTE (found on the floor of Stanford's Computer Music Project Laboratory near the XGP printer).

Highlights of the Proceedings

HAM RADIO SPEAKS OUT AT FAIRE

An interesting cross-section of amateur radio applications are discussed in the *Proceedings*. Robert Brehm's RTTY (sending teletype signals over the radio) system shows the advantages of using a computer in the Shack. The computer can keep track of time, operate repeaters, store and edit messages, and de-garble transmissions.

Clayton Abrams uses a microcomputer to generate frames for Slow Scan television. Slow Scan tv is a technique for sending television pictures over an audio channel. A computer can generate such pictures without the need of a tv camera.

Not only the relatively sophisticated SSTV and RTTY operations can be helped by a computer. Ivar Sanders uses one to send and decode CW—"Carrier Wave" transmissions, or what non-hams call "Morse Code." Dah Dah De Dah, and so forth.

The last paper in this section explains microprocessor control of a VHF (Very High Frequency) repeater. A repeater is a self-operated receiver and transmitter that accepts messages from a Ham and "forwards" them, thus allowing the Ham to transmit much further than he or she otherwise could. A repeater has to recognize the codes of "subscribers" and reject others, it must identify itself, and it must observe certain timing protocols. As Lou Dorren points out, "the microprocessor opens a whole new era of . . . repeater control."

Highlights of the Proceedings

STRAIGHT FROM THE HORSE'S MOUTH

Starting on page 323 of the *Conference Proceedings*, are a set of articles on particular items of hardware offered by major manufacturers, such as National Semiconductor's SC/MP, IMSAI's memory expansion board, or Cromemco's Multi-user microcomputer system. What's special about these articles is that they were written by people from the company that makes each piece of equipment, and are especially authoritative for that reason.

All papers by an employee that discuss their employer's paraphernalia run a special risk of turning into advertisements, but the papers accepted for the Faire were refereed to eliminate blatant sales pitches. For instance, although Phil Roybal's article on National's SC/MP does try to encourage sales, it also gives significant insight into how the design decisions were made. The other papers in this section exhibited similar quality.

2708

μPD 458

TMS 2716

PRAMMER III

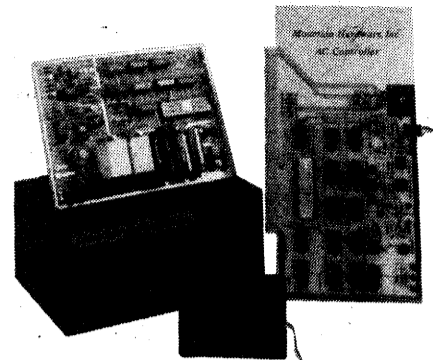
by xybek

The Ultimate EPROM Memory Board
For Your S100-Bus Computer

- ★ Accommodates from 1k to 30k of the above EPROMs, in any combination, each addressable on any 1k boundary within the board's 32k address space.
- ★ 1k of scratch-pad RAM.
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with INTROL**

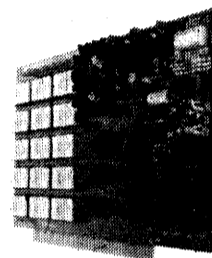


**the Intelligent
Remote Control System**

Mountain Hardware's new Introl™ system is a sophisticated remote control system that communicates over the standard 110 VAC power lines. The AC Controller™ board is an S-100 compatible board that is capable of controlling up to 64 remote units anywhere in your building. The AC Remote™ unit has two independently controllable AC sockets that can turn two 500 watt appliances on or off. The computer can also "poll" the remote to check its status (on or off). Programs can easily be written in Basic or assembly language to monitor and control remote devices. All future remotes (temperature indicator, remote terminal, and status sensor) will be compatible with the AC Controller board. An Apple II version is also available.

A functional Introl system requires one AC Controller board and at least one remote unit. Complete documentation is provided with each component of the Introl system along with software subroutines for your own controller programs.

**PROROM Advanced 8K
Memory System**



PROROM is a 7.5K EPROM + 512 RAM board that is S-100 compatible. It has a built in programmer which allows you to program the AMI-6834 EPROMs one byte at a time without special software. The kit is complete with sockets, manual, 256 bytes of RAM and one 512 byte PRAM, preprogrammed with an 8080 system monitor.

	KIT	ASSEMBLED
AC Controller	\$149	\$189
AC Remote	\$99	\$149
PROROM	\$164	\$214
6834 EPROMs	\$10 ea.	

Available now at most computer stores or directly from Mountain Hardware, Inc. Visa and Master Charge accepted. Calif. res. add 6% sales tax. (408) 336-2495.

Mountain Hardware, Inc.
Box 1133 Ben Lomond, CA 95005

**microprocessors: from chips to systems
by Rodney Zaks - \$9.95**

The basic book for understanding microprocessors and microcomputers. It presents all the fundamental concepts as well as the detailed application techniques. It will show you, in detail, how a microprocessor operates, critically review existing MPU's, explain how to interconnect the various chips into a system, and which alternatives are available. It is based on the author's experience in teaching microprocessors to more than 2000 persons, as well as developing systems. It will take you step by step until the actual interfacing to peripherals. 400p.

CONTENTS:

- Fundamental Concepts • Internal Operation of an MPU • System Chips • Comparative Microprocessor Evaluation • Assembling a System • Applications • Interfacing • Programming • System Development • The Future

ALSO AVAILABLE:

- CASSETTES (2 cassettes = 2½ hour + special book)
- S1 - INTRODUCTION TO MICROPROCESSORS \$29.95
- S2 - MICROPROCESSOR PROGRAMMING \$29.95
- MICROPROCESSOR INTERFACING TECHNIQUES, by Austin Lesea and Rodney Zaks. Ref C207. From keyboard to CRT and Floppy Disk, including Trouble-Shooting \$9.95
- MD- 10-language International Microprocessor Dictionary \$1.95



**FOR INFORMATION ON
IN-HOUSE TRAINING:**



USA: SYBEX Inc, Publications Dept, 2161 Shattuck Ave, Berkeley, Ca 94704. Tel:(415) 848-8233. Telex: 336311.
EUROPE: SYBEX-Europe, 313 rue Lecourbe, 75015 Paris, France Tel: (1)8282502, Telex: 200858

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 Signature _____

CF

C201

You can now have the industry's finest microcomputer with that all-important disk drive

YOU CAN GET THAT ALL-IMPORTANT SOFTWARE, TOO

Loading your programs and files will take you only a few seconds with the new Cromemco Z-2D computer.

You can load fast because the Z-2D comes equipped with a 5" floppy disk drive and controller. Each diskette will store up to 92 kilobytes.

Diskettes will also store your programs inexpensively—much more so than with ROMs. And ever so much more conveniently than with cassettes or paper tape.

The Z-2D itself is our fast, rugged, professional-grade Z-2 computer equipped with disk drive and controller. You can get the Z-2D with either single or dual drives (dual shown in photo).

CROMEMCO HAS THE SOFTWARE

You can rely on this: Cromemco is committed to supplying quality software support.

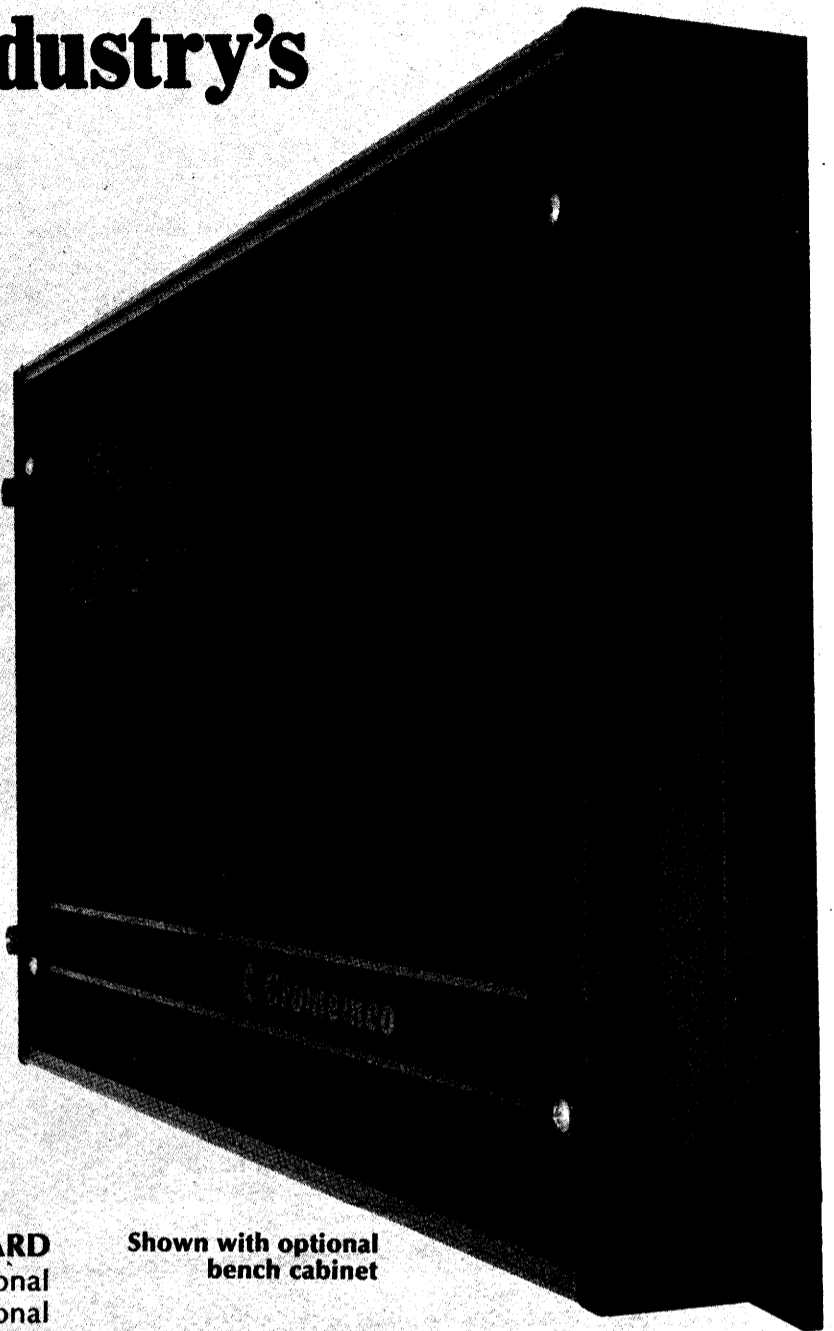
For example, here's what's now available for our Z-2D users:

CROMEMCO FORTRAN IV COMPILER: a well-developed and powerful FORTRAN that's ideal for scientific use. Produces optimized, relocatable Z-80 object code.

CROMEMCO 16K DISK BASIC: a powerful pre-compiling interpreter with 14-digit precision and powerful I/O handling capabilities. Particularly suited to business applications.

CROMEMCO Z-80 ASSEMBLER: a macro-assembler that produces relocatable object code. Uses standard Z-80 mnemonics.

The professional-grade microcomputer for professionals



Shown with optional bench cabinet

ADVANCED CONTROLLER CARD

The new Z-2D is a professional system that gives you professional performance.

In the Z-2D you get our well-known 4-MHz CPU card, the proven Z-2 chassis with 21-slot motherboard and 30-amp power supply that can handle 21 cards and dual floppy drives with ease.

Then there's our new disk controller card with special features:

- Capability to handle up to 4 disk drives
- A disk bootstrap Monitor in a 1K 2708 PROM
- An RS-232 serial interface for interfacing your CRT terminal or teletype
- LSI disk controller circuitry

Z-2 USERS:

Your Z-2 was designed with the future in mind. It can be easily retrofitted with everything needed to convert to a Z-2D. Only \$935 kit; or \$1135 for assembled retrofit package.

We're able to put all of this including a UART for the CRT interface on just one card because we've taken the forward step of using LSI controller circuitry.

STORE/FACTORY

Contact your computer store or Cromemco factory now about the Z-2D. It's a real workhorse that you can put to professional or OEM use now.

- Kit: Z-2D with 1 disk drive (Model Z2D-K)\$1495.
- Assembled: Z-2D fully assembled and tested (Model Z2D-W)....\$2095.
- Additional disk drive (Model Z2D-FDD)\$495.

SOFTWARE

- (On standard IBM-format soft-sectored mini diskettes)
- 16K BASIC (Model FDB-S).....\$95
- FORTRAN IV (Model FDF-S).....\$95
- Z-80 Assembler (Model FDA-S)....\$95



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--- FREE ---

GAZETTE

ALL OF THE NEWS ABOUT THE
2ND WEST COAST COMPUTER FAIRE IN SAN JOSE, CALIFORNIA

March 3 - 4 - 5, 1978

9am-6pm 9am-6pm Noon-5pm

Volume 2, Number 1½

Computer Faire, Box 1579, Palo Alto CA 94302

78January12

This isn't a REAL Gazette. It's just to provide the bare-bones essentials -- hotel information & preregistration goodies -- early enough to guarantee adequate response-time to the enthusiasts who know they want to attend.

Two "real" issues of our unreal rag will be distributed prior to the 2nd Computer Faire -- one will be mailed on January 27th, and the final pre-Faire edition will be mailed on February 9th (mailing dates provided in the event that you wish to check the rabbit-like speed of the Postal Service).

OSBORNE, KAY, ISAACSON & McKEEMAN TO BE KEYNOTE BANQUET SPEAKERS

The Second Computer Faire will continue the "present and future" theme for the Friday and Saturday evening banquets, that was so well received during the First Faire. Each of the two banquets will have two speakers: a "present-world" speaker, and a "future-world" speaker.

Friday's real-world speaker will be Dr. Adam Osborne, widely known as a provocative lecturer, and author of a number of popular reference books including, *An Introduction to Microcomputers, Volumes I and II*. Adam, President of Osborne & Associates of Berkeley, California, will discuss, "Significant Personal Computing Events for 1978." He will also be giving the first presentation of his Maybe-Annual, Unilateral, White Elephant Award for 1977 in Personal Computing.

Alan Kay will be Friday's future-world speaker, discussing, "Don't Settle for Anything Less." Alan is a Principal Scientist at Xerox's Palo Alto Research Center, and head of their Learning Research Group. He is best known as being the brains behind "Smalltalk", the Dynabook -- a book-sized exotic computer for people -- and had a major hand in PARC's Alto computer (an interim Dynabook -- so to speak, a Dynadesk). He will be presenting some fascinating ideas of what can be expected in the foreseeable future of people's computers, and will show slides and movies of some of the prototypes of those "future" devices and systems, currently in use in experimental environments.

The real-world speaker at Saturday evening's banquet will be Dr. Portia Isaacson, talking about, "Dinky Computers are Changing our Lives." Portia will be reporting on some recently completed research and survey work she has been conducting. She is one of the principals in one of the most successful computer stores in the U.S., writes a regular column for *Datamation* on personal computing, and has been appointed as the first Chairperson of the newly formed Special Interest Group on Personal Computing within the Association for Computing Machinery. She was the Chairperson of the largest National Computer Conference ever to be held, and taught computer science at the Univer-

The Second West Coast Computer Faire

WHAT?

50-80 Conference Speakers
tutorials & technical talks
4 Keynote Speakers in 2 Banquets
Over 200 booths of exhibits
10,000-15,000 computer enthusiasts

WHEN?

March 3rd (Friday), 9 a.m.-6 p.m.
March 4th (Saturday), 9 a.m.-6 p.m.
March 5th (Sunday), Noon-5 p.m.

WHERE?

San Jose Convention Center
Market Street & San Antonio Avenue
San Jose, California
(In the middle of "Silicon Valley,"
an hour south of San Francisco.)

HOW MUCH (for all 3 days)?

By Preregistration:

Adults - \$8
Children (pre-college) - \$5
Physically disabled - \$6
Senior citizens - \$6

Note: Preregistration provides discounts
on purchase of *Conference Proceedings*

Student Groups:

(Consist of 4 or more pre-college students
for each adult sponsor)

\$5 per person, by preregistration only

At-the-Door:

Adults:

Friday - \$8 (for all 3 days)
Saturday - \$9 (for Saturday & Sunday)
Sunday - \$8

Children - \$6 (with pre-college student ID)
Physically disabled - \$6
Senior citizens - \$6

sity of Texas until last Spring, when she left to pursue personal computing ventures on a full-time basis.

Saturday's future-world speaker will be Professor Bill McKeeman, from the University of California at Santa Cruz. Bill is a fascinating speaker and will be discussing, "All Those Things You Wanted to Computer, But Didn't Think You Could Afford" -- a survey of exciting applications and impacts of computers that, for the most part, have not yet occurred. Bill is a Full Professor at UCSC, was Chairman of their Computer & Information Science Department for some years, and is internationally known for his state-of-the-art research in a variety of computer areas -- including one of the first meta-compilers, XPL.

Banquet seating, and after-dinner "listener" seating, is somewhat limited and is available on a reservation-only basis. If any seating remains on the evenings of the banquets, admissions will be available at the door. However, seating may be assured, and long, waiting lines avoided, only by preregistration.

PROGRAM SET FOR COMPCON '78 SPRING

News Release

Dated: 77 Dec 5

A varied program on the theme "Computer Technology: Status, Limits, Alternatives" is being finalized for COMPCON '78 Spring, according to Donald E. Rosenheim of IBM, general chairman. The conference, to be held February 28-March 2, at the Jack Tar Hotel, San Francisco, California, will offer a preconference tutorial, daytime technical sessions covering three major areas, a short notes session, and -- for the first time -- an evening program that will be devoted to personal computing.

Under the direction of Dean Brown of Zilog, program chairman, the technical sessions will focus on hardware, software, and applications, with each area headed by a deputy program chairman. The hardware segment is being planned by Frederick K. Buelow of Microtechnology Corporation, software by Jack Armstrong of the Los Altos Research Center, and applications by Horace P. Flatt of IBM's Palo Alto Scientific Center.

Sessions organized for the conference include ones on distributed processing and computing, microprogramming techniques, microprocessor developments, architecture, operating systems, universal cross software, and high-order languages. There will also be sessions on large-scale scientific computation, LSI testing, simulation, economic modeling, and office systems word processing, Brown said.

A forward-looking tutorial entitled, "Limitations and Alternatives in Future Silicon LSI Technology" will be held Monday, February 27, preceding the conference. It will be led by Dr. James M. Early, division vice-president of Fairchild Camera and Instrument Corporation and well known for the "Early Effect." Lecturers include Richard Pashley, Intel Corporation; Ramesh C. Varshney, Fairchild Camera and Instrument Corporation; Adam Osborne, Osborne and Associates.

New for 1978 will be sessions and exhibits on "Personal Computing" under the leadership of Robert Albrecht of Dymax, and Alice Ahlgren of Cromemco, Inc. The seminars to be held each evening will give opportunity for a broad spectrum of end users to discuss directly with the expert panelists and, hopefully, to help shape the future of personal computing. **FOR FURTHER INFORMATION, PLEASE CONTACT:**

COMPCON 78 SPRING, Box 639, Silver Spring MD 20901, (301) 439-7007.

NEW YORK CHARTER FLIGHT TO SECOND COMPUTER FAIRE

Steve Edelman, of the Ithaca Computer Group, is arranging a low-fare charter flight from New York and its surroundings to the Second West Coast Computer Faire, to be held in San Jose, California, March 3rd through 5th. For details, contact Steve at Box 91, Ithaca, New York 14850, (607) 273-3271.

THE HOMEBREW COMPUTER CLUB, A HOBBYIST FORUM IN SILICON VALLEY

Robert Reiling, Editor, *Homebrew Computer Club Newsletter*

Formed March 5, 1975, the *Homebrew Computer Club* is one of the oldest major hobbyist clubs for personal computer enthusiasts in the world.

It's purpose is to promote sharing of information concerning the development and application of microcomputer technology. The original club group consisted of 32 computer enthusiasts. That quickly grew, however, and today almost ten times that number are regular attendees at the club meetings.

The organization attracts experts in the field of microcomputer technology as well as hobbyists from all over the San Francisco Bay Area.

Homebrew Computer Club meetings are held at two week intervals. The usual meeting location is the Stanford Linear Accelerator Center Auditorium, Sand Hill Road between Foothill Expressway and

Highway 280, Menlo Park CA. A unique format has been established at these meetings that assures the maximum exchange of information between members.

First, there is a "mapping period" where each person has an opportunity to ask a question and usually one or more people will respond with an answer. No lengthy discussions are allowed during this period. A later period, called the "random access period" is reserved for extensive information exchange. Also, during the mapping period, anyone having new or interesting products, software, or information are given the opportunity to speak. Very often, the latest rumors from Silicon Valley manufacturers are heard. This is not unusual because a number of the club members are employees of firms involved in microprocessors.

During the mapping period, control is ably maintained by the meeting moderator, Lee Felsenstein. With 150-200 or more people on hand, it is important. The following "random access period" is the time to pursue the more detailed discussions.

Random access is a sort of free-for-all get-together period to carry on the contacts established during the mapping period. It is also a time when special interest groups meet to exchange the latest ideas on a specific computer system or project.

The club has a monthly newsletter. It contains club information, new product data, programming ideas, tutorial material, and a bulletin board for member announcements. A recent issue listed the systems operated by club members attending a single meeting. A remarkable 182 systems were reported in operation by the 240 in attendance.

A club library has a variety of software and technical data for exchange by members. Gordon French is the custodian. It was Gordon's home where the first club meeting was held.

A sample *Homebrew Computer Club Newsletter* listing meeting dates and location may be obtained by sending a stamped, self-addressed envelope to the *Homebrew Computer Club Newsletter*, P.O. Box 626, Mountain View CA 94042.

**SECOND
WEST COAST
COMPUTER FAIRE**
March 3 - 4 - 5, 1978
9am-6pm 9am-6pm Noon-5pm

APPLICATION FOR HOTEL RESERVATIONS

All Requests Must Be Received Prior To
January 31, 1978

Send this application to: Faire Housing Bureau
San Jose Convention Bureau
Box 6178, San Jose CA 95150.

After January 31, 1978, make reservations, changes or cancellations **DIRECTLY** with the hotel.

Hotel Preference:

1st Choice _____
2nd Choice _____
3rd Choice _____

Accommodations:

Single _____ Double _____ 1 bed / 2 bed
Triple _____ Quad _____

Occupied By:

(Bracket all names sharing same room)

All rooms are assigned on a "first come, first served" basis. In the event the hotel you select is already filled, the Convention Bureau will establish reservations for you at one of the other participating hotels that offer similar accommodations.

Date of Arrival _____

Hour _____

Date of Departure _____

Mode of Travel _____

Please give accurate date and approximate hour of arrival. Reservations can not be accepted without a specific date. All rooms will be held until 6 pm on the date of arrival. If your arrival will be later than that and is not indicated above, you risk cancellation. The earliest check-in time is 2 pm.

Send Confirmation To:

(Confirmation will be sent directly to you by the Convention Bureau.)

Name _____
please print

Address _____

City _____

State _____ ZIP _____

Telephone () _____



HOTEL	Single 1 Person 1 bed	Double 2 Persons 1 bed or 2 beds	Triple 3 Persons 2 dbls	Quad 4 Persons 2 dbls
1 HOLIDAY INN Headquarters Hotel Park Ctr Plaza 282 Almaden San Jose CA 95115	\$24	\$28	\$32	\$36
2 HOLIDAY INN 1355 N. 4th St San Jose CA 95113	\$24	\$28		
3 SAN JOSE HYATT HOUSE 1740 N. First St San Jose CA 95112	\$29	\$34		

**COMPUTER FAIRE
PROCEEDINGS PUBLISHED**

Alone among the many personal and hobbyist computer shows, the First West Coast Computer Faire has published a set of *Conference Proceedings*. The 336+ page, 8 1/2 by 11 inch book is being sold for \$12.00 (or, as the cover says, "A nickel more than \$11.95.") by Computer Faire, Box 1579, Palo Alto CA 94302. Over a hundred authors contributed papers and addresses to the Faire, and to the proceedings.

The authors represent a broad cross section of those who are interested in and who use computers. Banquet presentations by science fiction author Frederik Pohl, computer artist John Whitney, computer historian Henry Tropp, and prophet Ted Nelson lead off the book.

The potential audience for the *Proceedings* spans a very wide range of potential personal computer users. There are four Tutorials for the Computer Novice, sections on People and Computers, and the Human Aspects of System Design. Some of the legal aspects of computing, from both the consumer's and the manufacturer's points of view are discussed in an article on the Legal Aspects of Personal Computing. Applications articles include two on the use of computers for the Physically Handicapped, seven on Networking and Computer Communication, no fewer than 12 papers on the use of computers in Education, and many more discussing such topics as residential use, speech recognition and synthesis, and computers in amateur radio.

Software and hardware articles fill the rest of the book. Design details of interpreters, numerical software, implementation techniques, and discussions of a great variety of languages are covered in some 16 articles.

Hardware sections include four articles on Homebrew Hardware, 14 solid pages on Bus and Interface Standards contributed by six authors, four articles on microprogramming for hobbyists, and four more on particular commercial hardware systems.

The *Proceedings* has names and addresses of the exhibitors and the speakers. This makes it a handy reference guide to the industry, and a who's who of personal computing.

Edited by Jim Warren, the *Proceedings* would seem to be a worthy addition to the reference shelf of any computernik. It probably will soon become a fascinating historical document.

**ATTENDEE PAYS ADMISSION
AFTER THE FAIRE**

April 20, 1977

Gentle Reader—

I had the opportunity to attend the delightful and informative Computer Faire on Saturday and Sunday (4/16 & 4/17) without charge. However, I wish to demonstrate my commitment to and support of such endeavors: the hobby and professional realm are both dear to my heart.

Enclosed is a personal check for the \$9.00 registration fee. Thanks much!

Sincerely
John Todd
1760 Brandon Street
Oakland CA 94611

We thank you for your support and your honesty.-JW

ASSISTANCE & REDUCED FEES AVAILABLE FOR THE PHYSICALLY HANDICAPPED

The Second Computer Faire will include a significant collection of technical presentations in the Conference Program, concerning the application of computers for the physically disabled. To assist the disabled who will be attending the Faire, the organizers will be providing simultaneous translation for the hearing-impaired of selected conference talks, as well as a reduced registration charge for those with major physical disabilities: \$6 for a three-day admission. It should also be noted that the Convention Center is equipped with facilities for the physically impaired.

The Faire organizers would like to thank Roger Vass, who is Chairing the Conference Section on Computers for the Physically Disabled, for his suggestions and assistance in helping to better serve this segment of the population.

SENIOR CITIZENS OFFERED REDUCED REGISTRATION FOR 2ND FAIRE

Senior citizens with appropriate identification will be admitted to the Computer Faire for a reduced, three-day registration fee of \$6.

SPECIAL RATES FOR STUDENT GROUPS

Groups of elementary and secondary school students and their sponsors will be admitted to the Computer Faire -- by preregistration -- for \$5.00 per person. Such groups must consist of four or more pre-college students for each adult sponsor, and must forward the following to the Computer Faire no later than February 17th:

1. name and mailing address of each child, and a copy of their student identification,
2. name and mailing address of each adult sponsor,
3. payment of \$5.00 for each child and each sponsor.

These fees will provide registration badges good for admission to the Faire on all three days.

NOTE: A number of school field trips appear to be planned for the first day of the Faire, Friday.

Second West Coast Computer Faire PREREGISTRATION FORM

Admission badges for preregistrations received prior to FEBRUARY 17, 1978

will be mailed to the preregistrant by First-Class Mail. Badges for preregistrations received after that date may be picked up at the Preregistration Desk of the San Jose Convention Center between 9 a.m. and 5 p.m. on any day beginning Thursday, March 2, 1978 (the day before the Faire opens).

Please list me in any directory of computer hobbyists.

NAME _____

MAILING _____

ADDRESS _____

CITY _____ STATE _____ ZIP/POSTAL CODE _____

PREREGISTRATION FEE

Provides:

1. Admission to the Conference Program & Exhibits, March 3, 4 & 5, 1978.
2. Avoidance of lengthy on-site registration lines.
3. More than \$1.70 discount on a copy of the Conference Proceedings.

"standard" adults: \$8 each \$----for----adults
 includes spouses, and college/university students
 senior citizens with identification: \$6 each \$----for----adults
 requires copy of senior's identification
 physically disabled with identification: \$6 each \$----for----adults
 requires copy of appropriate identification
 pre-college children with identification: \$5 each \$----for----children
 requires copy of student identification

BANQUETS & KEYNOTE SPEAKERS

Two nationally-known speakers at each banquet. Banquet & listener seating is limited, and available strictly on a first-registered, first-seated basis.

Friday evening
 beef brochette (dinner & speakers): \$15 each \$----for----people
 after-dinner listeners-only: \$5 each \$----for----people
 Saturday evening
 filet mignon (dinner & speakers): \$16 each \$----for----people
 after-dinner listeners-only: \$5 each \$----for----people

CONFERENCE PROCEEDINGS (to be picked up at the 2nd Faire)

Conference Proceedings of the SECOND West Coast Computer Faire
 \$11 including tax (\$12, retail) \$----for 2nd Proceedings
 Conference Proceedings of the FIRST West Coast Computer Faire
 \$11 including tax (\$12, retail) \$----for 1st Proceedings
 Super deal on BOTH the FIRST and SECOND Proceedings
 \$21 including tax (\$24, retail) \$----for 1st & 2nd Proc.

GENUINE ANTIQUE FIRST FAIRE T-SHIRTS (while they last)

Emblazoned with the tautology:
 "Computer Phreaques Make More Exacting Lovers".
 Antique, but unused (residue from the 1st Faire).
 Will be shipped upon receipt of order & payment.
 Originally \$4 + \$1 shipping + tax, title & license.
 NOW \$3 including all charges & taxes. \$----for----T-Shirts
 ---small ---medium ---large ---extra-large

total payment accompanying order: \$-----

Send payment & completed Preregistration Form to:
 Computer Faire
 Box 1579
 Palo Alto CA 94302.
 Do NOT send cash. Please send check, or money order. Thank you.

THIS QUESTIONNAIRE MUST BE COMPLETED IN ORDER TO TAKE ADVANTAGE OF THE REDUCED ADMISSION RATE

AGE RANGE	IF IN SCHOOL	SCHOOLING COMPLETED
<input type="checkbox"/> Under 15	<input type="checkbox"/> Grades 1 - 8	<input type="checkbox"/> High School
<input type="checkbox"/> 15 - 18	<input type="checkbox"/> High School	<input type="checkbox"/> A.A. (Jr. College)
<input type="checkbox"/> 19 - 25	<input type="checkbox"/> Technical School	<input type="checkbox"/> Bachelor's
<input type="checkbox"/> 26 - 35	<input type="checkbox"/> Junior College	<input type="checkbox"/> Master's
<input type="checkbox"/> 36 - 45	<input type="checkbox"/> Undergrad, 4-year	<input type="checkbox"/> Doctorate
<input type="checkbox"/> 45 - 65	<input type="checkbox"/> Graduate School	<input type="checkbox"/> Ph.D.
<input type="checkbox"/> Over 65	<input type="checkbox"/> Pre-Master's	<input type="checkbox"/> M.D.
	<input type="checkbox"/> Pre-Ph.D.	<input type="checkbox"/> D. Ed.
	<input type="checkbox"/> Post Doctorate	<input type="checkbox"/> Other

LEVEL OF INVOLVEMENT AND INTEREST

- Total novice, newly interested in personal computers
- Computer hobbyist, only (with or without equipment)
- Both a computer hobbyist, and a computer professional
- Currently only a computer professional

Equipment you own

MEMORY	CPU	TERMINAL
A _____ K bytes RAM	<input type="checkbox"/> 8080	<input type="checkbox"/> ASR 33
B _____ K bytes ROM	<input type="checkbox"/> 8008	<input type="checkbox"/> KSR 33
C _____ K bytes EPROM	<input type="checkbox"/> Z-80	<input type="checkbox"/> Baudot TTY
D _____ K bytes PROM	<input type="checkbox"/> 6800	<input type="checkbox"/> Other TTY
E _____ K bytes CORE	<input type="checkbox"/> 6502	<input type="checkbox"/> TVT-2
12 Other: _____	<input type="checkbox"/> SC/MP	<input type="checkbox"/> Polymorphic VDM
	<input type="checkbox"/> PACE	<input type="checkbox"/> ADM-3
	<input type="checkbox"/> 2650	<input type="checkbox"/> SWT CT1024
	<input type="checkbox"/> F-8	<input type="checkbox"/> PT VDM-1
	<input type="checkbox"/> COSMAC	<input type="checkbox"/> Office Selectric
	<input type="checkbox"/> 6100	<input type="checkbox"/> I/O Selectric
MASS STORAGE	<input type="checkbox"/> LSI-11	<input type="checkbox"/> Other
13 <input type="checkbox"/> Phillips Cassette Tape	<input type="checkbox"/> PDP-8	<input type="checkbox"/> Have hard-copy
14 <input type="checkbox"/> "Byte Standard"	<input type="checkbox"/> PDP-11	<input type="checkbox"/> Upper-case only
15 <input type="checkbox"/> Tarbell	<input type="checkbox"/> BIPOLAR	<input type="checkbox"/> Have soft-copy
16 <input type="checkbox"/> Other	<input type="checkbox"/> TTL	<input type="checkbox"/> Upper-case only
17 <input type="checkbox"/> 3M Cassette	(Homebrew)	<input type="checkbox"/> Homebrewed
18 <input type="checkbox"/> Floppy disc	<input type="checkbox"/> Other	
22 <input type="checkbox"/> mini		
23 <input type="checkbox"/> standard		
24 <input type="checkbox"/> Other		
67 <input type="checkbox"/> Other mass storage		

COMPUTER & ELECTRONICS PUBLICATIONS YOU RECEIVE

- 94 Byte
- 95 Interface Age
- 96 SCCS Interface
- 97 Personal Computing
- 98 Kilobaud
- 99 Minicomputer News
- 100 Computerworld
- 101 Computer Design
- 102 Datamation
- 103 Mini-Micro Systems
- 104 Computer Decisions
- 105 Others
- 137 Dr. Dobb's Journal
- 138 People's Computers
- 139 Creative Computing
- 140 (IEEE CS) Computer
- 141 Communications of the ACM
- 142 Popular Electronics
- 143 Radio-Electronics
- 144 QST
- 145 Ham Radio
- 146 73

EMPLOYMENT

- 106 Idle rich, full-time student, or unemployed
- 107 Work with computers
- 108 Maxi's
- 109 Mini's
- 110 Micro's
- 111 Management
- 112 Marketing
- 113 Programming
- 114 Engineer
- 115 Programmer
- 116 Technician
- 117 Work in non-computer digital electronics
- 118 Work in non-digital electronics
- 119 Radio
- 120 TV
- 121 Telecommunications
- 123 Work in non-electronic technical or scientific area
- 124 Work in education
- 125 CS or EE
- 126 Other Engineering
- 127 Other Science
- 128 Mathematics
- 129 Statistics or O.R.
- 130 Education
- 131 Work in Medicine or Biomedical area
- 122 Other
- 132 Am a member of an amateur computer club
- 135 Licensed amateur radio operator ("ham"; not C.B.)

UTILITY COMPANIES OFFER ENVIRONMENTAL EDUCATION GAME

The *Co-Op News* reports that the electric utility companies are doing us another "public service". This one is in the form of a simulation game called "The Energy-Environment Game" to be used in classrooms.

The companies provide the supplies. These include teacher and student guides, a filmstrip and record, site-selection information, wall map for classroom, reference materials and role cards for the students. Students take the roles of utility company officials, conservation organization members, representatives of business, industry and the professions, and typical residents.

The roles cards not only identify roles, but also define them. According to *Co-Op News*, conservationists are depicted as "unthinking zealots" while utility representatives are portrayed as "... thoughtful and concerned about the public interest".

While most public interest groups do not have funds to provide similar materials representing their point of view, there is some hope that materials representing a balanced viewpoint may be available for the schools. Montana Sen. Lee Metcalf and Sen. Alan Cranston, California, have initiated a program, now law, which provides money to schools and private and public non-profit organizations to develop consumer education materials.

Hopefully educators will apply for this new grant money and develop materials which teach students the decision making process not the decision to make.

Editor's Note: The Gazette will consider publishing any timely, responsible rebuttal to this article that may be submitted. -JW.

STRANGE NAMES

Robert Reiling
Reprinted with permission from the *Homebrew Computer Club Newsletter*

Names are becoming an interesting part of the personal computing scene. Naturally, *Apple* is at the core of things. Recently, a computer store ad appeared for *Strawberry Electronics* in Belmont, CA. *Computermania* took place August 25 - 27 at the Boston Commonwealth Pier. *BAMUG* is, of course, a computer club meeting in Hayward. And, come to think of it, *Homebrew* always turns on the postman. The *Digital Deli* computer store is now operating at 80 W. El Camino in Mountain View. Field service is available from *MicroMouse*, 450 San Antonio Road, Suite 34, Palo Alto CA. And, don't forget about *Parasitic Engineering*.

STILL NO CONSUMER PROTECTION AGENCY FOR HOBBYISTS. . . . NOR FOR ANYONE ELSE

Federal legislation that would have created an agency to defend consumer rights died in the House for lack of support. House leaders could find only 204 among the 435 representatives to support the legislation and therefore removed the bill from the House calendar.

Consumer protection organizations assumed passage of the legislation endorsed by the White House. But the Democratic majority could not gain sufficient support in the face of campaign promises to keep the federal buracracy from growing bigger.

PERSONAL COMMUNICATIONS FOUNDATION HOLDS SEMINAR IN "PERSONAL COMMUNICATIONS AND THE LAW"

The Personal Communications Foundation held its first seminar in "Personal Communications and the Law" on Monday evening, September 26, 1977, at the DWP Auditorium in Los Angeles, California. The seminar consisted of presentations by Kenneth Wideltz, president of PCF, Jon Gallo and Carl Markov, members of the PCF's Board of Trustees and Fred Lawson, all of whom are practicing attorneys with an interest in personal communications.

Wideltz, in his introductory comments, first explained that the PCF is a non-profit, tax exempt corporation organized for the purposes of compiling a comprehensive personal communications legal library and to educate the personal communications user, the ham and CBer, of the potential legal problems they face in the pursuit of their hobby. These legal problems were discussed by the speakers at the seminar.

Before introducing the speakers, Wideltz pointed out that, except for the FCC, the law sees no differences between a CB antenna and a ham antenna. A legal precedent established in an antenna case against a CBer will affect a ham living in the same jurisdiction and vice versa. That is because of the legal doctrine of *Stare Decisis* which requires courts to follow prior analogous decisions of higher courts in the same jurisdiction. Wideltz called for CBers and hams to cooperate in fighting restrictive zoning laws and other personal communications legal battles.

Jon Gallo's paper on "Legal Implications in the Erection of an Antenna and Tower" was read by Wideltz; Gallo having been called out of town on business at the last moment. Discussed were the various types of land use restrictions which regulate the personal communications user's right to erect antenna systems at his home. Gallo mentioned that there are three types of restrictions; local zoning ordinances and building codes passed by local government and private deed restrictions, often referred to as covenants, conditions and restrictions (CC&Rs), usually created by real estate developers or homeowners' associations. Gallo indicated that CC&Rs can be more restrictive than zoning ordinances because the due process requirements of the Fourteenth Amendment of the Constitution don't apply to such private contractual types of agreements.

Gallo, in enumerating the issues involved in determining the legality of a zoning ordinance, mentioned the First Amendment rights of freedom of speech, the extent to which the Federal government has preempted the field via the Communications Act of 1934 and the role which aesthetics may play in regulating antenna height.

Carl Markov spoke on "TVI/RFI and Nuisance." Markov stated that such interference has been construed to be a nuisance under codes which define nuisance as "Anything which. . . interferes with the comfortable enjoyment of life or property. . ." That is true notwithstanding the fact that the problem is usually caused by the inadequate shielding of the complaining parties' radio or TV. Markov explained how neighbors of hams and CBers use the legal process to obtain injunctions prohibiting the ham or CBer from operating. The audience was outraged to hear that such injunctions can be obtained with no prior notice whatsoever to the personal communications user.

The last speaker, Fred Lawson, tied the two prior "theoretical" talks together by citing actual case histories of antenna zoning and TVI/RFI matters on which he had worked. He mentioned the plight of the Arizona CBer who had a \$48,000 judgment entered against him in a TVI case, which judgment forced the CBer into bankruptcy. He discussed at length the criminal misdemeanor case of *City of Cerritos, California v. Schroeder*, in which a ham is being prosecuted for violation of a zoning ordinance. In that case, now before the California Court of Appeal, a PCF special study on the issue of Federal preemption was used for the first time. Lawson was hopeful that a favorable precedent would eventually be handed down by the California Supreme Court.

Wideltz concluded the seminar by pointing out that this is one area where a philosophy of "It might happen to the guy down the street, but it won't affect me" is fallacious. If the neighbors of the "guy down the street" don't like his antenna and get a restrictive zoning ordinance passed, it certainly affects every ham and CBer in that town.

The seminar was tape recorded. Cassettes will be distributed at PCF's cost, which has not yet been determined, to anyone interested in acquiring a copy. For information write PCF at 10960 Wilshire Blvd., Suite 1504, Los Angeles, California, 90024, or call (213) 478-1749.

FEBRUARY 27-MARCH 2 **spring** **COMPCON 78** 

SIXTEENTH IEEE COMPUTER SOCIETY INTERNATIONAL CONFERENCE
JACK TAR HOTEL, SAN FRANCISCO, CALIFORNIA
Van Ness at Geary

INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS

"PERSONAL COMPUTING" Has the Personal Computing Come of Age?

PURPOSE

We are at the threshold of personal computing. Personal computers will leave the hobby room and enter the kitchen and living room. They will become a true consumer computer - within the financial reach of many and not just experimenters. This seminar gives the opportunity for a broad spectrum of end users to discuss directly with the expert panelists and, hopefully to help shape the future of personal computers.

SPECIAL EXHIBITS 5:00 P.M.-10:00 P.M. Monday, Tuesday, Wednesday

The exhibits will be available for hands-on type of learning. Attendees can teach themselves on a wide variety of computer equipment.

REGISTRATION FEE

For Personal Computing Sessions and Exhibits, the registration fee is \$5.00. You may register in advance or at the conference.



Organizers

Robert Albrecht
Author, *Dragon*, and
Friend of Children

Alice E. Ahlgren
Marketing Manager,
Cromemco, Inc.,
Mountain View, CA.

PROGRAM

MONDAY February 27, 1978

5:00 p.m.-10:00 p.m. PERSONAL COMPUTING EXHIBITS

"WOMEN'S ROLE IN INNOVATIVE COMPUTER APPLICATIONS"

Panel:

Alice E. Ahlgren, Marketing Manager, Cromemco, Inc., Mountain View, CA
Judith Edwards, Northwest Regional Educational Lab, Graham, OR
Liza Loop, Director of Lo'op Center, Inc., Cotati, CA
Ellen W. Nold, Director of Communication Project, Stanford University
Joanne K. Verplank, Director of Communications Center, People's Computers Magazine, Menlo Park, CA

TUESDAY February 28, 1978

5:00 p.m.-10:00 p.m. PERSONAL COMPUTING EXHIBITS

7:00 p.m.-9:00 p.m. SESSION 8: PERSONAL COMPUTING

"ROBOTICS AND BIONICS" (Session will include use of computers to aid the severely handicapped)

Panel:

Nels Winkless III, Editor, *Personal Computer Magazine*, Charter Member, U.S. Robotic Society
Sallie Kueny, Stanford University and San Andreas Health Council
Richard Lowenberg, Bio Arts Lab, S.F.
Tod Mikuriya, M.D.

WEDNESDAY March 1, 1978

5:00 p.m.-10:00 p.m. PERSONAL COMPUTING EXHIBITS

7:00 p.m.-9:30 p.m. SESSION 21: PERSONAL COMPUTING

"EDITORS OF YOUR FAVORITE COMPUTER MAGAZINES"

Panel:

Don Inman - *Calculators/Computers Magazine*
Phyllis Cole - *People's Computers Magazine*
Nels Winkless - *Personal Computer Magazine*
Jim Warren - *Dr. Dobbs Journal*
John Craig - *Kilobaud*
Carl Helmers - *BYTE Magazine*

THURSDAY March 2, 1978

7:00 p.m.-9:30 p.m. SESSION 31: PERSONAL COMPUTING

"COMPUTERS IN ART AND MUSIC" (will include demonstrations and exhibits), Steve Dompier, V.P., Processor Technology, Pleasanton, CA, Margot Critchfield, Project SOLO, University of Pittsburgh, and Thomas A. Dwyer, Project SOLO, University of Pittsburgh

For more information contact: Alice Ahlgren
Cromemco, Inc.
Mountain View, CA
(415) 964-7400

SILICON

GULCH

GAZETTE

--- FREE ---

ALL OF THE NEWS ABOUT THE
2ND WEST COAST COMPUTER FAIRE IN SAN JOSE, CALIFORNIA

March 3 - 4 - 5, 1978

9am-6pm 9am-6pm Noon-5pm

66

Volume 2, Number 2

Computer Faire, Box 1579, Palo Alto CA 94302

78January24

KEEP YOUR FREE GAZETTES COMING

Unless there is a label on this Gazette, addressed to you and indicating that it's "from the Computer Faire", please write or call in (415) 851-7075 and give us your name and mailing address. This will assure you of receiving future SGG's - without charge, of course.

MAJOR CONFERENCE PROGRAM ON COMPUTERS FOR THE PHYSICALLY DISABLED

The Computers for the Physically Disabled Conference Section promises to be a particularly exciting one. Microcomputer system designs have tremendous potential for the relief of countless physical, visual, and hearing impairments. The selected speakers cover the entire breadth of application areas for the handicapped. Most will be commenting on the availability of new devices and systems in addition to discussing their own (or their company's) recent work in this burgeoning field.

The Section's keynote speaker will be Dr. Robert Sudding, a true microcomputer pioneer from the Digital Group. Robert will focus on the perspective concerning where the microcomputer revolution is taking us in the solution of the many needs of handicapped people of all kinds.

Bill Jolitz, an undergraduate at the University of California, Berkeley, will discuss a unique NASA-supported project for the blind in a "Microcomputer-Based Speech Synthesis System." In this application, a DEC LSI-11 coupled with a VOTRAX speech synthesizer will enable blind engineers to easily interact with an HP calculator.

FOR THE BLIND

Robert Jaquiss Jr, a blind engineer from Tektronix, will reveal his unusual work on Braille generation in "A Braille Line Printer for the Blind." We are hoping that Robert will be able to demonstrate this unique machine.

Susan Phillips, a vocational counselor from the Sensory Aids Foundation, a non-profit company which focuses on finding employment for the handicapped, is another speaker. She will discuss her company's goals and its involvement in a project for the blind entitled "Development of Prototype Equipment to Enable the Blind to be Telephone Operators."

SENSORY AIDS

Yet another company deeply involved in aids for the handicapped is Telesensory Systems in Palo Alto. Dr Stephen Breugler, who heads engineering at Telesensory, will give an overall review of Telesensory's many unique electronic aids in his presentation entitled "Microcomputer-Based Sensory Aids for the Handicapped."

SPEECH RECOGNITION APPLICATIONS

The use of speech recognition is also present in this Conference Section. Horace Enea of Heuristics, Inc., will address this topic in "Speech Recognition as an Aid to the Handicapped." Horace will highlight the R&D work occurring at Heuristics on voice-activated, computer-controlled devices. He will also

ATTENTION, ROBOTS!

I have an open minded, but bodyless robot - that is, a very flexible robot control language (see *Dr. Dobb's Journal* No. 18). If you are going to bring a robot to the Second West Coast Computer Faire, will you contact me right away? Tell me about your robot and I will try to make an interface and prepare my computer to tickle your robot at the Faire.

Lichen Wang
150 Tennyson Ave.
Palo Alto CA 94301
(415) 321-6983

UNIVERSITY COURSE ON COMPUTERS IN EDUCATION

The Second West Coast Computer Faire will be held March 3-5, 1978, in San Jose. This is a national conference dealing with home/personal computers that are available for under \$1000. The eventual impact of these computers in the nation's schools is the subject of immense speculation. The Computer Faire provides an opportunity for interested persons to examine the computer systems currently being marketed to users of home and personal computers. In connection with the Faire's conference section "Personal Computers in Education", the University of California Extension is offering this course (X402B (2)) which is an exploration of the educational applications of low-cost home/personal computers.

Emphasis is on formal classroom applications of computers, although those who would like to practice education in the home will find this course invaluable. Topics include: survey of present classroom computing activities; comparison of available low-cost computing hardware; personal/home computers versus programmable calculators; computer kit building at home or at school; sources of materials that can be used with a computer.

LEROY FINKEL, M.A., teacher of computer science, San Carlos High School and De Anza College; assisted by DON INMAN, B.A., Editor, *Calculators/Computers Magazine* and MARVIN WINZENREAD, Ed.D., Associate Professor of Mathematics, California State University, Hayward.

SAN JOSE: Pre-session, Thurs., March 2, 7-10 pm; intra-session, Fri., March 3, 6-9 pm; post-session, Sun., March 5, 5-7 pm; San Jose Convention Center; \$75, includes instructional material and admission to the Computer Faire (edp 053215).

Contact: University of California, Extension, 2223 Fulton St., Berkeley CA 94720. (415) 642-1061.

summarize his company's product line activities in this area.

The Section organizer and person primarily responsible for organizing this comprehensive program is Dr Roger Vass of National Semiconductor Corp. Roger is the parent of a handicapped child, and is very active in the San Jose community in the areas of handicapped rights and education.

The presentations made in this session will be of particular interest to the handicapped. Registration fees for the Faire are discounted for all handicapped people with appropriate identification. All the speakers in this Conference Section will be signed for the benefit of the hearing impaired. The Section organizer will attempt to accommodate all special seating arrangements requested by the severely physically disabled, and the deaf.

RETAILERS PROGRAM SUNDAY MORN

The Computer Faire will include an exhibit exclusively for computer retailers, and exhibitors' guests on Sunday morning, March 5th, from 10 am to noon. Those computer retailers and distributors who wish to attend this Sunday morning show should include a request to that effect on your letterhead business stationery when you send your preregistration form and fee. If your business stationery is not obviously for a computer retailer, please also indicate which product lines you carry and what your store hours are.

1st FAIRE HAD MASSIVE ATTENDANCE 2nd FAIRE TO BE EVEN BETTER

The First West Coast Computer Faire recorded almost 13,000 attendees who came to see more than 200 booth-fulls of personal, small business, and hobbyist computer equipment and accessories. In the Conference Program, there were about 100 talks and papers presented in the space of two days.

The statistics don't begin to give the "feel" of the Faire. The bustle and noise on the main floor, the excited way people rushed through the halls, the smell of frankfurters (??). Many of the talks drew wall-to-wall attendance.

The lines of people waiting to get into the Faire stretched, at times, around the block. It looked like a showing of Star Wars. Security at the Faire was as leak-proof as a sieve, and uncounted (literally) hundreds slipped in.

The organizers say that the Second West Coast Computer Faire will solve these problems by spreading out the event over an extra day, structuring the ticket prices to even out the crowd distribution, and making it easier for pre-registered people to get in without standing in line. The Faire will also have the advantage of utilizing the brand new San Jose Civic Auditorium.

SOLUS HOSPITALITY BOOTH AT FAIRE

The SOL User's Society (SOLUS) will have a hospitality booth at the Faire in the commercial exhibits area, adjacent to Processor Technology. Everyone is invited to stop by, rest a while, and learn about SOLUS.

Although SOLUS was originally formed by and for owners of Processor Technology SOL computers, the group has expanded membership to include owners of other computers that can be configured to be compatible with SOL. A more formal definition of "SOL compatibility" is in preparation, but it generally means any computer that can run 8080 programs, has an operating system functionally equivalent to the SOLOS or CUTER systems, and can read and write Kansas City standard or CUTS standard cassettes.

The purposes of SOLUS are to facilitate exchange of software and information among the members, to provide a cooperative but independent relationship with manufacturers, and to encourage the development of SOL-compatible software and hardware. The group publishes a newsletter, is developing a software library, and reviews new hardware for SOL-compatibility. Future projects include developing software portability standards that will let SOLUS library programs run under a wide variety of operating systems, such as North Star, OP/M, PTDOS, SOLOS, CUTER, and so on. Local chapters have formed in 17 cities in the U.S. and Canada. For more information, write to SOLUS, Box 23471, San Jose CA 95153.

TAXES

DICOMP
2053 Manzanita Dr.
Oakland, Ca. 94611
(415) 434-4767

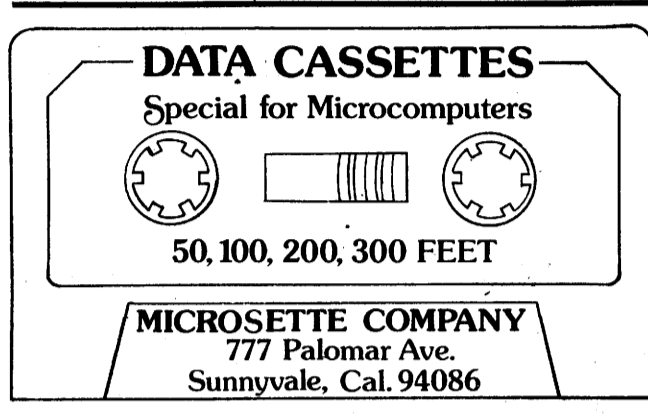
Computes Form 1040 and 5 schedules

- * See if you can save money by itemizing deductions, using the new Schedule TC, income averaging, etc.
- * The dollar amounts to fill in on your tax forms are printed for you in numerical order by form line number.
- * Your tax bracket percentage prints out.

Programs are in BASIC; runs in 10K min. depending on version.
Available for Tarbell, Sol, Northstar, CP/M; call about others.

Cassette, \$20
Disk, \$26

Dicomp Tax Pak



ASSISTANCE & REDUCED FEES AVAILABLE FOR THE PHYSICALLY HANDICAPPED

The Second Computer Faire will include a significant collection of technical presentations in the Conference Program, concerning the application of computers for the physically disabled. To assist the disabled who will be attending the Faire, the organizers will be providing simultaneous translation for the hearing-impaired of selected conference talks, as well as a reduced registration charge for those with major physical disabilities: \$6 for a three-day admission. It should also be noted that the Convention Center is equipped with facilities for the physically impaired.

The Faire organizers would like to thank Roger Vass, who is Chairing the Conference Section on Computers for the Physically Disabled, for his suggestions and assistance in helping to better serve this segment of the population.

SPECIAL RATES FOR STUDENT GROUPS

Groups of elementary and secondary school students and their sponsors will be admitted to the Computer Faire -- by preregistration -- for \$5.00 per person. Such groups must consist of four or more pre-college students for each adult sponsor, and must forward the following to the Computer Faire no later than February 17th:

1. name and mailing address of each child, and a copy of their student identification,
2. name and mailing address of each adult sponsor,
3. payment of \$5.00 for each child and each sponsor.

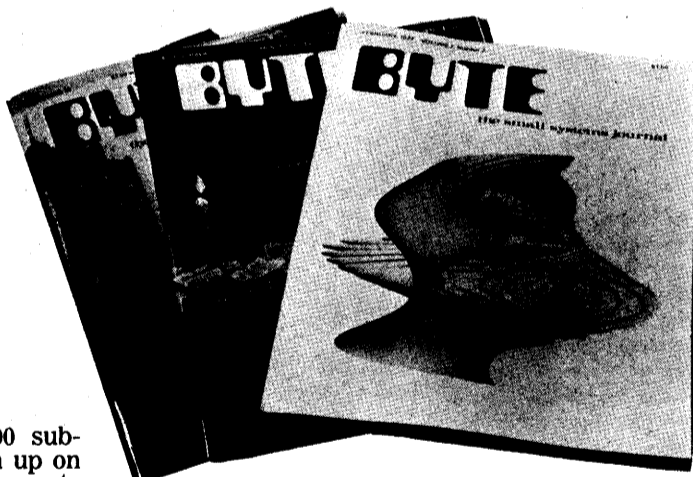
These fees will provide registration badges good for admission to the Faire on all three days.

NOTE: A number of school field trips appear to be planned for the first day of the Faire, Friday.

Get updated . . . keep updated with

BYTE

the leading magazine in the personal computer field



The personal computer age is here.

Join Byte's 110,000 subscribers and catch up on the latest developments in the fast-growing field of microprocessors. Read BYTE, The Small Systems Journal that tells you everything you want to know about personal computers, including how to construct and program your own computer (over 30,000 BYTE readers have already built, or bought, their own systems and half of these have 8K bytes or more). You'll find our tutorials on hardware and software invaluable reading, also our reports on home applications and evaluative reviews based on experiences with home computer products.

Home computers . . . practical, affordable.

Large scale integration has slashed prices of central processors and other com-

puter components. This has encouraged the development of new, low-cost peripherals resulting in more hardware and software — more applications than you could imagine, more opportunities for you. BYTE brings it all to you. Every issue is packed with stimulating and timely articles by professionals, computer scientists and serious amateurs.

BYTE editorials explore the fun of using and applying computers toward personally interesting problems such as electronic music, video games and control of systems for alarms to private information systems.

JAPANESE "COMMUNES" TO VIE FOR SILICON VALLEY MARKET

The semiconductor and computer industries are facing some tough choices in future development. The decisions are being forced by the growth of the computer industry in Japan. In efforts to have export products with which they can balance their imports of oil and other goods, Japan has made the choice to go with computers. Even the government of Japan has become involved by acting as coordinators of the industry. Where American companies must deal with profit and loss statements and the availability of capital to grow, the Japanese industry is subsidized by the government to the tune of \$300 million.

In a speech before the Semiconductor Industries Association, Wilfred Corrigan, Chairman of Fairchild Camera and Instrument Corp. of Mountain View, California, stated, "The Japanese, recognizing the enormous economic implication for their country, addressed it in a Japanese way—communally—creating in a remarkably short period of two years a massive task force comprising both industry and government."

"Their well thought-out master plan for very large scale integration encompasses everything from components to mainframe computers. They assigned tasks to individual companies, set up a central research and development activity, and a government funded war chest. Major contributions of personnel and money were demanded from the major companies".

As Corrigan pointed out, a key issue is Very Large Scale Integrated Circuits (VLSI). The semiconductor manufacturer can presently cram about 100,000 transistors on a chip of silicon the size of a baby's thumbnail. However, the know-how exists to up that to a million. That opens the door the Japanese are taking.

An instrument called an E-beam scanner is manufactured in Hayward, California by a company called Etec. Eleven instruments which cost \$1.6 million apiece, have been sold; three of which went to Japan.

What the E-beam scanner does is write very thin lines on photographic plates, which are then used to print the layers which make up a semi-conductor chip. While current fine lines are in the 5 micron range (five millionths of a meter), the E-beam enables 3 or 3.5 micron lines—improving the available space on the chip by a third.

But the next step in the development is to omit the photographic plates entirely by writing directly on the chip with a beam of electrons, which is generated by a heated wire and beamed in a way similar to the scanning beam of a TV picture tube.

The problem with this new development is the great cost involved. It may be only the larger companies in Silicon Valley that will be able to advance their technology in this direction. However, many companies are carefully deciding just how they should address this inevitable development, and are keeping their ears open for notes on the communal competitor across the sea.

Based on an article in the 78 Jan 8 San Francisco Sunday Examiner & Chronicle

Byte Subscription Dept 7808, Box 590, Martinsville NJ 08836

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BYTE

HOMEBREW COMPUTER CLUB SCHEDULE

The Homebrew Computer Club in the San Francisco Bay Area is the oldest of the amateur computer clubs. Until this year, it has met almost every other Wednesday evening since early 1975. Typically, a meeting will draw 100-350 enthusiasts for a 3-4 hour meeting.

This year, the HCC is exhibiting a somewhat more sparse meeting schedule:

February 22	June 14
March 8	August 9
April 12	September 13
May 10	October 11
	November 8

Meetings begin around 7 PM in the main auditorium of the Stanford Linear Accelerator Center on Sand Hill Road in Menlo Park between Foothill Blvd. and 280. Dates and location are subject to change. To keep updated, contact HCC, Box 626, Mountain View CA 94042.

NATIONAL NAMES WELCH TO HEAD MEMORY SYSTEMS OPERATION

National Semiconductor Corporation has announced the appointment of Robert H. Welch to the post of director of its Memory Systems operation, part of its newly formed Computer Products Group.

Mr. Welch, 36, was formerly director of marketing and most recently director of memory systems developed for original-equipment manufacturers (OEM's). His department has been integrated into the new Computer Products Group as the Memory Systems operation. Prior to joining National two years ago, Mr. Welch held the positions of executive vice president for Gray Computer Systems Corporation and president of Diversified Electronics, Inc. Mr. Welch received a B.S. E.E. degree from West Virginia University in 1963.

THE GENERAL BULL NEWS SHEET

A quarterly Compendium of Computer Satire, Irrelevant Nonsense, and Outright Lies

If you are one of those folks who has been driven slightly off-center by chronic exposure to the world of commercial data processing, IBM, "Project Management", DP Seminars, the CDP exam, Computerworld, and other bizarre manifestations of the computer industry, you will probably enjoy **The General Bull News Sheet**. For example, some topics from recent issues:

July, 1977

- Amorphous Programming More Efficient (than structured programming).
- Fact Generation Systems (for those who have to support a decision they've already made).
- Surgeon General's Report Shows Programming Hazardous to Health.
- Bit Basher Computers Sues General Bull (for unauthorized use of name and trademark, in addition to blatant irreverence).
- The Polish Corner.
- etc.

October, 1977

- CDP Exam - Short Form (complete with CDP Certificate).
- Bull-of-the-Month Book Club selections.
- Fundamentals of Raw Power (a seminar in dominance for Project Managers).
- Letters to Xaviera (Hollerith).
- Graffiti and Cartoons, etc.

January, 1978

- Snurdley Runs Amok (or, The Effect of Progress Reports on DP Managers).
- Bull General Announces New Mini-Computer (utilizing new liquid-glass technology).
- Cartoons, Letters, Graffiti, etc.
- ... you get the idea.

Guaranteed to contain absolutely nothing informative, educational, or timely!

\$3/issue \$10/year

We know that's expensive, but we're small, self-supporting, and, curiously enough, almost no one wants to advertise in our mag.

Well, you get what you pay for, and top quality Bull costs plenty.

Original Contributions Solicited!

If you have anything humorous, cynical, satirical or entertaining to say, (or just want to see your name in print) send you stuff in and we'll probably print it. Articles, anecdotes, graffiti, cartoons, etc., about Personal Computing and Mini-computers would be especially appreciated by us. Published stuff earns credit toward one or more issues of General Bull (we already spent our cash), depending on the reactions (if any) from our impartial panel of burned-out Programmers and unemployed DP Consultants.

Bull, Box 2623, Menlo Park, CA 94025

SWEDEN TOUR GROUP TO ATTEND FAIRE

A group tour to the 2nd Computer Faire from Sweden is being organized by:

Jan Nilsson
Hobby Data
Fack
S-20012 Malmo
Sweden

Price is \$700.

LONDON OPTICAL COMPUTING CONFERENCE

1978 International Optical Computing Conference September 5-7, London, England. Papers on advanced optical signal processing systems, applications, and technology are solicited for this conference sponsored by the IEEE Computer Society in cooperation with SPIE and the U.S. Office of Naval Research.

Principal topics are: radar and sonar signal processing, near field and far field perturbations, electronic to optical signal conversion, acoustical to optical signal conversion, hybrid optical/electronic/digital systems, applications of non-linear and space variant optical systems, and advanced thin film and integrated optics signal processing systems.

An abstract of 200-250 words plus a brief biographical sketch should be submitted by April 1, 1978 to either E.C. Landou, Naval Underwater Systems Center, New London, Connecticut 06320 or LCDR David Rummier, Office of Naval Research, London, 223 Old Marylebone Road, London, NW1, Great Britain.

The Second West Coast Computer Faire

WHAT?

- 50-80 Conference Speakers tutorials & technical talks
- 4 Keynote Speakers in 2 Banquets
- Over 200 booths of exhibits
- 10,000-15,000 computer enthusiasts

WHEN?

- March 3rd (Friday), 9 a.m.-6 p.m.
- March 4th (Saturday), 9 a.m.-6 p.m.
- March 5th (Sunday), Noon-5 p.m.

WHERE?

San Jose Convention Center
Market Street & San Antonio Avenue
San Jose, California
(In the middle of "Silicon Valley," an hour south of San Francisco.)

HOW MUCH (for all 3 days)?

By Preregistration:

- Adults - \$8
- Children (pre-college) - \$5
- Physically disabled - \$6
- Senior citizens - \$6

Note: Preregistration provides discounts on purchase of *Conference Proceedings*

Student Groups:

(Consist of 4 or more pre-college students for each adult sponsor)
\$5 per person, by preregistration only

At-the-Door:

- Adults:
 - Friday - \$8 (for all 3 days)
 - Saturday - \$9 (for Saturday & Sunday)
 - Sunday - \$8
- Children - \$6 (with pre-college student ID)
- Physically disabled - \$6
- Senior citizens - \$6

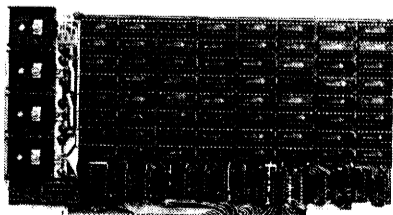
Now, Artec has an expandable elephant for everyone!



8K-32K of static RAM memory. Fully assembled or in kit form.

No matter what your needs, Artec has a memory board for you. You can start with 8K of TI 4044 memory on a 5.3" x 10" card and work your way up to a full 32K in 8K increments. The access time is only 250ns. The memory is addressable in 4K blocks and is perfect for S100 and battery augmented systems. The Artec 32K Expandable Memory has four regulator positions, bank select and plenty of room for all necessary support hardware. It uses less than 1 amp per 8K of memory (3.9 for 32K), and only +8 volts.

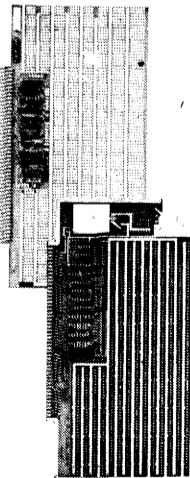
For five years Artec craftsmanship and reliability has been proven in tough industrial use. Now, you too can enjoy breadboards and memories that will work time after time. Send for an Artec board, your order will be sent the same day as received.



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8K of memory—\$ 290.00	8K—\$ 440.00
8K add on kits—\$ 255.00	16K—\$ 695.00
Full 32K board—\$1,055.00	24K—\$1,100.00
	32K—\$1,205.00

GP100—\$20.00

Maximum design versatility along with standard address decoding and buffering for S100 systems. Room for 32 uncommitted 16 pin IC's, 5 bus buffer & decoding chips, 1 DIP address select switch, a 5 volt regulator and more. High quality FR4 epoxy. All holes plated through. Reflowed solder circuitry.



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A wire wrap breadboard, similar to the GP100. Allows wire wrap of all sizes of sockets in any sizes of sockets in any combination. An extra regulator position for multiple voltage applications. Contact finger pads arranged for easy pin insertion.

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FOR MORE INFORMATION: For more information about these or any of Artec's complete line of circuit boards or for either industrial or personal use, please call or write. A catalog will gladly be sent.

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An Editorial from the Homebrew Computer Club Newsletter reprinted with permission of the Homebrew Computer Club Newsletter

STANDARDS AND CONVENTIONS

Tom Pittman

In an infant industry like ours, the standards dispute occupies a peculiar role. The people using the systems—and particularly the people trying to use more than one system at a time—are crying, "Let's have some standards!" while the people building these systems appear to want nothing to do with standards. I say "appear" because some of the diversity we see is not intended to work against standardization; it only turns out that way.

Perhaps a parable will make the problem a little clearer. When you buy a rubber stamp, be it a date stamp, a "Paid" stamp or whatever, there will be a flat spot on the handle if it has a round handle. If you hold it with the flat spot facing you, the stamp will imprint with the correct orientation; if it faces away, the date will be up side down. Well, almost always. I bought one with the flat spot on the wrong side. Because it was a cheap model, there was no way I could reverse that handle so it would work in the conventional manner. Since the date stamp gets used more than the others, soon the dates were right side up, and everything else was up side down. The upshot is that now all of the rubber stamps in the house have their handles on backwards. I call this a parable because it makes several points.

First, standards serve a purpose not so much of defining what is "right" or "wrong" but to provide a convention that we can get used to, so that we can use things out of habit. The ability to relegate activity to habit frees the mind for other activities, and makes such activities relatively accessible to more people. How many people would type if every keyboard were different?

Second, note that the same factors that affect learning—primacy and frequency—also control the setting of standards. The date stamp got more use, so its peculiarity dominated. MITS was the first to provide personal computing on a large scale, so the Altair bus developed into the standard. On the other hand, audio cassettes were never swamped by a single recording format, so there was little motivation to adhere to any standard. Actually, the situation is a little more complex than that, but primacy and frequency play the biggest parts.

Third, it often turns out that one anomaly can subvert an entire standards effort. While the national standard (if you will) has the flat spot on the rubber stamp handle facing you, in my house it is reverse. All because one lousy cheap date stamp was put together backwards. I see this same process happening in our industry. Almost two years ago, a committee met in Kansas City to define a standard for audio cassette interchange. Many controllers were designed to this spec, but because of its low data rate and bit density most of us consider it unsuitable for local bulk storage. Enter Tarbell, which has a KC-compatible operating mode, but is also capable of a much higher data rate and bit density. Unfortunately, the higher data rate recording mode has some serious shortcomings when used for interchange. But instead of the more reasonable approach consisting of KC standards for interchange and Tarbell for local data storage, we begin to see a strong movement afoot to make the Tarbell recording format the interchange standard. Witness the article in August *Kilobaud* (p. 18).

MICROCOMPUTER CHESS TOURNAMENT ANNOUNCEMENT

At the recent North American Computer Chess Championship, where gigantic Cyber 176 programs played chess against massive Amdahl 470/V6 system, it was suggested that a Microcomputer Chess Tournament be organized. David Levy, an International Chess Master and author of books on computer chess and computer chess tournaments, made that suggestion to Doug Penrod, Editor of the *Computer Chess Newsletter*. (This newsletter has been a vehicle to promote and coordinate chess programming activities of hobbyists as well as professionals at universities.)

Therefore, the Second West Coast Computer Faire will host a Microcomputer Chess Tournament where microcomputers play against each other. The atmosphere will be informal so that the event will be fun and interesting. However, for coordination and competition leveling, we will use the following guidelines.

1. Swiss style scheduling with 3 to 4 rounds.
2. Entrance limited to microcomputers based on 8 bit microprocessor chips, no bit-slice machine or mini-computers allowed (some 16 bit microcomputers such as the AM100, LSI-11, or PACE will be considered). Also the computer must attend. I.E., no phone hook-ups.
3. 32K Bytes memory maximum.
4. If there are enough entries, the field may be divided into three classes.
 - A. Chess Challenger, KIM, Compu-Chess
 - B. 2 MHZ CPU with up to 8K RAM
 - C. 4 MHZ CPU with up to 32K RAM
5. In order to complete the tournament during the three days of the Faire, we will try to use the 40 moves in 2 hours rule (average 3 minutes per move.)

If, during the scheduling, we find that more time is available per match, consideration will be given to longer response intervals.

6. The Tournament Director and assistants will adjudicate on crashes, software lock-ups, games which will not terminate or any other unexpected problems.
7. Some manual assistance and adjustments for en passant, castling, etc., may be allowed for class A entrants.

If you want to enter your computer and program, please contact the Tournament Director, Larry Wagner, or the Tournament Coordinator, Roy Elder, at (408) 745-2810. More information concerning scheduling times, rules addition, etc., will be published in the next issue of the *Silicon Gulch Gazette*.

I titled this column "Standards and Conventions" because the two are related more than they are dissimilar. I think the major difference between the two is that standards are more formal than conventions, and therefore more widely respected. I think it is *conventional* for rubber stamps to have the flat spot face the user; it would be standard if the Government or some other ruling body (such as ANSI—they have their thumbs in a lot of pies) said this is the way to do it. There is no law that says rubber stamps *must* be made that way (unless there is some regulation affecting the Federal procurement channels, but that does not affect most of us), but the rubber stamp makers do it anyway. Perhaps they have

Public Service Announcement

CLEAN INDOOR AIR INITIATIVE

The California Clean Indoor Air Initiative needs your support. If you feel breathing clean air is a right and not a privilege, the Clean Indoor Air Initiative wants your signature to help place an initiative proposal on the November 1978 state-wide ballot. If adopted, the initiative will regulate smoking in enclosed public places and places of business such as theatres and restaurants. Persons willing to support the initiative, contribute to the campaign or solicit additional signatures are urged to contact the Clean Indoor Air Committee of the Group against Smoking Pollution (GASP).

Persons wishing to obtain copies of the initiative petition may call or write:

In Northern California and the Bay Area:
 P.O. Box 1061
 Berkeley CA 94701
 (415) 849-1794

In the Los Angeles area:
 P.O. Box 45893
 Los Angeles CA 90045
 (213) 671-1492

In the San Diego area:
 P.O. Box 99511
 San Diego CA 92101
 (714) 277-GASP

The deadline for signing is February 1, 1978.

S-100 SYMPOSIUM: YOU, TOO, CAN PARTICIPATE

If you have an active interest in standardizing the definition of the S-100 bus, you will be interested in the Conference Section being organized by Steve Edelman of Ithaca Audio at the 2nd West Coast Computer Faire. If you have some suggestions regarding that definition, you may wish to present them in that Conference Section. You are invited to propose a presentation or offer to serve on a panel discussing the topic — simply contact Steve or the Computer Faire office.

The S-100 "standard" bus . . . isn't. Except for the assignment of 55 or 60 of the 100 bus leads to functions that more or less match 8080 pin-outs, the S-100 bus remains poorly or undefined. Current and voltage ranges for the leads are, for the most part, unspecified. More importantly, the bus protocols — who does what with which to whom, when — remain largely a free-for-all.

Many hobbyists have found, to their dismay, that an "S-100 standard" board or subsystem that they purchased will not work — at least, not without modification — in their "S-100 standard" system. A first step in reducing this problem will be the development and publication of an agreed-upon definition — or set of definitions — of the "S-100 standard." As Bob March, the President of Processor Technology, pointed out not too long ago, such a standard would provide something to deviate from. That is, a manufacturer or vendor could specify which parts of the standard his system met, and which parts it violated in what ways. This would give the consumer some hope of successfully mixing parts from multiple vendors.

For more information about the S-100 Definition(s) Conference Section, contact Steve Edelman, Ithaca Computer Group, Box 91, Ithaca, NY 14850, (607) 273-3271.

discovered that, by appealing to habitual behavior, their product is more widely accepted and sells more. In our case, there seems to be neither standards nor conventions, except that it is conventional for each designer to start out with tabula rasa instead of building on the work of others in the field. And there is as yet no market pressure—the ones clamoring for standards are not those who are about to buy a system, but those who are already locked into something. In fact, to date the market pressure has been away from standards, as everyone rushes out to buy the newest and most innovative products.

Yet for the innovation, standardization is not precluded. Look at all the innovations that plug into the de-facto standard S-100 bus. Perhaps all we need is a little more care (or caring) on the part of the designers, so that before making irrevocable design decisions, they ask themselves, "Why am I making this different than...? Have I bothered to examine the other widgets out there to see if my ideas are adaptable to some existing standards? If I changed the design to be more compatible, does it seriously hamper the value of the innovations, or does it merely wound my pride?"

Finally, let me remark that standards and compatibility are serious issues not only for the hardware designers, but also the software designers. I recently had the opportunity to look over the specifications for a new operating system for the 6800. The designer specified a 6-byte monitor service call for system functions. He had carefully thought out what he considered to be the optimum interface, and perhaps he was right. But it flew in the face of the existing conventions which all used 3-byte subroutine calls. Thus, the new design locks out all other software and locks in the users to his company's products. The customer is not informed of this incompatibility until it is too late. It is not that the job *could not* be done in a compatible fashion, only that the designer did not care.



MICROPROCESSORS FROM CHIPS TO SYSTEMS
 Rodnay Zaks
 420pp, 150 illustr, ref C201 **\$9.95**

Our Bestseller. This book is the result of the author's experience in teaching microprocessors to more than 2000 persons. It presents a comprehensive introduction to all the aspects of microprocessors, from the components to the assembly of a system. The difficulty of each chapter is graduated from the basic concepts to the actual technical details. It is read by students, technicians, managers, engineers, educators, doctors and by all those who wish to understand rapidly and efficiently all the important aspects of microprocessor use, selection, or application.

CONTENTS: Fundamental Concepts... Internal Operation of a Microprocessor... System Components... Comparative Microprocessor Evaluation... System Interconnect... Microprocessor Applications... Interfacing Techniques... Microprocessor Programming... System Development... The Future...



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 Austin Lesea, Rodnay Zaks
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FROM KEYBOARD TO FLOPPY DISK: All the basic concepts and techniques for assembling a complete microcomputer system are presented in detail, with over 320 illustrations or diagrams, including teletype, keyboard, floppy disk, CRT display, analog / digital interfacing. One chapter is dedicated to the bus standards, including S100, and IEEE488, and one chapter to testing and debugging.

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NEW YORK CHARTER FLIGHT TO SECOND COMPUTER FAIRE

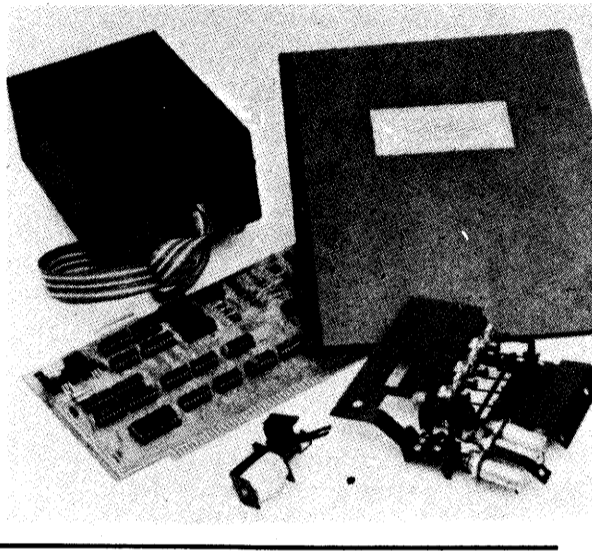
Steve Edelman, of the Ithaca Computer Group, is arranging a low-fare charter flight from New York and its surroundings to the Second West Coast Computer Faire, to be held in San Jose, California, March 3rd through 5th. For details, contact Steve at Box 91, Ithaca, New York 14850, (607) 273-3271.

S-100 INTERFACE FOR SELECTRICS

A kit which converts an IBM Selectric typewriter into a hard copy output terminal is being introduced into the market by ESCON. The kit includes interface card, power supply and driver, cables and all mechanical parts to make a Selectric typewriter into a quality printer in just a few hours.

Designed to fit all Selectric models, this kit can be installed without drilling holes or cutting metal parts. The profile of the typewriter remains unchanged and its normal operation is not affected. This kit is compatible with most computer systems using the S-100 bus.

The complete kit sells for \$455.00. Further information may be obtained from ESCON, 171 Mayhew Way, Suite 204, Pleasant Hill CA 94523, phone (415) 935-4590.



132 COLUMN PRINTER FOR \$795

The \$795.00 132 column printer. This newly developed printer uses a 5x7 dot matrix and standard pin feed to print 110 characters per second on a standard and multi-copy computer paper up to 15 inches wide (with an added bonus of fine vertical adjustment).

Need a sales graph? Print it! Want a picture of the Star Ship Enterprise? Print it! What about those chemical formulas, powers, footnotes, etc? Print them! Want something to stand out? Underline it! Yes, it prints full graphics, sub-scripts, super-scripts, underlines, along with foreign languages, double sized or special characters. All this under software control!

Interfaces to any computer with two parallel output and one parallel input port. Available with an intelligent RS 232 or current loop interface.

For more information, contact PSA, Inc., 260 East 100 North, Bountiful, Utah 84010.

PHI DECK MODEL 4 TAPE TRANSPORT AT LOW COST FOR MICROPROCESSORS

The Triple I Division of The Economy Company of Oklahoma City is now offering a new fixed speed model with AC capstan motor in its line of electronic cassette tape transports. Prototype quantities are now available.

Features include:

- four-motor control
- remote control capabilities
- fast start/stop
- less than 30 seconds rewind
- speeds from 1 to 15 IPS

In addition to use in micro processors, the unit has applications in programming, hi-fi, audio-visual education, data recording/logging/storage, instrumentation, industrial controls, data duplication, security/automatic warning systems, and other general applications. The Phi-Deck provides maximum dependability at lower cost because its design incorporates fewer moving parts. Four separate motors control take-up, rewind, play or record, and head engagement. The separate motors allow complex and unique tape deck functions to be accomplished by remote control. Flutter, wow and jitter are minimal because the capstan drive motor has only one job -- moving the capstan.

Control boards for the Phi-Decks, which are TTL, DTL, CMOS compatible, contain all the circuitry for proper control of the Phi-Deck tape transport.

Options such as BOT/EOT sensing, record/write electronics, cassette in place sensing, and others are available.

For further information, write or call Triple I, a division of The Economy Company, 4605 North Stiles, P. O. Box 25308, Oklahoma City, Oklahoma, 73125. Phone (405) 521-9000.

COMPUTER RETAILERS' ASSOCIATION FORUM

Time: Sunday, March 5 - 12:00-1:00 p.m.

Chaired by: The CRA acting President
(Will be determined prior to WCF)

Intended Audience: Computer Store Owners and Interested Industry Folks

The CRA acting President and Directors will summarize the status of the CRA. The bylaws as adopted at the West Coast Faire, the rules for membership, and future plans for the CRA will be discussed. Audience participation is invited.

OPTICON FOR BLIND INTERFACED TO COMPUTER

During the past year at the University of Minnesota, a special computer terminal was developed that allows blind people to interact with computers in new and better ways. This work has resulted in the direct interfacing of a computer with an optical-tactical converter (OPTACON).

The optacon device, developed by Telesensory Systems of Palo Alto, California, allows blind people to read regular printed materials. The previous system consisted of a small camera, similar to a TV camera, which moved across the lines and scanned the letters which were then transferred to a tactile array of rods that were felt with the fingers. The image felt was exactly that of the letter scanned.

Last fall, Kevin Fjelsted, of the University Computer Center, proposed a terminal that would interface the OPTACON directly to the data available from a communications line, thus alleviating the need for a camera. His project proposal was approved and Dr. Abe Franck, Dan Laliberte, and Tom Jacobsen contributed their ideas and time to the development of the terminal.

In April, Kevin demonstrated his completed OPTACON Interface terminal, gaining the interest of a representative from Lawrence Berkeley Labs of Berkeley, California. Kevin is now consulting with them to develop even more improved and sophisticated terminals.

HORIZON THE COMPLETE COMPUTER NOW AVAILABLE

News Release

A complete, high-performance microprocessor system with integrated floppy disk memory is now available from North Star Computer, Inc, Berkeley, CA. Called HORIZON, the system is designed for business, educational and personal applications.

HORIZON is ready for programming in extended disk BASIC with the addition of a CRT or hard-copy terminal.

North Star BASIC has been in use for more than a year. It includes sequential and random disk files, formatted output, a line-oriented editor, strings, user defined functions, and more.

The HORIZON system is available in two models, HORIZON-1 includes a Z80A processor, 16K RAM, minifloppy disk and 12-slot S-100 motherboard with serial terminal interface - all standard equipment. The HORIZON-2 includes a second built-in disk drive.

The Z80A processor operated at 4MHZ - double the power of the 8080. The North Star 16K RAM board lets the Z80A execute at full speed. HORIZON can load or save a 10K byte disk program in less than two seconds. Each diskette can store 90K bytes. The HORIZON motherboard will accept many of the widely available S-100 products.

North Star supports the HORIZON with additional S-100 boards including a hardware floating point option at \$259 kit; \$359 assembled, and 16K RAM boards at \$399 kit, \$459 assembled, with optional parity check and additional serial and parallel I/O ports at \$39 kit and \$59 assembled.

HORIZON-1: \$1599 kit; \$1899 assembled.
HORIZON-2: \$1999 kit, \$2349 assembled. Delivery is 30 days on receipt of order.

For more details write: North Star Computers, Inc, 2547 9th St, Berkeley, CA 94710. (415) 549-0858.




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PERSONAL SOFTWARE OFFERS PERSONAL SOFTWARE


Personal Software, a company headed by Dan Fylstra, announces Basic programs on cassette for both the Commodore/PET and the Radio Shack TRS-80 computers. An introductory special, good until March 31st, features four full-length games for \$9.95: Poker, Kingdom, One Queen, and Matorador, totaling nearly 1000 lines of Basic. P.S. - Personal Software - also offers software by Dr. C.W. Engel: 10 original simulation games, such as Diamond Thief, Monster Chase, Lost Treasure, Space Flight, etc., complete with a 64-page illustrated book with flow charts, listings, and commentaries, for \$14.95. Additional entertainment, personal finance, investments, and systems programs including a 6502 assembler in Basic, are described in a flyer which is free with SASE, from: Personal Software, Box 136-D3, Cambridge, MA 02138, (617) 783-0694. MasterCard and Visa cards are accepted.



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- MARCH 6-8, 1978 ■ SAN FRANCISCO (after COMPCON)
- 3. KLEINROCK-FRANK-ROBERTS**
JAMES MARTIN
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- 4. LUCKY-GREEN**
DATA COMMUNICATION SERVICES AND PROTOCOLS
MARCH 20-22, 1978 ■ NEW YORK
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UNDERSTANDING PERFORMANCE EVALUATION
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- 6. KLEINROCK**
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IBM SELECTRIC PRINTER FOR MICROCOMPUTER OUTPUT

After development and field testing, Micro Computer Devices has announced availability of the SELECTERM, a fully converted IBM Selectric II Typewriter. The conversion to a printer enables immediate use with any microcomputer.

The SELECTERM may be connected directly to either a parallel or serial port, with all inputs at standard TTL levels. No additional software is required since all logic is in an internal PROM. The SELECTERM includes a special typing element that produces all ASCII and full upper and lower case alphanumeric characters. Also included are tab command, backspace, vertical tab, and bell. All necessary electronics and cable sets are provided along with documentation for unpacking, connection, testing, theory of operation, and schematics.

Special features may be ordered including dual pitch, correcting feature, pin-feed platen in a choice of 13 sizes, and a specially designed noise reduction feature. Any color cabinet that IBM offers may be ordered.

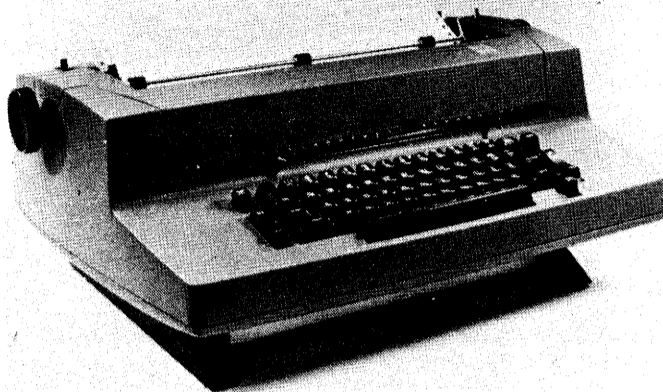
The SELECTERM can be used as a typewriter since none of the typing capabilities have been affected by the conversion to a printer. Because the SELECTERM has been approved by IBM, the typewriter warranty remains active, Micro Computer Devices provides a separate factory warranty on the conversion package.

The SELECTERM may be purchased only through dealers, though OEM inquiries are invited. Full price is \$1650. For more information contact your computer store dealer, or write Micro Computer Devices, 960 E. Orangethorpe, Bldg. F, Anaheim CA 92801. (714) 992-2270.

JAMES MARTIN TO DISCUSS TELEPROCESSING IN D.C. SEMINAR

James Martin will discuss teleprocessing and computer networks in a special evening session at the forthcoming, "Experts on Networks" seminar in Washington, D. C. This 3-day seminar will include the following lecturers:

Leonard Kleinrock, James Martin, Howard Frank, and Lawrence Roberts. Seminar fee is \$485. with discounts available. This seminar, to be held on March 13-15, 1978, is being sponsored by Technology Transfer, Inc, P.O. Box 49765, Los Angeles, CA 90049; (213) 476-1331.



\$995 FOR REFURBISHED A - J SELECTRIC-MECHANISM TERMINALS

Anderson Jacobson, Inc. would like to talk to you about the AJ 841 Selectronic Terminal that is now available to the hobbyist at greatly reduced prices.

For your terminal needs, the AJ 841 provides EBCD and Correspondence coding (APL optional), a built-in modem, 15 character per second print out, and a 2 character buffer to accommodate burst typing of up to 17 characters per second.

The AJ 841 utilizes the heavy-duty version of the IBM Selectric printer mechanism which, together with solid state electronics, promotes both reliability and serviceability. AJ's warranty covers all parts and labor for the first thirty days.

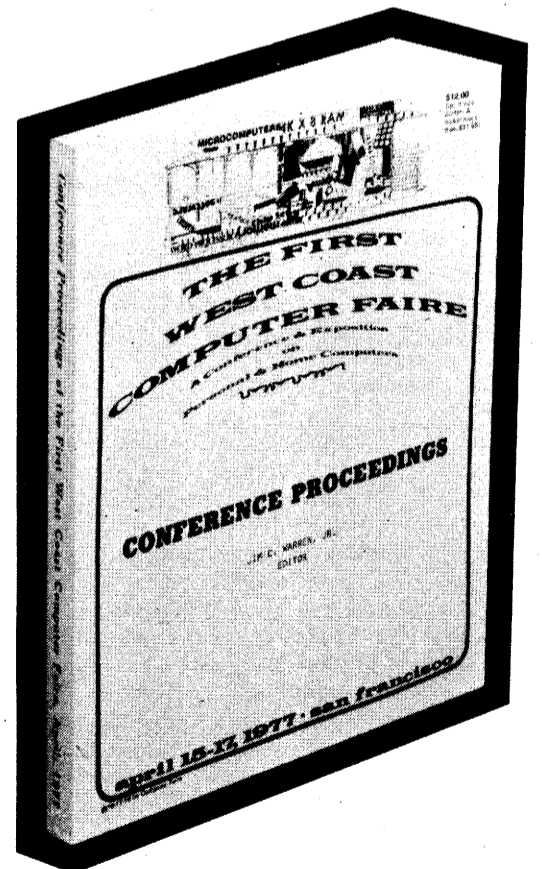
With a built-in modem and acoustic adaptor, the AJ 841 is priced at \$1070. This unit is also available without adaptor for \$995. These prices are for refurbished equipment and are F. O. B. San Jose, California. Discounts are available for quantity purchases. For a demonstration call (408)263-8520.



FIRST COMPUTER FAIRE CONFERENCE PROCEEDINGS NOW AVAILABLE

The *Conference Proceedings of the First West Coast Computer Faire* has finally been published. Containing over 330 pages of abstracts, tutorials and technical talks presented by more than 90 speakers at the First Faire, this publication is of historical as well as technical value in the computer field: This is the first time the papers from a major conference exclusively devoted to home and hobby computing have ever been gathered together and published.

The papers and abstracts are grouped under 25 different Section headings, ranging from the Friday and Saturday banquet Speeches, and Tutorials for the Computer Novice, through Computer Art Systems, and Music & Computers, to Bus & Interface Standards, and Tutorials on Software Systems Design. These include presentations by such well-known figures as science fiction author Frederik Pohl, Professor John McCarthy - the Director of Stanford's Artificial Intelligence Project, Carl Helmers - the Editor-in-Chief of *Byte* Publications, and John Chowning - the Director of the Computer Music Project at Stanford University.



HOW TO OBTAIN A COPY:

Copies of the *Proceedings* may be purchased in most retail computer stores, or may be ordered directly from the Computer Faire, Box 1579, Palo Alto CA 94302. When ordering direct, payment must accompany the order - \$12.68 outside of California, \$13.40 for orders shipped to California addresses. This payment includes shipping and handling charges, and tax where applicable. Copies are in stock and will be shipped by UPS or parcel post within one week of receipt of order and payment.

SECOND WEST COAST COMPUTER FAIRE
 March 3 - 4 - 5, 1978
 9am-6pm 9am-6pm Noon-5pm

APPLICATION FOR HOTEL RESERVATIONS

All Requests Must Be Received Prior To **January 31, 1978**

Send this application to: **Faire Housing Bureau
 San Jose Convention Bureau
 Box 6178, San Jose CA 95150.**

After January 31, 1978, make reservations, changes or cancellations **DIRECTLY** with the hotel.

Hotel Preference:

1st Choice _____
 2nd Choice _____
 3rd Choice _____

Accommodations:

Single _____ Double _____ 1 bed/ 2 bed
 Triple _____ Quad _____

Occupied By:

(Bracket all names sharing same room)

All rooms are assigned on a "first come, first served" basis. In the event the hotel you select is already filled, the Convention Bureau will establish reservations for you at one of the other participating hotels that offer similar accommodations.

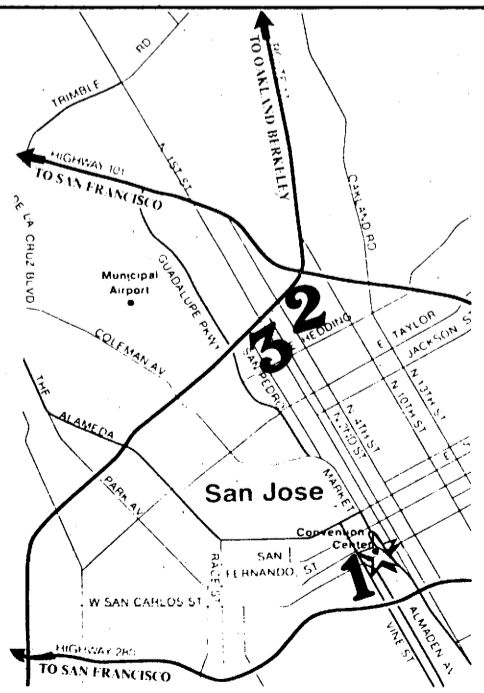
Date of Arrival _____
 Hour _____
 Date of Departure _____
 Mode of Travel _____

Please give accurate date and approximate hour of arrival. Reservations can not be accepted without a specific date. All rooms will be held until 6 pm on the date of arrival. If your arrival will be later than that and is not indicated above, your risk cancellation. The earliest check-in time is 2 pm.

Send Confirmation To:

(Confirmation will be sent directly to you by the Convention Bureau.)

Name _____
 please print
 Address _____
 City _____
 State _____ ZIP _____
 Telephone () _____



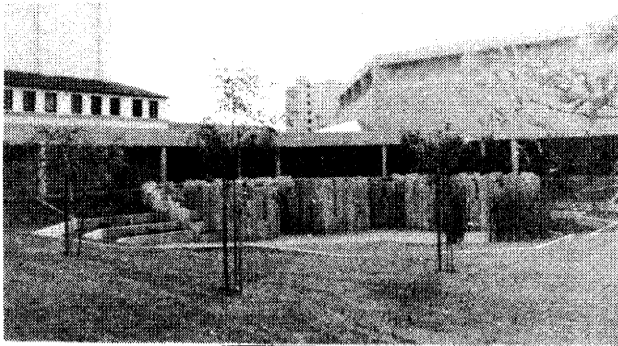
HOTEL	Single 1 Person 1 bed	Double 2 Persons 1 bed or 2 beds	Triple 3 Persons 2 dbls	Quad 4 Persons 2 dbls
1 HOLIDAY INN Headquarters Hotel Park Ctr Plaza 282 Almaden San Jose CA 95115	\$24	\$28	\$32	\$36
2 HOLIDAY INN 1355 N. 4th St San Jose CA 95113	\$24	\$28		
3 SAN JOSE HYATT HOUSE 1740 N. First St San Jose CA 95112	\$29	\$34		

OSBORNE, KAY, ISAACSON & McKEEMAN TO BE KEYNOTE BANQUET SPEAKERS

The Second Computer Faire will continue the "present and future" theme for the Friday and Saturday evening banquets, that was so well received during the First Faire. Each of the two banquets will have two speakers: a "present-world" speaker, and a "future-world" speaker.

Friday's real-world speaker will be Dr. Adam Osborne, widely known as a provocative lecturer, and author of a number of popular reference books including, *An Introduction to Microcomputers, Volumes I and II*. Adam, President of Osborne & Associates of Berkeley, California, will discuss, "Significant Personal Computing Events for 1978." He will also be giving the first presentation of his Maybe-Annual, Unilateral, White Elephant Award for 1977 in Personal Computing.

Alan Kay will be Friday's future-world speaker, discussing, "Don't Settle for Anything Less." Alan is a Principal Scientist at Xerox's Palo Alto Research Center, and head of their Learning Research Group. He is best known as being the brains behind "Small-talk", the Dynabook -- a book-sized exotic computer for people -- and had a major hand in PARC's Alto computer (an interim Dynabook -- so to speak, a Dynadesk). He will be presenting some fascinating ideas of what can be expected in the foreseeable future of people's computers, and will show slides



and movies of some of the prototypes of those "future" devices and systems, currently in use in experimental environments.

The real-world speaker at Saturday evening's banquet will be Dr. Portia Isaacson, talking about, "Dinky Computers are Changing our Lives." Portia will be reporting on some recently completed research and survey work she has been conducting. She is one of the principals in one of the most successful computer stores in the U.S., writes a regular column for *Datamation* on personal computing, and has been appointed as the first Chairperson of the newly formed Special Interest Group on Personal Computing within the Association for Computing Machinery. She was the Chairperson of the largest National Computer Conference ever to be held, and taught computer science at the Univer-

SENIOR CITIZENS OFFERED REDUCED REGISTRATION FOR 2ND FAIRE

Senior citizens with appropriate identification will be admitted to the Computer Faire for a reduced, three-day registration fee of \$6.

sity of Texas until last Spring, when she left to pursue personal computing ventures on a full-time basis.

Saturday's future-world speaker will be Professor Bill McKeeman, from the University of California at Santa Cruz. Bill is a fascinating speaker and will be discussing, "All Those Things You Wanted to Computer, But Didn't Think You Could Afford" -- a survey of exciting applications and impacts of computers that, for the most part, have not yet occurred. Bill is a Full Professor at UCSC, was Chairman of their Computer & Information Science Department for some years, and is internationally known for his state-of-the-art research in a variety of computer areas -- including one of the first meta-compilers, XPL.

Banquet seating, and after-dinner "listener" seating, is somewhat limited and is available on a reservation-only basis. If any seating remains on the evenings of the banquets, admissions will be available at the door. However, seating may be assured, and long, waiting lines avoided, only by preregistration.

Second West Coast Computer Faire PREREGISTRATION FORM

Admission badges for preregistrations received prior to **FEBRUARY 17, 1978** will be mailed to the preregistrant by First-Class Mail. Badges for preregistrations received after that date may be picked up at the Preregistration Desk of the San Jose Convention Center between 9 a.m. and 5 p.m. on any day beginning Thursday, March 2, 1978 (the day before the Faire opens).

Please list me in any directory of computer hobbyists.

NAME _____
 MAILING _____
 ADDRESS _____
 CITY _____ STATE _____ ZIP/POSTAL CODE _____

PREREGISTRATION FEE

- Provides:
 1. Admission to the Conference Program & Exhibits, March 3, 4 & 5, 1978.
 2. Avoidance of lengthy on-site registration lines.
 3. More than \$1.70 discount on a copy of the Conference Proceedings.

"standard" adults: \$8 each \$____for____adults
 includes spouses, and college/university students
 senior citizens with identification: \$6 each \$____for____adults
 requires copy of senior's identification
 physically disabled with identification: \$6 each \$____for____adults
 requires copy of appropriate identification
 pre-college children with identification: \$5 each \$____for____children
 requires copy of student identification

BANQUETS & KEYNOTE SPEAKERS

Two nationally-known speakers at each banquet.
 Banquet & listener seating is limited, and available strictly on a first-registered, first-seated basis.

Friday evening
 beef brochette (dinner & speakers): \$15 each \$____for____people
 after-dinner listeners-only: \$5 each \$____for____people
 Saturday evening
 filet mignon (dinner & speakers): \$16 each \$____for____people
 after-dinner listeners-only: \$5 each \$____for____people

CONFERENCE PROCEEDINGS (to be picked up at the 2nd Faire)

Conference Proceedings of the SECOND West Coast Computer Faire
 \$11 including tax (\$12, retail) \$____for 2nd Proceedings
 Conference Proceedings of the FIRST West Coast Computer Faire
 \$11 including tax (\$12, retail) \$____for 1st Proceedings
 Super deal on BOTH the FIRST and SECOND Proceedings
 \$21 including tax (\$24, retail) \$____for 1st & 2nd Proc.

GENUINE ANTIQUE FIRST FAIRE T-SHIRTS (while they last)

Emblazoned with the tautology:
 "Computer Phreagues Make More Exacting Lovers".
 Antique, but unused (residue from the 1st Faire).
 Will be shipped upon receipt of order & payment.
 Originally \$4 + \$1 shipping + tax, title & license.
 NOW \$3 including all charges & taxes. \$____for____T-Shirts
 --medium-- --extra-large

total payment accompanying order: \$_____

Send payment & completed Preregistration Form to:
 Computer Faire
 Box 1579
 Palo Alto CA 94302.
 Do NOT send cash. Please send check, or money order. Thank you.

THIS QUESTIONNAIRE MUST BE COMPLETED IN ORDER TO TAKE ADVANTAGE OF THE REDUCED ADMISSION RATE

AGE RANGE	IF IN SCHOOL	SCHOOLING COMPLETED
<input type="checkbox"/> Under 15	<input type="checkbox"/> Grades 1 - 8	<input type="checkbox"/> High School
<input type="checkbox"/> 15 - 18	<input type="checkbox"/> High School	<input type="checkbox"/> A.A. (Jr. College)
<input type="checkbox"/> 19 - 25	<input type="checkbox"/> Technical School	<input type="checkbox"/> Bachelor's
<input type="checkbox"/> 26 - 35	<input type="checkbox"/> Junior College	<input type="checkbox"/> Master's
<input type="checkbox"/> 36 - 45	<input type="checkbox"/> Undergrad, 4-year	<input type="checkbox"/> Doctorate
<input type="checkbox"/> 45 - 65	<input type="checkbox"/> Graduate School	<input type="checkbox"/> Ph.D.
<input type="checkbox"/> Over 65	<input type="checkbox"/> 44 Pre-Master's	<input type="checkbox"/> 74 M.D.
	<input type="checkbox"/> 45 Pre-Ph.D.	<input type="checkbox"/> 75 D. Ed.
	<input type="checkbox"/> 46 Post Doctorate	<input type="checkbox"/> 76 Other

LEVEL OF INVOLVEMENT AND INTEREST
 Total novice, newly interested in personal computers
 Computer hobbyist, only (with or without equipment)
 Both a computer hobbyist, and a computer professional
 Currently only a computer professional

Equipment you own

MEMORY	CPU	TERMINAL
A _____ K bytes RAM	<input type="checkbox"/> 47 8080	<input type="checkbox"/> 77 ASR 33
B _____ K bytes ROM	<input type="checkbox"/> 48 8008	<input type="checkbox"/> 78 KSR 33
C _____ K bytes EPROM	<input type="checkbox"/> 49 Z-80	<input type="checkbox"/> 79 Baudot TTY
D _____ K bytes PROM	<input type="checkbox"/> 50 6800	<input type="checkbox"/> 80 Other TTY
E _____ K bytes CORE	<input type="checkbox"/> 51 6502	<input type="checkbox"/> 81 TVT-2
12 Other: _____	<input type="checkbox"/> 52 SC/MP	<input type="checkbox"/> 82 Polymorphic VDM
	<input type="checkbox"/> 53 PACE	<input type="checkbox"/> 83 ADM-3
	<input type="checkbox"/> 54 2650	<input type="checkbox"/> 84 SWT CT1024
	<input type="checkbox"/> 55 F-8	<input type="checkbox"/> 85 PT VDM-1
	<input type="checkbox"/> 56 COSMAC	<input type="checkbox"/> 86 Office Selectric
MASS STORAGE	<input type="checkbox"/> 57 6100	<input type="checkbox"/> 87 I/O Selectric
<input type="checkbox"/> 13 Phillips Cassette Tape	<input type="checkbox"/> 58 LSI-11	<input type="checkbox"/> 88 Other
<input type="checkbox"/> 14 "Byte Standard"	<input type="checkbox"/> 59 PDP-8	<input type="checkbox"/> 89 Have hard-copy
<input type="checkbox"/> 15 Tarbell	<input type="checkbox"/> 60 PDP-11	<input type="checkbox"/> 90 Upper-case only
<input type="checkbox"/> 16 Other	<input type="checkbox"/> 61 BIPOLAR	<input type="checkbox"/> 91 Have soft-copy
<input type="checkbox"/> 17 3M Cassette	<input type="checkbox"/> 62 TTL	<input type="checkbox"/> 92 Upper-case only
<input type="checkbox"/> 18 Floppy disc	(Homebrew)	<input type="checkbox"/> 93 Homebrewed
<input type="checkbox"/> 22 mini	<input type="checkbox"/> 63 Other	
<input type="checkbox"/> 23 standard		
<input type="checkbox"/> 24 Other		
<input type="checkbox"/> 67 Other mass storage		

COMPUTER & ELECTRONICS PUBLICATIONS YOU HAVE

<input type="checkbox"/> 94 Byte	<input type="checkbox"/> 137 Dr. Dobb's Journal
<input type="checkbox"/> 95 Interface Age	<input type="checkbox"/> 138 People's Computers
<input type="checkbox"/> 96 SCCS Interface	<input type="checkbox"/> 139 Creative Computing
<input type="checkbox"/> 97 Personal Computing	<input type="checkbox"/> 140 (IEEE CS) Computer
<input type="checkbox"/> 98 Kilobaud	<input type="checkbox"/> 141 Communications of the ACM
<input type="checkbox"/> 99 Minicomputer News	<input type="checkbox"/> 142 Popular Electronics
<input type="checkbox"/> 100 Computerworld	<input type="checkbox"/> 143 Radio-Electronics
<input type="checkbox"/> 101 Computer Design	<input type="checkbox"/> 144 QST
<input type="checkbox"/> 102 Datamation	<input type="checkbox"/> 145 Ham Radio
<input type="checkbox"/> 103 Mini-Micro Systems	<input type="checkbox"/> 146 73
<input type="checkbox"/> 104 Computer Decisions	
<input type="checkbox"/> 105 Others	

EMPLOYMENT

106 Idle rich, full-time student, or unemployed
 107 Work with computers
 108 Maxi's 109 Mini's 110 Micro's
 111 Management
 112 Marketing
 113 Programming
 114 Engineer
 115 Programmer
 116 Technician
 117 Work in non-computer digital electronics
 118 Work in non-digital electronics
 119 Radio 120 TV 121 Telecommunications
 123 Work in non-electronic technical or scientific area
 124 Work in education
 125 CS or EE 128 Mathematics
 126 Other Engineering 129 Statistics or O.R.
 127 Other Science 130 Education
 131 Work in Medicine or Biomedical area
 132 Other
 132 Am a member of an amateur computer club
 135 Licensed amateur radio operator ("ham"; not C.B.)

HIGH PERFORMANCE 16K RAM OFFERED BY NORTH STAR

North Star Computers, Inc., manufacturers of the North Star MICRODISK SYSTEM and HORIZON computers, announces the availability of a high-performance 16K RAM board for S-100 bus computer systems.

North Star's 16K RAM is designed for use in both 8080 and Z80 computer systems. It will operate at full speed (zero wait states), even at 4MHZ.

The low-power board uses 200 ns dynamic RAM chips and the on-board memory refresh is invisible to the processor. Bank switching capability is provided and the addressing of the board is switch-selectable in two 8K sections.

An important feature of the board is the availability of a parity check option. The North Star 16K RAM board is offered in kit form at \$399 and fully assembled at \$459. The parity option costs \$39 in kit and \$59 assembled. For further information, contact: North Star Computers, Inc., 2547 Ninth Street, Berkeley CA 94710. (415) 549-0858.

Check our prices — We will not be undersold!		
POLY-8813	1 drive-No monitor	\$2500
POLY-88	System 2	\$575
IMSAI-8080	22 Slot	\$575
IMSAI	PC Boards/Kits	15% Off
APPLE II	16K	15% Off
EXTENSYS	Memory	20% Off
AAAA Computer How's		
1477 Barrington, Suite 17		
W. Los Angeles, CA 90025 (213) 477-8478		

16K STATIC RAM

THE WAY YOU LIKE IT

Assembled and tested <small>Guaranteed for one full year</small>	\$595
16K kit	\$525
8K kit	\$295
Kit with all but 2114 memories	\$88
BLANK BOARD	\$35

COMPARE THESE FEATURES:

- S-100 BUS COMPATIBLE
- COMPLETELY STATIC WITH NO CLOCKED CHIP SELECT OR REFRESH
- WILL RUN ON Z80 SYSTEMS AT 4 MHz WITH NO WAIT STATES
- WILL RUN ON ALPHA MICROSYSTEMS AM-100 AND ON DMA SYSTEMS
- USES 2114 MEMORIES—AN INDUSTRY STANDARD
- HAS INDIVIDUALLY ADDRESSABLE 4K BLOCKS OF MEMORY
- SOFTWARE WRITE PROTECTION IN 4K BLOCKS
- PACKING OR BANK SELECT FEATURE FOR MEMORY EXPANSION AND LOW SOFTWARE OVERHEAD TIMESHARING SYSTEMS
- COMPLETELY BUFFERED ADDRESS AND DATA LINES
- SINGLE 5 VOLT POWER SUPPLY
- HIGH QUALITY, LOW PROFILE SOCKETS FOR ALL IC'S
- SOLDER MASKED P.C. BOARD AND SCREENED PARTS PLACEMENT LEGEND FOR EASE OF CONSTRUCTION AND DEPENDABILITY

S-100 BUS TERMINATING BOARD <small>Absorbs noise, overshoot, ringing, reflection</small>	\$25
S-100 EXTENDER BOARD <small>With jumpers in power supply line for current measurements. Low profile so card can remain in the machine with cover on. Wide edge connector.</small>	\$16

PRICES SHOWN INCLUDE U.S. SHIPPING. WE ACCEPT VISA, MASTER CHARGE, CASHIERS CHECK, A/C. ALLOW TIME FOR PERSONAL CHECKS TO CLEAR. C.O.D. ORDERS ADD \$1. UTAH RESIDENTS ADD 4% TAX.

DIGITAL MICRO SYSTEMS

BOX 1212, OREM, UTAH 84057
(801) 224-2102

USED FLOPPY DRIVES \$400

Reconditioned
New Equipment Warranty
Quantity Discounts

Single Density Double Density
8" Floppies
Limited Quantity As Available

CALCOMP
[714] 632-7430

KIM-1 MEMORY EXPANSION

A new product provides expansion for basic KIM-1 computers. MEMORY PLUS is a KIM-1-sized board containing 8K RAM, sockets for up to 8K EPROM, an EPROM programmer, and the "Versatile Interface Adapter" chip (VIA) from MOS Technology. All the IC's are socketed for ease of changing. Designed to be placed directly beneath the KIM-1, MEMORY PLUS has the same pin-out as the KIM-2 and the KIM-3.

Completely assembled and tested, MEMORY PLUS costs \$245 in single quantities without the EPROMs. The cost of \$50 for each EPROM is expected to decrease due to falling costs of the INTEL 2716's providing 2K x 8 bits. For information on quantity purchases or related information contact The Computer-ist, Box 3, S. Chelmsford, MA 01824, (617)256-3649.

LOGICAL MACHINE CORPORATION ACQUIRES BYTE, INCORPORATED

Received: 77 Dec 3 News Release

Logical Machine Corporation, manufacturer of the ADAM business computer, announced the acquisition of Byte, Inc., of Sunnyvale, California as a wholly-owned but independent subsidiary. Founded two years ago as a retail store in nearby Mountain View, California, the original Byte Shop sold microprocessing equipment and literature to hobbyists. Byte, Inc., evolved from this single shop and now has a network of approximately sixty independent dealerships throughout the country. Each store uses the name Byte Shop™, a recognized trademark.

Byte, Inc. is currently composed of two primary divisions; distribution and manufacturing. The distribution division supplies the Byte Shops with periodicals, manuals, microprocessors, and other computing equipment. The manufacturing division produces a microprocessor which is sold as an integrated system through the Byte Shops.

NEW TEACHING TOOL: EDUCULTURE INTRODUCES MICROCOMPUTER "COURSEWARE"

The first wave of professionally-prepared learning materials specifically for small stand-alone computer systems is now in preparation at Educulture, Inc., a California-based educational publisher. The new programs, aimed primarily toward secondary and post-secondary education, include comprehensive, coordinated series in mathematics, English, and the Sciences.

All of this "courseware" is specifically targeted for small, relatively inexpensive stand-alone computers rather than the expensive timeshared systems presently used for large-scale computer-based learning. The rapidly decreasing cost of small computers brings them within the reach of the average school budget, crossing a price barrier that has previously hindered the wide-scale adoption of computers as a delivery medium for instructional materials.

As initially configured, the programs are designed to run on machines with 32K bytes of random-access memory, single-drive digital tape or flexible disk storage, and medium-resolution CRT displays (512 x 512 to 720 x 1024 addressable points). The presence of graphic capabilities, which allow the use of pictures, diagrams, and the special characters and symbols of mathematics and science, is felt to contribute materially to the pedagogical effectiveness of the programs.

The emphasis on graphics comes in no small part from the participation of Alfred Bork, an internationally-recognized authority on computer uses in education, as Consulting Editor. Dr. Bork, a professor of physics and information science, is director of the NSF-sponsored Physics Computer Development Project at the University of California, Irvine and physics chairman of CONDUIT, a national committee for the dissemination of college-level educational computer programs. A former chairman of the ACM Special Interest Group on Computer Uses in Education (SIGCUE), Dr. Bork is a strong proponent of the use of computer graphics in teaching.

The Educulture effort represents the first major entry of a publisher into the educational software industry, an area previously funded largely through grants from the government, the individual school, or a few large corporations. The payment of standard advances and royalties is expected to attract experienced, qualified authors in a field not previously noted for its monetary rewards.

Educulture is the educational technology division of the William C. Brown Company of Dubuque, Iowa, a well-known publisher of college textbooks and other printed learning materials. For further details contact Jon Bosak, Project Editor, Educulture, Inc., 3184 "J" Airway Ave., Costa Mesa CA 92626, or phone (714) 751-2113.

APPLE GAINS NORTHEAST DISTRIBUTOR

Apple Computer of Cupertino, California, has announced a new distributor to serve the northeastern United States: Consumer Computer Marketing (120 Cambridge Ave., Burlington MA).

Consumer Computer Marketing will be supplying the Northeast with the Apple II, a personal computer which, when combined with a color television set and an audio cassette recorder, becomes a valuable personal system. More information on Apple Computers can be obtained by calling Apple Computers, (408) 996-1010.

NETWORKING CONFERENCE ISSUES CALL FOR PAPERS

News Release Received: 77 Dec 19

The appointment of Kenneth H. Crandall, Jr., Director of Engineering, Satellite Business Systems Corporation, as General Chairman for COMPCON 78 Fall was announced by Richard Merwin, Chairman of the IEEE Computer Society's Conferences and Meetings Committee. Joining Crandall, as Program Chairman is Marshall D. Abrams, staff member of the Institute for Computer Sciences and Technology at the National Bureau of Standards, and, as Tutorial Chairman, David Hartmann of the Library of Congress.

Abrams announced that the main theme of the conference will be "Computer Communications Networking", which includes broad coverage of related software and hardware systems. In addition, as is the custom at COMPCON, papers are solicited covering other facets of computer design, including software, hardware, and systems technology.

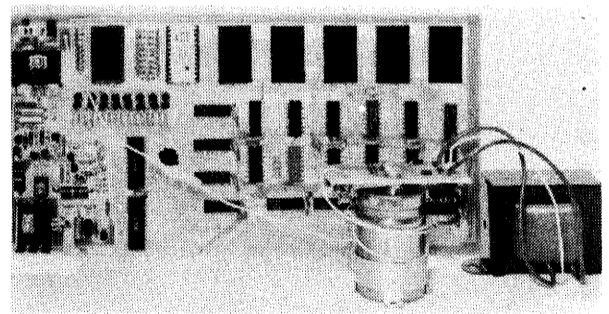
Papers may be submitted by sending four copies of a 1000 word digest to: Marshall D. Abrams, National Bureau of Standards, Technology A229, Washington, D.C. 20234.

Individuals interested in presenting a tutorial are invited to send their proposal, including an outline of the presentations, to: David Hartmann, Network Development Office, Library of Congress, Washington, D.C. 20540. Deadline for submitting papers or proposal is April 1, 1978.

XYBEK'S NEW PRAMMER

XYBEK

A PROM/RAM/PROM PROGRAMMER for the Altair 8800, IMSAI 8080 and other S100 bus micro computers. This 2k memory board contains 256 bytes of RAM and space for 1792 bytes of 1702A EPROM. One of the 1702A sockets doubles as a 1702A programmer. The PRAMMER is not an I/O device, but occupies any 2k slice of system memory. This kit is complete with its own 80v power supply, features on board timing independent of the CPU clocks and contains it's own microprogram for read and write control . . . No oneshots are used. The 256 bytes of RAM may be used for a stack, for buffers, save areas, etc., eliminating the need for use of main memory already dedicated to other application programs. Complete stand-alone software for programming, and copying 1702A EPROMs is supplied with the PRAMMER kit in a single preprogrammed 1702A. Also included are the complete listings for PRAMSYS, an eleven-function development system designed to reside in the 1792 bytes of EPROM in the fully populated board and to interface with a TTY compatible terminal. Also available is a 3 foot extension kit for bringing any of the 1702A sockets to a textool zero insertion force socket external to your system. The introductory price for the PRAMMER kit is \$189 and the extension kit is \$15. Address inquiries to XYBEK, Box 1631, Cupertino CA 95014.



S/C MICROPROCESSOR APPLICATIONS HANDBOOK PUBLISHED BY NATIONAL

A new applications handbook for the SC/MP microprocessor is now available from National Semiconductor Corporation. The 150 page manual, which contains detailed information invaluable in building, checking out and operating a host of SC/MP based systems is conveniently organized in capsule form, to enable the designer to expand, modify or customize a particular application with a minimum of effort.

The first chapter deals with general design data, and contains basic SC/MP applications parameters: instruction sets, addressing modes, input/output capabilities, interrupt structures, etc. Additional information on general purpose applications is found in the appendix.

Chapter two has applications data organized into sections according to class: for example, analog to digital/digital to analog systems, keyboard/display systems, multiprocessor systems, and so forth. This method of arranging the information increases referencing convenience, and makes it easier to expand and update information on a particular application.

The handbooks are available for \$5.00 each, postpaid, from National Semiconductor Corporation, Marketing Services (520), 2900 Semiconductor Dr., Santa Clara CA 95051.

WANT ADS

Though our sophisticated publication is primarily for distributing endless monologues regarding the forthcoming Computer Faires, since we were asked to carry a want ad, we have invented a "Want Ad policy":

Classified ads will be accepted for publication in the Silicon Gulch Gazette. Please submit the ad copy, typed and double-spaced, and payment of \$15. Up to one column-inch of your copy will be typeset and will appear in the next available issue of the Gazette. If your ad exceeds one column-inch, we will edit it at our discretion. The \$15 is a minimum charge. Each press run of the Gazette consists of at least 50,000 copies which are distributed without charge to individuals nationwide, and in bulk to stores and organizations.

\$2600--OR BEST OFFER: Cromemco ZPU Card, North Star Floppy System, Polymorphic Video Card, 16K-4MHz Memory Card, Byte Box with fan, Keyboard and Case, PROM/RAM Card, Pixi-verter. This is a complete system operating at 4MHz, and only requires a tv set or video monitor. Please call Glenn, (415) 327-3134, evenings.

THE NEW MSI 6800 COMPUTER SYSTEM

The MSI 6800 computer system is designed to overcome all of the engineering disadvantages and weaknesses of existing 6800 systems. The MSI 6800 is a high quality computer suitable for use in business, industrial, or educational environments. The MSI system employs the popular SS-50 bus architecture and individual modules of the MSI system may be used to upgrade an existing SWTP 6800 system if desired.

POWER SUPPLY

The power supply section of the MSI 6800 system is designed to deliver 5 V.D.C. at 20 amps to allow a full 56K of RAM and/or PROM to be used if desired. The plus and minus 15 V.D.C. supplies are designed to deliver 3 amps each for adequate capacity in powering PROM boards and other devices. The power supply is physically compact and easy to assemble being located on a single heavy duty circuit board which also supports all power supply components. All D.C. circuits are fused separately and individually. The power transformer is furnished with a split primary for 220 V.A.C. 50 Hz operation. The primary is also tapped to permit line voltages from 105 V.A.C. to 125 V.A.C. (210 V.A.C. - 250 V.A.C.) to be used.

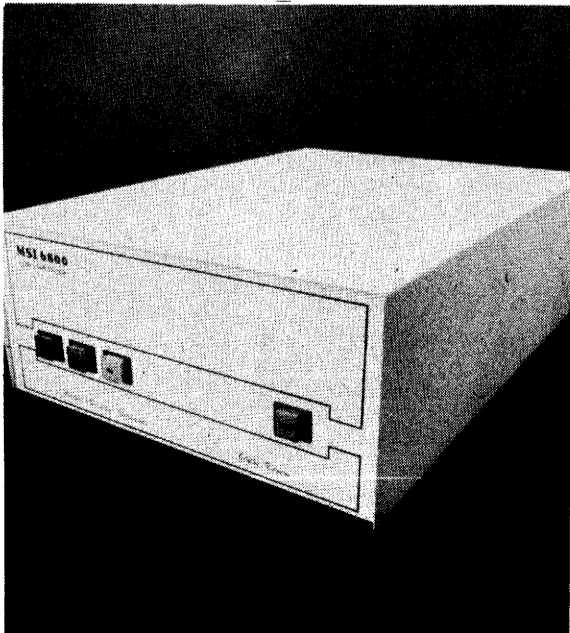
MOTHER BOARD AND CHASSIS

The Mother Board contains 16 position for full sized system boards. The board is heavy duty and is fully solder masked for ease of assembly. Gold connectors are used throughout for maximum corrosion resistance. Front panel push buttons for power, reset, IRQ, and NMI are provided. The MSI Interface Adapter board must be used in conjunction with the Mother Board if interface slots having decoded addressing are required.

CPU BOARD

The MSI CPU Board contains sockets for 4K of EPROM memory, 128 bytes of RAM, in addition to a restart vector PROM. A 14411 baud rate generator as well as a 6875 clock generator are included on the CPU Board. This permits the system clock to be run at 2 MHz, separate from the baud rate generator if desired. The CPU is delivered with one PROM containing the new MSI monitor software. All EPROM sockets are strappable to any desired high order address. An extended monitor, as well as MSI disk software, are available on PROM as options. The MSI monitor employs an ACIA interface rather than a PIA. The monitor is MIKBUG compatible, but contains many improved features and functions.

DMA control, dynamic memory refresh request/grant, and slow memory control lines are all available on the MSI CPU card. These options are strappable to unused mother board bus lines as desired. The circuit board is fully solder masked and silk screened for the greatest ease of assembly.



R2E INTRODUCES 10/80 MEGABYTE DISK DRIVE FOR MICRAL MICROCOMPUTERS AT \$16K

News Release

Received: 77 Dec 14

R2E of America, the North American subsidiary of Realizations Etudes Electroniques, the French microcomputer manufacturer, announces a new 10/80 megabyte disk system with removable media for its MICRAL C small business microcomputer system.

The MICRAL C is the low cost, compact data processing system for small business applications such as accounting, word processing, and inventory management. The addition of the new disk provides a microcomputer system with tremendous storage capabilities (from 10 to 80 megabytes), at an extremely low cost.

Hardware consists of a high speed 8 bit CPU, 32K of RAM (expandable to 64K), a 1920 character upper/lower case CRT display, a keyboard with numeric pad, dual double-density minifloppy drives (providing 320K bytes of storage), and the 10/80 megabyte disk, all mounted in an attractive two piece work station.

The new drive packs 10 megabytes of storage onto a removable or fixed platter of only 10.5 inches in diameter. The removable disk cartridge is only about 11 inches square by 1 inch high. The system can incorporate up to four drives, each with a 10 megabyte fixed and/or 10 megabyte removable disk. The data transfer is a fast 920 kilobytes per second.

The disk requires no fan resulting in a considerable saving in weight and power. It uses only direct dc drive, with an operating power consumption of only 100 watts. Head positioning is controlled by a highly accurate linear motor/voice-coil positioner with position feedback from the media. This feature assures reliable media interchange.

Software included with the system is an assembler; an advanced business applications BASIC language (BAL) with a sequential and random access file management system; and an 8080 ANSI FORTRAN IV Compiler, FORT//80 (licensed from Unified Technologies, Inc. of Canada).

The end user price for the MICRAL C system with a 10 megabyte disk is \$15,950. The introductory OEM price (50 units) is \$10,495, with even greater volume discounts available. Deliveries are 90 days ARO from the plant in Minneapolis.

For further information contact: R2E OF AMERICA, 3406 University Ave., S.E., Minneapolis MN 55414.

VERBATIM CASSETTE LINE ANNOUNCED BY ITC

Information Terminals Corp. announces a complete new line of VERBATIM digital-grade tape cassettes. VERBATIM media is ITC's new formulation for magnetic recording. It uses proprietary ferric oxides in an advanced macromolecular binder system that adheres it to the tough polyester film.

Designed for data-and-word processing applications, the VERBATIM cassette line offers long life, low abrasion characteristics, and improved magnetic qualities. During processing, all VERBATIM tape is subjected to rigorous magnetic, chemical, and analytical testing.

The result is error-free media with no drop-outs, or loss of signal amplitude. All VERBATIM cassettes are 100% certified at time of manufacture.

VERBATIM cassettes are now available for delivery from ITC distributors.

Information Terminals Corp., founded in 1969, now employs over 400, and its annual sales exceed \$12 million. Today, ITC is the leading manufacturer of removable magnetic data storage media including digital and word processing cassettes, minicassettes, data cartridges, magnetic cards, floppy and floppy (R) disks, and the new MD 525 minidisk -- all on VERBATIM media. Privately held, the company is located at 323 Soquel Way, Sunnyvale CA 94086.



THE FIRST WEST COAST COMPUTER FAIRE
A Conference & Exposition on Personal & Home Computers

CONFERENCE PROCEEDINGS

of the largest convention ever held

Exclusively Devoted to Home & Hobby Computing

over 300 pages of conference papers, including:

(Topic headings with approximate count of 7"x10" pages)

- | | |
|---|--|
| Friday & Saturday Banquet Speeches (16) | Entrepreneurs (6) |
| Tutorials for the Computer Novice (16) | Speech Recognition & Speech Synthesis by Computer (14) |
| People & Computers (13) | Tutorials on Software Systems Design (11) |
| Human Aspects of System Design (9) | Implementation of Software Systems and Modules (10) |
| Computers for Physically Disabled (7) | High-Level Languages for Home Computers (15) |
| Legal Aspects of Personal Computing (6) | Multi-Tasking on Home Computers (10) |
| Heretical Proposals (11) | Homebrew Hardware (8) |
| Computer Art Systems (2) | Bus & Interface Standards (17) |
| Music & Computers (43) | Microprogrammable Microprocessors for Hobbyists (18) |
| Electronic Mail (8) | Amateur Radio & Computers (11) |
| Computer Networking for Everyone (14) | Commercial Hardware (8) |
| Personal Computers for Education (38) | |
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Names & addresses of the 170+ exhibitors at the Computer Faire

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PROGRAM SET FOR COMPCON '78 SPRING

News Release

Dated: 77 Dec 5

A varied program on the theme "Computer Technology: Status, Limits, Alternatives" is being finalized for COMPCON '78 Spring, according to Donald E. Rosenheim of IBM, general chairman. The conference, to be held February 28-March 2, at the Jack Tar Hotel, San Francisco, California, will offer a preconference tutorial, daytime technical sessions covering three major areas, a short notes session, and -- for the first time -- an evening program that will be devoted to personal computing.

Under the direction of Dean Brown of Zilog, program chairman, the technical sessions will focus on hardware, software, and applications, with each area headed by a deputy program chairman. The hardware segment is being planned by Frederick K. Buelow of Microtechnology Corporation, software by Jack Armstrong of the Los Altos Research Center, and applications by Horace P. Flatt of IBM's Palo Alto Scientific Center.

Sessions organized for the conference include ones on distributed processing and computing, microprogramming techniques, microprocessor developments, architecture, operating systems, universal cross software, and high-order languages. There will also be sessions on large-scale scientific computation, LSI testing, simulation, economic modeling, and office systems word processing, Brown said.

A forward-looking tutorial entitled, "Limitations and Alternatives in Future Silicon LSI Technology" will be held Monday, February 27, preceding the conference. It will be led by Dr. James M. Early, division vice-president of Fairchild Camera and Instrument Corporation and well known for the "Early Effect." Lecturers include Richard Pashley, Intel Corporation; Ramesh C. Varshney, Fairchild Camera and Instru-

CHEAP, INC. REPORTEDLY UNRESPONSIVE

Dear Mr. Warren:

14 October 1977

Last February, Cheap, Inc. which took a full page ad in your April Computer Faire Program, cashed a \$90 check of mine. But they did not send any merchandise, and will not respond to my demands for a refund (with interest). Please either help or give me their names, etc.

Thanks,

Joe Gilbert
San Francisco, CA

Editor's note: Last October, we provided Mr. Gilbert with the name and address of Cheap's company. Additionally, we wrote to Jerald Zeger, the President of Cheap, Inc., asking him about this matter and encouraging him to provide a timely rebuttal. To date, we have received no written response.

ment Corporation; Adam Osborne, Osborne and Associates.

New for 1978 will be sessions and exhibits on "Personal Computing" under the leadership of Robert Albrecht of Dymax, and Alice Ahlgren of Cromemco, Inc. The seminars to be held each evening will give opportunity for a broad spectrum of end users to discuss directly with the expert panelists and, hopefully, to help shape the future of personal computing. **FOR FURTHER INFORMATION, PLEASE CONTACT:**

COMPCON 78 SPRING, Box 639, Silver Spring MD 20901, (301) 439-7007.

MACHINE ARITHMETIC CONFERENCE

Fourth IEEE Symposium on Computer Arithmetic, October 25-27, 1978, Santa Monica, California. Papers on computer arithmetic are solicited for this triannual Symposium sponsored by the IEEE Computer Society's Technical Committee on Computer Architecture. The principal topics are: number systems and algorithms, relationships between computer arithmetic and numerical analysis, fault-tolerance in arithmetic processors, implementation of arithmetic building blocks and processors, applications to very high speed computers, digital signal processing and microcomputers.

Submit one copy of the abstract by March 1, 1978, and four copies of the manuscript (5000 words maximum) by May 1, 1978 to: Professor A. Avizienis program chairman, UCLA Computer Science Department, 3731 Boelter Hall, University of California, Los Angeles, California 90024.

DOOR PRIZE WINNERS FROM THE FIRST COMPUTER FAIRE

The following is a list of winners of the massive collection of door prizes and Homebrew exhibit awards that vendors donated for use at the First West Coast Computer Faire. (Notification of their winnings were sent to the named individuals, long ago. This list is being published, now, as a note of appreciation for the contributors and to provide verification of the fact that the prizes were -- in fact -- awarded.)

Sadly, there will be no door prizes offered at the Second Faire, due to an explicit prohibition on such adventures by the San Jose Convention Center.

- XIMEDIA CORP (OAE Tape Reader), S. DeRodeff, Oakland CA.
- Leverett A. Pape, Oakland CA
- Hampton Mulligan, San Jose CA
- John M. Telford, Venoma OR
- VECTOR GRAPHIC (Motherboards), Ingrid Larson, San Francisco CA
- Wayne Leeds, Huntington Beach CA
- Phil Mallet, San Francisco CA
- TECHNICAL SYSTEMS (TSC Text Editing System - 6800), Patrick J. Coghlan, Gridley CA.
- TECHNICAL SYSTEMS (TSC Micro Basic Plus - 6800), Logan Davis, Sunnyvale CA.
- TECHNICAL SYSTEMS (Package 1 for 6800), Peter V. Hahn, Syracuse NY.
- TECHNICAL SYSTEMS (Package 1 for 6802), Virginia Anarrah, Glendale Heights IL.
- TECHNICAL SYSTEMS (Package 1 for 6800), Paul G. Allen, Albuquerque NM.
- TECHNICAL DESIGN LABS (Xiran Alpha I System), Nancy Rose, San Francisco CA.
- TARBELL ELECTRONICS (Tarbell Cassette Interface Kit), John French, Sunnyvale CA.
- TARBELL ELECTRONICS (Tarbell Prototype Boards), Yutaka Kimura, San Francisco CA.
- Roger Wetmore, Seaside CA.
- SWTPC (GT-64 Terminal with matching monitor), Franz Frederick, Lafayette IN.
- SUNSET TECHNOLOGIES (\$25.00 Gift Certificate), Richard E. Toepfer, Los Gatos CA.
- SMACK SIGNAL (IP-38 8K EPROM board), Don R. Dontray, Sunnyvale CA.
- SCIENTIFIC RESEARCH (Volumes 1 v of Basic Software Library), Carl Helmers, Peterborough NH.
- SAMS, HOWARD & CO. (TV Typewriter Cookbook), Larry Platzek, Saratoga CA.
- Anne McLaughlin, Sunnyvale CA.
- SAMS, HOWARD & CO. (ITTL Cookbook), Walter Nishimoto, Watsonville CA.
- William Ong, Moraga CA.
- SAMS, HOWARD & CO. (Active Filter Cookbook), Scott Plunkett, Honolulu HI.
- Al Ristow, Turlock CA.
- SAMS, HOWARD & CO. (RTL Cookbook), Anthony Roman, San Francisco CA.
- James J. Scardino, Mountain View CA.
- SAMS, HOWARD & CO. (CMOS Cookbook), B.C. Stout, Mill Valley CA.
- Leonard E. Cole, Berkeley CA.
- John Frohlich, Mountain View CA.
- Donald W. Harris, Ridgecrest CA.
- Charles L. Hoar, Palo Alto CA.
- SAMS, HOWARD & CO. (CMOS Wall Chart), William R. Mason, San Jose CA.
- Gary L. McCullley, Sunnyvale CA.
- Robert A. Michael, Palo Alto CA.
- Darrell Rawlings, Redding CA.
- Eric G. Rawson, Palo Alto CA.
- Henry Trist, San Valley CA.
- Jay Voral, Sunnyvale CA.
- ROM (Lifetime subscriptions to ROM), Richard J. Harvey, Los Gatos CA.
- William Hewitt, Buntingame CA.
- POLYMORPHIC (Video Terminal Interface Kit), Richard Fish, San Jose CA.
- PMS PUBLISHING (The Underground Buying Guide), Jim Walters, Honolulu HI.
- Henry Saal, Palo Alto CA.
- James R. Saut, Palo Alto CA.
- Joseph R. Cook, San Jose CA.
- R.C. Maninger, Danville CA.
- PFEIFFER (Hexadaisy Hexadecimal Sliderule), Hank Javora, San Jose CA.
- Ray Lester, San Pedro CA.
- Philip Winningshoff, Arroyo Grande CA.
- R. Aggarwal, Daly City CA.
- Nick Herbert, Siening Heights MI.
- Russ West, San Francisco CA.
- Linda Au, Oakland CA.
- Jose M. Baltazar, Salinas CA.
- Amberse M. Bank, Modesto CA.
- Dean J. Meyer, Redwood City CA.
- PARSEC (Main Board and Keyboard Enclosures for the SWTPC 6800), Albert G. Guyer, Sacramento CA.
- PARSEC (Printer Cover for the SWTPC PR 40 Printer), Linda Yu, San Francisco CA.
- PARASITIC (Equinox 100 computer kit), Lichen Wang, Palo Alto CA.
- PARASITIC (Power Supply Kit), Peter Putnam, Foster City CA.
- PARASITIC (Clock Fix Kits for the Altair 8800), Robert Shur, Mountain View CA.
- Chris McAfee, San Jose CA.
- John Fultz, Ripon CA.
- Tony Devencenzi, Sonoma CA.
- Rex Ashbaugh, Tustin CA.
- PAIA ELECTRONICS (8780 Equaly Tempered D/A (for music)), Richard Kaspe, La Jolla CA.
- OLIVER (OP-80 Paper Tape Reader Kit), W.F. McGill, San Pedro CA.
- NORTH STAR (Hardware Floating Point Board Kit), Tod Mikuriya, Berkeley CA.
- MINITERM ASSOC. (Merlin Video Interface Kit), Joseph Jaworski, Westminster CA.
- MINI-MICRO (Corvus Slide Rule Calculators), Ben Wliander, San Jose CA.
- Andrew Clement, Vancouver, BC, CANADA.
- Dave Arnold, Stanford CA.
- Don Hanson, Stanford CA.
- MIDWEST SCIENTIFIC (MSI FD-8 Floppy Disk System), Bruce Maddox, San Jose CA.
- MECA (Mezadrive), Laurence Upjohn, Sacramento CA.
- LOGICAL SERVICES (Modu-Learn Microcomputer Software Course), John Zolnowsky, Stanford CA.
- JADE (2708 8K EPROM), Virginia Emmerich, Citrus Heights CA.
- Ronald Wichter, Berkeley CA.
- JADE (2107B-4 [4K Dynamic RAM]), Shirley Erickson, Mountain View CA.
- Kathryn Rogge, Livermore CA.
- Stanley Fong, San Francisco CA.
- John Harris, Berkeley CA.
- Rose Marie Webb, San Rafael CA.
- John Moorhead, Davis CA.
- David L. Heath, Fremont CA.
- Bob Watkins, San Diego CA.
- Chuck Sederholm, White Plains NY.
- J.F. Hendrikussen, Palo Alto CA.
- Suzanna Jacobson, Berkeley CA.
- Don Van Dyke, Livermore CA.
- Ed Kelly, Hamilton, BERMUDA.
- John H. Kramer, Ukiah CA.
- Janet Lundin, Davis CA.
- Mark Thorson, Berkeley CA.
- HAYDEN BOOK CO. (Basic Basic), Peter J. Ramirez de Arellano, Long Beach CA.
- N. Keele, Culver City CA.
- C.H. Burley, Sunnyvale CA.
- John B. Black, Stanford CA.
- Gary Yokate, Los Angeles CA.
- Sue Stamply, Coloma MI.
- Robert W. Burnette, Berkeley CA.
- Joseph W. deCelleis, San Francisco CA.
- John Backus, San Francisco CA.
- HAYDEN BOOK CO. (Microprocessor Basics), Peter Chen, El Cerrito CA.
- Blanche Wohl, Saratoga CA.
- Vance Clapp, Plainview TX.
- Beverly Bishop, Buffalo NY.
- Richard R. Dymont, Seattle WA.
- Karen D. Willey, Seattle WA.
- Kim C. Ellison, Hayward CA.
- Bill Sorfky, Menlo Park CA.
- Robert N. Kerr, Seattle WA.
- Pete Hargrove, Van Nuys CA.
- GODBOUT (Basic Ram Kit), Joel R. Erickson, Thousand Oaks CA.
- GODBOUT (Econoram Kit), Susan A. Hallis, Campbell CA.
- GIMIX (Gimix Gobblers), Margaret Hogg, Mission Viejo CA.
- Dawn M. Biocca, Albany CA.
- Hamilton M. Stewart, Sunnyvale CA.
- Robert Calder, Sacramento CA.
- James L. Apple, Sunnyvale CA.
- Robert Calder, Sacramento CA.
- Frank Siemons, Mountain View CA.
- Edward Russell, Palo Alto CA.
- Mark Warner, San Rafael CA.
- Glenn A. Bever, Lancaster CA.
- DYMAX (1 yr Subscription to Calculators/Computers Mag), Darlene Horton, Eureka CA.
- Norman Walters, San Jose CA.
- Norman H. Camien, San Francisco CA.
- Paul Iddings, Capitola CA.
- Mrs. J.R. Howard, Yorba Linda CA.
- S. Bristol, Sunnyvale CA.
- David Brandt, Milpitas CA.
- J. Todd Hammond, El Cerrito CA.
- Norman Shanks, Cupertino CA.
- Niels Laughlin, Los Angeles CA.
- James L. Agin, San Luis Obispo CA.
- C. Jenkins, Riverside CA.
- DIGITAL RESEARCH (CP/M System Diskette & Documentation), Takao Uehara, Palo Alto CA.
- CYBERCOM (SB-1 Synthesizer Board for S-100 Bus), Bob Kahn, Berkeley CA.
- CYBERCOM (VB-1A Video Interface for S-100 Bus), Gary L. Walker, Los Altos CA.
- CYBERCOM (XB1-Kits), W.R. Northrich, Walnut Creek CA.
- Donald B. Moore, Fairfield CA.
- James A. Chrysler, San Jose CA.
- Mary Jedlicka, San Francisco CA.
- Paul Sachter, Ogden UT.
- CREATIVE COMPUTING (The Best of Creative Computing, Vol II), R.D. Egan, Menlo Park CA.
- CREATIVE COMPUTING (I01 Basic Computer Games), Michael Soderstrand, Livermore CA.
- COMPUTALKER CONSUI TANTS (Model CT-1 Speech Synthesizer Board), Alan Bowker, San Rafael CA.
- COMPONENT SALES (Burrroughs SSI SDD 132-0030), Joan Tang, Palo Alto CA.
- BYTE PUBLICATIONS (Lifetime Subscription to Byte Mag), Arthur Wetzel, Sunnyvale CA.

FEBRUARY 27-MARCH 2 **spring 78**

COMPCON 78

SIXTEENTH IEEE COMPUTER SOCIETY INTERNATIONAL CONFERENCE

JACK TAR HOTEL, SAN FRANCISCO, CALIFORNIA

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"PERSONAL COMPUTING"

Has the Personal Computing Come of Age?

PURPOSE

We are at the threshold of personal computing. Personal computers will leave the hobby room and enter the kitchen and living room. They will become a true consumer computer -- within the financial reach of many and not just experimenters. This seminar gives the opportunity for a broad spectrum of end users to discuss directly with the expert panelists and, hopefully to help shape the future of personal computers.

SPECIAL EXHIBITS 5:00 P.M.-10:00 P.M. Monday, Tuesday, Wednesday

The exhibits will be available for hands-on type of learning. Attendees can teach themselves on a wide variety of computer equipment.

REGISTRATION FEE

For Personal Computing Sessions and Exhibits, the registration fee is \$5.00. You may register in advance or at the conference.



Organizers

Robert Albrecht
Author, Dragon, and
Friend of Children

Alice E. Ahlgren
Marketing Manager,
Cromemco, Inc.,
Mountain View, CA.

PROGRAM

MONDAY February 27, 1978

5:00 p.m.-10:00 p.m. PERSONAL COMPUTING EXHIBITS
"WOMEN'S ROLE IN INNOVATIVE COMPUTER APPLICATIONS"
Panel:
Alice E. Ahlgren, Marketing Manager, Cromemco, Inc., Mountain View, CA
Judith Edwards, Northwest Regional Educational Lab, Graham, OR
Liza Loop, Director of Lo'op Center, Inc., Cotati, CA
Ellen W. Nold, Director of Communication Project, Stanford University
Joanne K. Verplank, Director of Communications Center, People's Computers Magazine, Menlo Park, CA

TUESDAY February 28, 1978

5:00 p.m.-10:00 p.m. PERSONAL COMPUTING EXHIBITS
7:00 p.m.-9:00 p.m. SESSION 8: PERSONAL COMPUTING
"ROBOTICS AND BIONICS" (Session will include use of computers to aid the severely handicapped)
Panel:
Nels Winkless III, Editor, Personal Computer Magazine, Charter Member, U.S. Robotic Society
Sallie Kueny, Stanford University and San Andreas Health Council
Richard Lowenberg, Bio Arts Lab, S.F.
Tod Mikuriya, M.D.

WEDNESDAY March 1, 1978

5:00 p.m.-10:00 p.m. PERSONAL COMPUTING EXHIBITS
7:00 p.m.-9:30 p.m. SESSION 21: PERSONAL COMPUTING
"EDITORS OF YOUR FAVORITE COMPUTER MAGAZINES"
Panel:
Don Inman -- Calculators/Computers Magazine
Phyllis Cole -- People's Computers Magazine
Nels Winkless -- Personal Computer Magazine
Jim Warren -- Dr. Dobbs Journal
John Craig -- Kilobaud
Carl Helmers -- BYTE Magazine

THURSDAY March 2, 1978

7:00 p.m.-9:30 p.m. SESSION 31: PERSONAL COMPUTING
"COMPUTERS IN ART AND MUSIC" (will include demonstrations and exhibits), Steve Dompier, V.P., Processor Technology, Pleasanton, CA, Margot Critchfield, Project SOLO, University of Pittsburgh, and Thomas A. Dwyer, Project SOLO, University of Pittsburgh

For more information contact: Alice Ahlgren
Cromemco, Inc.
Mountain View, CA
(415) 964-7400

To register in advance, Mail \$5 check before Feb. 13 to: Jean Sherman, COMPCON 78 Spring IBM Corp. G32/006, 5600 Cottle Rd. San Jose, California 95193

For a copy of the complete COMPCON 78 Spring program, write to: Harry Hayman, P.O. Box 639 Silver Spring, MD 20901

NAME _____
IEEE OR IEEE COMPUTER SOCIETY MEMBERSHIP NO. _____
ADDRESS _____
CITY/STATE/ZIP _____
COMPANY NAME _____

*Four prize-winners picked up their prizes at the First Faire from the contributors, and failed to leave their names with us.

MINIPRINTER FOR \$257

News Release

Electronic Product Associates, Inc. (1157 Vega Street, San Diego CA 92110, 714-276-8911) announces the availability of the ALL NEW MP-44 MINIPRINTER. It is a simple and inexpensive 5 x 7 dot matrix printer for microcomputer systems. Electro-sensitive paper is used to make permanent copies at speeds up to 88 characters per second with 44 characters per line. Software control allows expansion of character size for emphasis. Black characters are printed on aluminized paper 6 centimeters (2 3/8ths inches) wide.

An enclosure 4 1/2 by 8 3/4 inches houses the printer and paper supply mounted on an interface board with all necessary components for connection to any microcomputer with TTL logic levels. The microcomputer controls the motor and print electrodes by an eight bit parallel output word, and senses timing signals on two input lines. A power supply of 40 volts dc at one amp must be provided to the interface board.

Low cost is achieved by using the microcomputer for software control of all writing and timing functions. The software is explained in a structured form which can be easily implemented in any computer language, and examples of complete assembly language coding are provided for microcomputers using the 6800 and the 8080 microprocessors. Coding for the 6800 allows the printer to be operated immediately from the EPA Micro-68 I/O bus. Cost of this MP-44 MINIPRINTER is only \$257.00 and is available from stock.



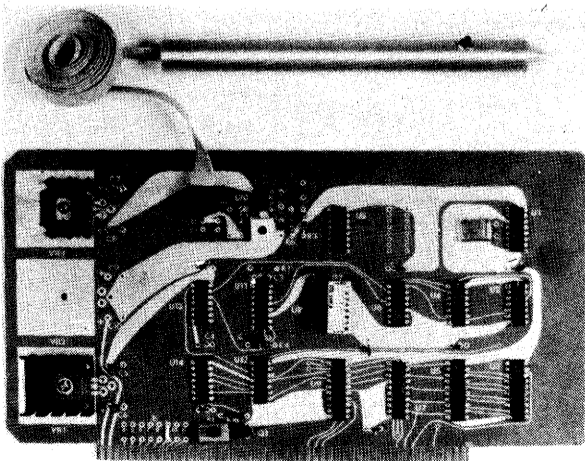
S-100 LIGHT PEN AND INTERFACE BOARD

Sunset Technologies has introduced the first low-cost professional quality light pen and plug-compatible S-100 interface board usable with any video board. The anodized aluminum light pen, connected to the board by flexible ribbon cable, is controlled by a momentary push button mounted on the pen.

The interface board utilizes four I/O ports (one a status port) that occupy four successive I/O addresses selectable by dipswitch. The board can be run using the status port and/or the interrupt. An onboard slide switch allows the interrupt to be enabled or disabled; the interrupt priority level (1-8), is selectable by jumper. Other features include: delivery of x and y values for every refresh of the video screen, requires only a video signal input, low power consumption (200ma @ +5volts), low profile components, an on-board crystal oscillator, gold contacts and plated-through holes, and all necessary cables and connectors.

This unit has a variety of applications: program development, text editing, and graphics, to name a few. The complete package includes the light pen and PC board, fully assembled and tested, a user's manual with full documentation, and suggested applications. Single quantity price is \$250.00 with dealer discounts available.

Sunset Technologies, 210 A East Ortega St., Santa Barbara, CA, 93101, or see them in Booth M4 at the Second West Coast Computer Faire.



TSC TEXT EDITING SYSTEM

TSC (Technical Systems Consultants, PO Box 2574, W. Lafayette, Indiana 47906) is pleased to announce the availability of the first of several large scale programs for the 6800 microprocessor. The new TSC Text Editing System is the most extensive text editor available to the micro user. It supports many of the standard commands, such as: PRINT, INSERT, DELETE, FIND, REPLACE, and VERIFY. These alone make up a respectable editor but the following make it fantastic. Convenient pointer movers are provided for file TOP and BOTTOM, an APPEND command allowing any string to be appended to any or all lines starting in a specified column, text block COPY and MOVE are easily performed with a single command, and a very extensive CHANGE command allowing one to change any or all specified occurrence of one string into a second string.

Other features include, tab character definition, TAB column set, special character SET command, line NUMBERS on or off, an EXPAND tab character commands, easy pointer positioning using the NEXT command, a RENUMBER command, auto line numbering, STOP and LOG command, as well as a unique OVERLAY command, allowing the user to conveniently change a line by typing over an existing line.

Believe it or not, there is still more. A HEADER command outputs a header of column numbers also showing tab stops. A special ZONE feature allowing column restriction of all string searches and replacements is included. Special cursor control characters can be issued using the X command. Complete input control with backspace and line delete control characters are also provided. And, finally, for reading and writing edited files from and to tape, READ, WRITE, and SAVE commands are provided with adjustable delays for various types of tape systems.

This list is not complete, but shows the completeness of the TSC Text Editing System. The editor is intended for those with serious needs. As with all TSC software, a complete source listing, hex dump listing, sample output, and complete users manual are all provided. The price for all this is only \$23.50 and delivery is from stock. Order number SL68-24.

S-100 INTERFACE FOR PET

HUH Electronic Music Productions has announced the PET's 100 - a PET to S-100 Bus interface board. This S-100 sized card plugs into the main-frame of your choice and a cable connects it to your PET which then enables you to use the wide range of peripheral and memory cards available for the S-100 bus. The PET's 100 emulates the true S-100 bus including DMA, both read and write wait states, I/O address mirroring, multiplexed status lines and much more. This means you can use Dazzlers, Bytesavers, slow memory (like 1702s) analog interfaces and a whole host of other tricky cards.

The PET'S 100 will be available in kit or assembled form for \$199.95 or \$279.95 respectively. An introductory price is being offered to those placing pre-paid orders before March 31st, 1978. This special offer is good for the kit version only and is \$169.95. Deliveries are scheduled to begin in April.

Come to the 2nd West Coast Computer Faire and see it running in Booth M-1. You may also place your order at the Faire.

Dealer discounts available. HUH Electronics Music Productions, Box 259, Fairfax CA 94930, (415) 457-7598.

BUSINESS SOFTWARE IN BOOK FORM FOR \$150 -- .05

News Release

Microcomputer Business Systems, Inc. announces the availability of a new book - *A Comprehensive Accounting System in BASIC* - authored by Dr. John Edwards, Ph.D. The book contains a BASIC source-program listing which includes sections on Accounts Receivable, Accounts Payable, Merchandise Inventory, Fixed-assets Inventory, Payroll, Financial Reporting and Check Registers. A special section of the book - and of the source-program - is provided to accomplish initial generation of the user data base. These sections of program are all disk-file interactive and function together as an entire business accounting system.

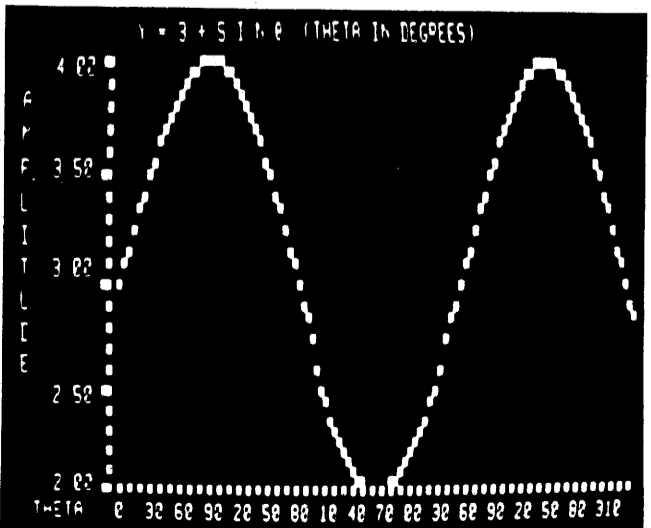
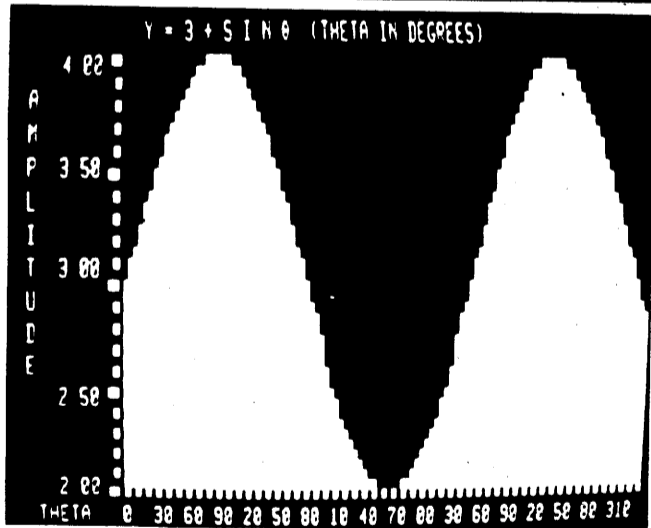
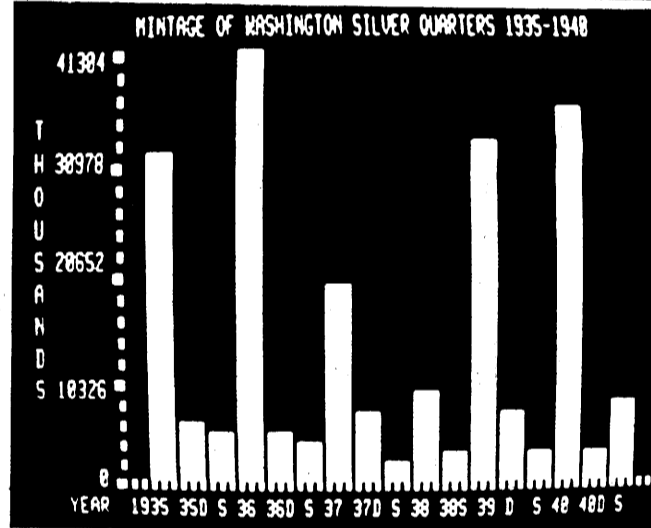
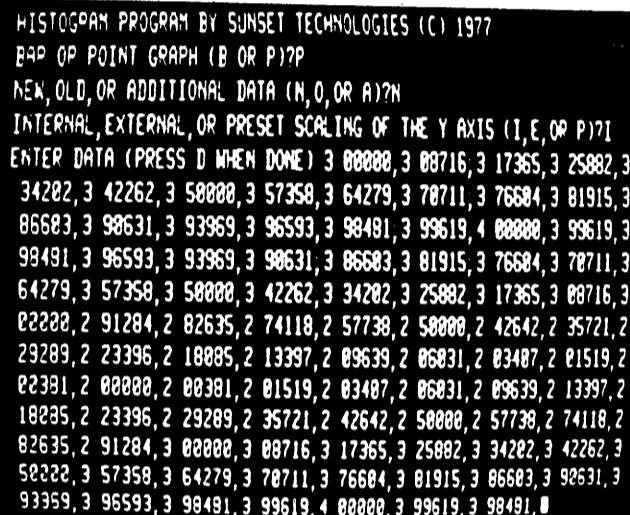
The Company also announces that floppy diskettes will be made available shortly, containing the Comprehensive Accounting System, for the following microcomputers: Alpha Microsystems, ALTAIR, and POLY System 88. If the demand is great enough, other versions of the software will be made available later. Details on the availability of the diskettes will be contained in the book itself.

The book is priced at \$149.95 and all orders will be accepted on a C.O.D. basis only. Dealer inquiries are invited. All orders should be sent to the following address: Microcomputer Business Systems, 1776 Plaza, 1776 E. Jefferson St., Rockville MD 20852.

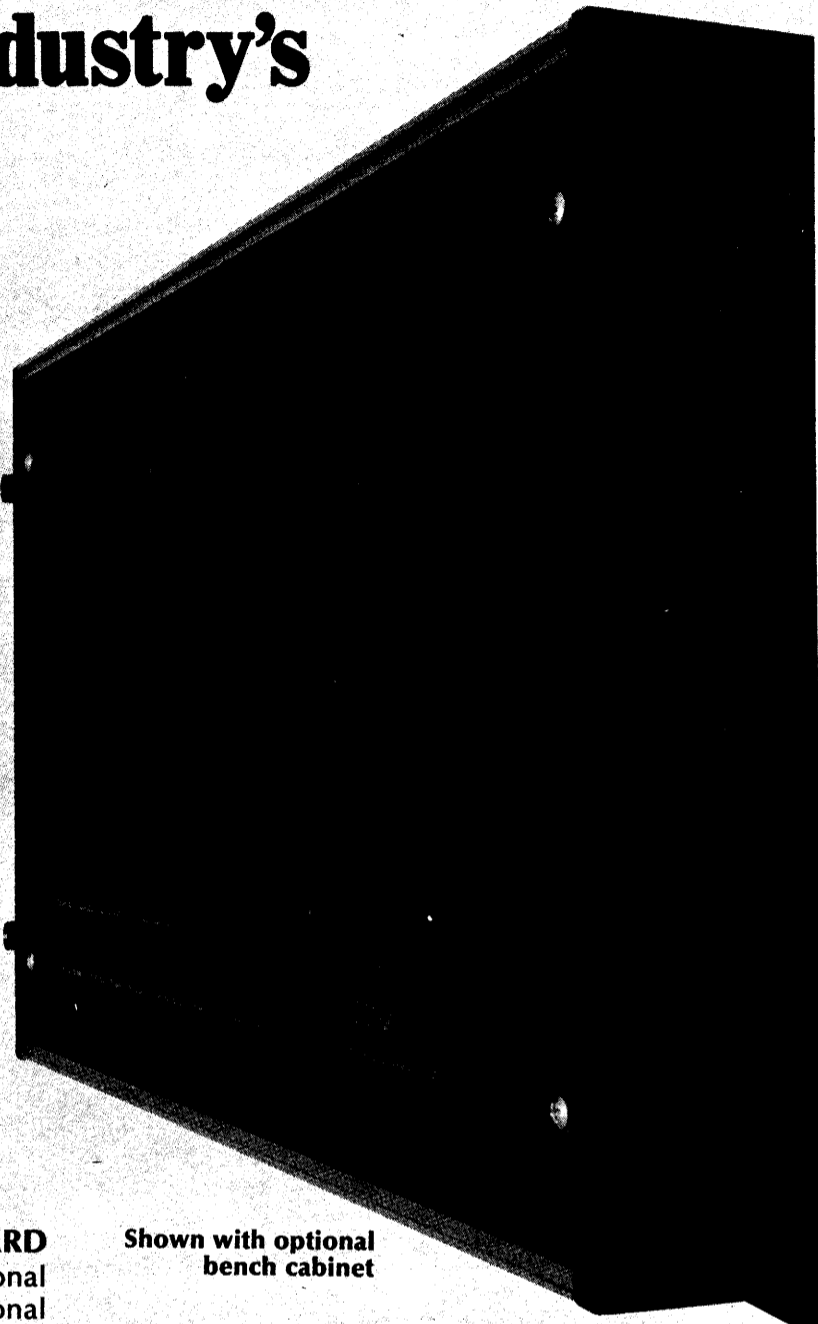
INTERACTIVE GRAPHICS PLOTTING

Sunset Technologies announces a new piece of application software: a histogram program designed to draw a bar or point graph on a video screen from data input via keyboard or from data already residing in memory. It accepts single letter commands and valid data entries from 999999.999999 to 0. Data values are scaled vertically (range internally or externally defined) and assigned horizontal values, left-to-right in the order the data is entered. Spaces can be skipped on the x-axis and data points can be repeated easily. Titles for the graph and axes can be individually labeled. Other features include: 109 data points, delete capability, old data can be updated and immediate interactive response.

The program, written in 8080 machine language and using less than 4K RAM, runs on a Poly-88 microcomputer. Program documentation includes: program description, complete operating instructions, flowchart, complete annotated source listing with object code, cassette tape containing object code and sample data bases in Byte format, and instructions for adding other routines to this program. This is a true piece of application software that can be utilized alone or in conjunction with a larger software library, and has a variety of uses in the hobby, business, and scientific communities. Single quantity price is \$25 with dealer discounts available. Sunset Technologies, 210 A East Ortega St., Santa Barbara CA 93101 or see them in Booth M4 at the Second West Coast Computer Faire.



You can now have the industry's finest microcomputer with that all-important disk drive



The professional-grade microcomputer for professionals

Shown with optional bench cabinet

YOU CAN GET THAT ALL-IMPORTANT SOFTWARE, TOO

Loading your programs and files will take you only a few seconds with the new Cromemco Z-2D computer.

You can load fast because the Z-2D comes equipped with a 5" floppy disk drive and controller. Each diskette will store up to 92 kilobytes.

Diskettes will also store your programs inexpensively—much more so than with ROMs. And ever so much more conveniently than with cassettes or paper tape.

The Z-2D itself is our fast, rugged, professional-grade Z-2 computer equipped with disk drive and controller. You can get the Z-2D with either single or dual drives (dual shown in photo).

CROMEMCO HAS THE SOFTWARE

You can rely on this: Cromemco is committed to supplying quality software support.

For example, here's what's now available for our Z-2D users:

CROMEMCO FORTRAN IV COMPILER: a well-developed and powerful FORTRAN that's ideal for scientific use. Produces optimized, relocatable Z-80 object code.

CROMEMCO 16K DISK BASIC: a powerful pre-compiling interpreter with 14-digit precision and powerful I/O handling capabilities. Particularly suited to business applications.

CROMEMCO Z-80 ASSEMBLER: a macro-assembler that produces relocatable object code. Uses standard Z-80 mnemonics.

ADVANCED CONTROLLER CARD

The new Z-2D is a professional system that gives you professional performance.

In the Z-2D you get our well-known 4-MHz CPU card, the proven Z-2 chassis with 21-slot motherboard and 30-amp power supply that can handle 21 cards and dual floppy drives with ease.

Then there's our new disk controller card with special features:

- Capability to handle up to 4 disk drives
- A disk bootstrap Monitor in a 1K 2708 PROM
- An RS-232 serial interface for interfacing your CRT terminal or teletype
- LSI disk controller circuitry

Z-2 USERS:

Your Z-2 was designed with the future in mind. It can be easily retrofitted with everything needed to convert to a Z-2D. Only \$935 kit; or \$1135 for assembled retrofit package.

We're able to put all of this including a UART for the CRT interface on just one card because we've taken the forward step of using LSI controller circuitry.

STORE/FACTORY

Contact your computer store or Cromemco factory now about the Z-2D. It's a real workhorse that you can put to professional or OEM use now.

- Kit: Z-2D with 1 disk drive (Model Z2D-K) \$1495.
- Assembled: Z-2D fully assembled and tested (Model Z2D-W).... \$2095.
- Additional disk drive (Model Z2D-FDD) \$495.

SOFTWARE

- (On standard IBM-format soft-sectored mini diskettes)
- 16K BASIC (Model FDB-S)..... \$95
- FORTAN IV (Model FDF-S)..... \$95
- Z-80 Assembler (Model FDA-S).... \$95



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i n c o r p o r a t e d

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GAZETTE

ALL OF THE NEWS ABOUT THE
2ND WEST COAST COMPUTER FAIRE IN SAN JOSE, CALIFORNIA

March 3 - 4 - 5, 1978

9am-6pm 9am-6pm Noon-5pm

Volume 2, Number 3

Computer Faire, Box 1579, Palo Alto CA 94302

78February10

Conference Session

AUTHOR OF UP YOUR OWN ORGANIZATION TO KEYNOTE CONFERENCE SECTION FOR COMPUTER BUSINESSPEOPLE & CRAFTSPEOPLE

Don Dible, a nationally known lecturer and author will discuss "Money for Your Business: Where to Find It, How to Get It." Dible is the author of a number of books and articles concerning business initiation and financing, including *Up Your Own Organization*—a book that has sold well over 50,000 copies, and is used as a text in over 150 schools, including Stanford University. Dible is an excellent lecturer, currently giving more than 100 seminars a year throughout the nation.

His talk will range over such topics as analysis of your money requirements, unusual ways to economize, establishing supplier credit, getting customers to help, and the "magic of credit cards." The talk will take place Saturday, and may be repeated on Sunday (the Conference Program organizers are still shoe-horning as this goes to press).

Banquet Speaker

ISAACSON TO DISCUSS EFFECTS (NOT GADGETS)

Portia Isaacson will give a glimpse into the almost-present at the Second Faire. She will discuss the potential influence of "dinky" computers as their use expands in business, government, education and our individual lives.

Rather than detailing gadgets we can expect to see, Dr. Isaacson's focus will be on over-all effects: increased productivity in business, the end of big machine dominance in the computer industry, and opportunities for creativity in home entertainment.

ENTRANTS IN THE FIRST MICROCOMPUTER CHESS TOURNAMENT

The following individuals, programs, and companies have entered the Faire Chess Tourney, as of February 1st:

- Steve Stuart
- Ira Baxter
- Processor Technology
- Cromemco
- Apple Computer
- Microchess (1.0 on a KIM)
- Compu-Chess
- Chess Challenger
- Boris

WE GOOFED!

In the preceding issue of the Gazette, we accidentally included three obsolete, undated news releases left over from the First Faire, last April—which contained no-longer-correct information. (Truly, this is a fast-moving field. Obsolescence in 9 months!)

Please see the following articles for the correct information:

- Xybek's New Prammer Page 7
- Anderson Jacobson To Offer Page 4
- ITC Is Much Bigger Page 7

West Coast Computer Faire

Conference Session

EXOTIC GAMES ON MIMIMUM MICROS: DESIGN & IMPLEMENTATION TECHNIQUES

"Ambitious Games for Small Computers" will be the topic under discussion by Larry Tessler from Xerox Palo Alto Research Center.

Tessler will present various, simple encoding techniques that he has used to implement a subset of a complex game on an 8K byte microcomputer. These techniques allow for more challenging games to be played on personal computers having limited memory.

Conference Session

MUSEUM MICROS

Jim Dunion of the American Museum of Energy (AME) will talk about "Micro's in the Museum -- A Realizable Fantasy, (Disneyland on Your Doorstep).

He will explain the uses for Microcomputers that AME has developed. Information on exhibits using computers, computer community activity events, and beginning classes in Microcomputer technology will be discussed.

ROBOT CHASES ROBOT AT 2nd FAIRE

Dated: January 26, 1978

Visitors attending the 2nd West Coast Computer Faire will have an opportunity to see how a robot can be operated by a microcomputer.

Dynabyte, Inc., Palo Alto, California, will introduce its Basic Controller and will demonstrate how it works by controlling the robot using no external circuitry other than sense inputs. The Robot is a 3-wheeled device that includes proximity sensors on its perimeter. Among other things, Dynabyte is planning for their computer-controlled robot to play "Dodge-um" with another — human controlled — robot.

The unique feature of the Basic Controller is that it allows the user to operate it with Dynabyte's Industrial Basic programming language, which is contained in EPROM on the board. Industrial Basic eliminates the time-consuming use of machine language.

Input to the Basic Controller is through the user's ASCII keyboard, which is faster than a hex keyboard.

Also on the Basic Controller is 4K of RAM, 32 I/O ports including eight relays, 64x16 video generating circuitry, and EPROM programming capability.

The Basic Controller is expected to be in retail computer stores by late March and will retail assembled and tested for \$750.

Dynabyte will also introduce their new line of Z-80 based home and business microcomputers. As with Dynabyte's Naked Terminal and its Great Memories -- 16K dynamic RAM, 16K static RAM and 32K static RAM, the Dynabyte computers are assembled, tested and guaranteed for one year.

See the robot demonstration and Dynabyte's Basic Controller and microcomputers at booths 424, 426 and 428.

The Second West Coast Computer Faire

WHAT?

- 50-80 Conference Speakers tutorials & technical talks
- 4 Keynote Speakers in 2 Banquets
- Over 200 booths of exhibits
- 10,000-15,000 computer enthusiasts

WHEN?

- March 3rd (Friday), 9 a.m.-6 p.m.
- March 4th (Saturday), 9 a.m.-6 p.m.
- March 5th (Sunday), Noon-5 p.m.

WHERE?

- San Jose Convention Center
- Market Street & San Antonio Avenue
- San Jose, California
- (In the middle of "Silicon Valley," an hour south of San Francisco.)

HOW MUCH (for all 3 days)?

By Preregistration:

- Adults - \$8
- Children (pre-college) - \$5
- Physically disabled - \$6
- Senior citizens - \$6

Note: Preregistration provides discounts on purchase of *Conference Proceedings*

Student Groups:

- (Consist of 4 or more pre-college students for each adult sponsor)

\$5 per person, by preregistration only

At-the-Door:

Adults:

- Friday - \$8 (for all 3 days)
- Saturday - \$9 (for Saturday & Sunday)
- Sunday - \$8

- Children - \$6 (with pre-college student ID)
- Physically disabled - \$6
- Senior citizens - \$6

Please use Pre-Reg Form on Page 9.

BANQUET SCHEDULES

- Friday & Saturday Evenings
- Holiday Inn, Park Center Plaza
- Almaden & San Carlos, San Jose

- 6:30 p.m. - Banquet Hall opens (cash bar)
- 7:30 p.m. - Banquet is served
- 8:30 p.m. - Seating opens for after-dinner listeners
- 8:45 p.m. - Keynote Speakers begin

Banquet and Gallery seating is available by preregistration (see page 9). Additional seating may be available on-site at the Banquet Hall, however seating is limited and pre-registrants will have first choice.

KEEP YOUR FREE GAZETTES COMING

Unless there is a label on this Gazette, addressed to you and indicating that it's "from the Computer Faire", please write or call in (415) 851-7075 and give us your name and mailing address. This will assure you of receiving future SGG's - without charge, of course.

HE KNOWS THE VALUE OF OUR PUBLICATION

Please put my name on your mailing list for the Silicon Gulch Gazette. Your free publication is worth every penny.
Tom Estelita

Banquet Speaker Background

ALAN KAY — A MAN OF VARIED INTERESTS

(Alan Kay will be one of the two Friday evening banquet speakers. He will be talking about what we should expect in future personal computers in "Don't Settle For Anything Less.")

As a child, Alan Kay found himself equally attracted to the arts and sciences. In fact, he has never been able to discover any important distinction between the two. A short stint as an illustrator and professional musician was followed by the pursuit of mathematics and biology, occasionally interrupted by involvement in theatrical productions.

Eventually he discovered that the world of computers provided a satisfying environment for his blend of interests. A Ph.D. with distinction from the University of Utah led to a research position at Stanford University and then to the Xerox Palo Alto Research Center where he is a Principal Scientist and Head of the Learning Research Group.

In 1967-69, while at the University of Utah with Ed Cheadle of Memcor Inc., he designed the FLEX Machine, the first higher-level personal computer. At Xerox he started the Learning Research Group, a ten-year project to produce Dynabook, the personal computer of the 1980's. He is the initial designer of Smalltalk, the programming system of the Dynabook.

Whenever he can he designs musical instruments, cooks, and plays tennis.

FLEX Machine

FLEX, A FLEXible EXtensible Language, Tech. Rep. 4-7, C.S. Dept. U. Utah, 1968 The Reactive Engine Ph.D. Thesis, C.S. Dept. U. Utah, 1969

EMPL/8080 INTERPRETER

News Release

Have you exhausted BASIC? Are you looking for a new and interesting language for your microcomputer? EMPL is a popular, easy-to-learn micro version of APL for the Intel 8080. It resides in the first 5,632 bytes of memory. EMPL has numeric and character vectors, user-defined niladic, monadic and dyadic functions, 22 primitive functions, 9 system commands, and many other special operators and characters. EMPL can be run either in the ASCII or APL character set. The range is +32767 - double-byte integer arithmetic is used. EMPL comes with a user's manual that includes complete information on implementing it on Z-80/8080 system with at least 8K of memory. EMPL is \$10 on Tarbell cassette; \$20 on Paper Tape, North Star Disk, CUTS Cassette, or MITS cassette. Ask about EMPL on other media. ORDER FROM: Erik T. Mueller, Britton House, Roosevelt NJ 08555, (609) 448-2605.

Early Dynabook and Smalltalk

A Personal Computer for Children of All Ages, ACM Nat'l Con., Boston, Aug 1972
A Dynamic Medium for Creative Thought, NCTE Nat'l Con., Minneapolis, Nov 1972

Vintage Dynabook and Smalltalk

Personal Computing, Con. 20 yrs of Com. Sci., U. Pisa, Italy, June 1975
Personal Dynamic Media, w/ A. Goldberg, Xerox PARC (1975)
Personal Dynamic Media, W/ A. Goldberg, excerpts: IEEE Computer, Mar 1977
Teaching Smalltalk, W/ A. Goldberg, Xerox PARC, June 1977
Microelectronics and Personal Computers, Scientific American, Sept. 1977

OSBORNE, KAY, ISAACSON & McKEEMAN TO BE KEYNOTE BANQUET SPEAKERS

The Second Computer Faire will continue the "present and future" theme for the Friday and Saturday evening banquets, that was so well received during the First Faire. Each of the two banquets will have two speakers: a "present-world" speaker, and a "future-world" speaker.

Friday's real-world speaker will be Dr. Adam Osborne, widely known as a provocative lecturer, and author of a number of popular reference books including, *An Introduction to Microcomputers, Volumes I and II*. Adam, President of Osborne & Associates of Berkeley, California, will discuss, "Significant Personal Computing Events for 1978." He will also be giving the first presentation of his Maybe-Annual, Unilateral, White Elephant Award for 1977 in Personal Computing.

Alan Kay will be Friday's future-world speaker, discussing, "Don't Settle for Anything Less." Alan is a Principal Scientist at Xerox's Palo Alto Research Center, and head of their Learning Research Group. He is best known as being the brains behind "Smalltalk", the Dynabook -- a book-sized exotic computer for people -- and had a major hand in PARC's Alto computer (an interim Dynabook -- so to speak, a Dynadesk). He will be presenting some fascinating ideas of what can be expected in the foreseeable future of people's computers, and will show slides and movies of some of the prototypes of those "future" devices and systems, currently in use in experimental environments.

The real-world speaker at Saturday evening's banquet will be Dr. Portia Isaacson, talking about, "Dinky Computers are Changing our Lives." Portia will be reporting on some recently completed research and survey work she has been conducting. She is one of the principals in one of the most successful computer stores in the U.S., writes a regular column for *Datamation* on personal computing, and has been appointed as the first Chairperson of the newly formed Special Interest Group on Personal Computing within the Association for Computing Machinery. She was the Chairperson of the largest National Computer Conference ever to be held, and taught computer science at the University of Texas until last Spring, when she left to pursue personal computing ventures on a full-time basis.

Saturday's future-world speaker will be Professor Bill McKeeman, from the University of California at Santa Cruz. Bill is a fascinating speaker and will be discussing, "All Those Things You Wanted to Computer, But Didn't Think You Could Afford" -- a survey of exciting applications and impacts of computers that, for the most part, have not yet occurred. Bill is a Full Professor at UCSC, was Chairman of their Computer & Information Science Department for some years, and is internationally known for his state-of-the-art research in a variety of computer areas -- including one of the first meta-compilers, XPL.

Banquet seating, and after-dinner "listener" seating, is somewhat limited and is available on a reservation-only basis. If any seating remains on the evenings of the banquets, admissions will be available at the door. However, seating may be assured, and long, waiting lines avoided, only by preregistration.

ABOUT ADAM'S WHITE ELEPHANT AWARD

Adam Osborne, magnificent master of Osborne & Associates of Berkeley, California, will be one of the two Friday evening banquet speakers. He will be discussing "Significant Personal Computing Events for 1978". In the previous issue of the Gazette, we reported--without explanation--that he would also be presenting the first Maybe-Annual, Unilateral, White Elephant Award for 1977 in Personal Computing. (Honest, folks--that's what he said he was goin' to do. With a normal, mundane businessman, we would have asked for more information. However, with Adam, we merely accepted the statement--for he is one of those flamboyant Fortyniners who so delightfully populate much of this personal computing frontier.)

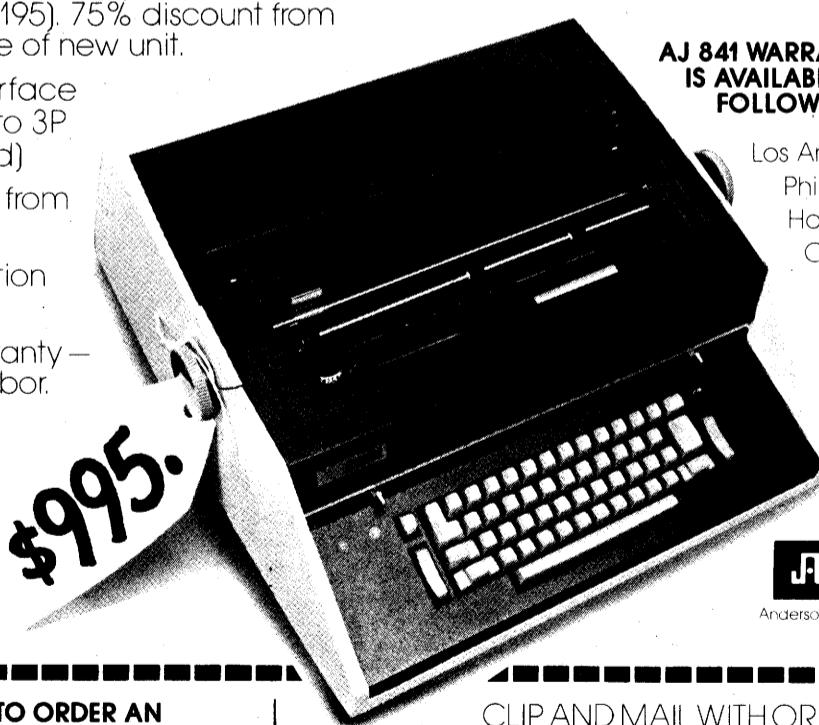
Due to the queries he has received, however, he has now provided a bit more explanation of his White Elephant Award. He points out that absolutely everything in this wild-eyed field is backwards. Small companies make it while big companies have trouble. As the capabilities and quality of products increase, their cost drops instead of rising. As companies become more experienced at manufacturing products, their delivery delays increase rather than decrease. And so on. Thus, Adam reasons, the award for the most outstanding personal computing product of the year should, of course, be called the White Elephant Award.

Dr. Osborne is a forceful, fascinating, and entertaining speaker, a widely known lecturer and author, and a recognized expert in the areas of microprocessors and microcomputers. His Friday evening banquet talk will undoubtedly be enjoyable.

The AJ 841 I/O.
A completely refurbished IBM Selectric Terminal with built-in ASCII interface. Just \$995.

FEATURES:

- ASCII code.
- 14.9 characters per second printout.
- Special introductory price -- \$995 (regularly \$1,195). 75% discount from original price of new unit.
- Parallel Interface (connector to 3P + S included)
- Order direct from factory.
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- 30-day warranty -- parts and labor.
- High quality Selectric printing.
- Reliable, heavy duty Selectric mechanism.
- Off-line use as typewriter.



AJ 841 WARRANTY AND SERVICE IS AVAILABLE IN THE FOLLOWING CITIES:

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- Boston / New York
- Washington, D.C.

For further information call (408) 263-8520

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Anderson Jacobson, Inc. 521 Charcot Avenue
San Jose, California 95131

HOW TO ORDER AN AJ 841 I/O TERMINAL

1. Make cashier's check or money order payable to: **ANDERSON JACOBSON, INC.** Address your request to: Personal Computer Terminal ANDERSON JACOBSON, INC. 521 Charcot Avenue San Jose, CA 95131
2. Upon written notification, pick up your terminal at the AJ service office located in one of the above cities. Allow six to eight weeks for delivery.
3. A final check of your unit will be made at the local AJ service office at time of pickup.
4. For warranty or repair service, return unit to designated service location.
5. Available in U.S. only.

CLIP AND MAIL WITH ORDER

Number of units _____ @ \$995 each \$ _____
Sales tax at delivery location \$ _____
Shipping and handling \$35 each (excluding San Jose) \$ _____
TOTAL \$ _____

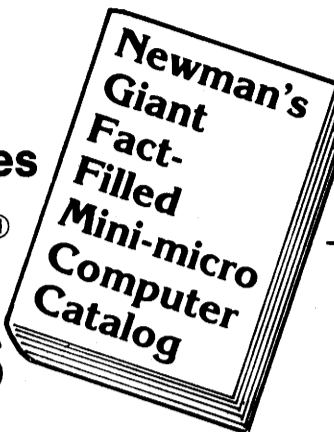
NAME _____
ADDRESS _____
CITY _____ STATE _____ ZIP _____
PHONE () _____

West Coast Computer Faire Visitors:

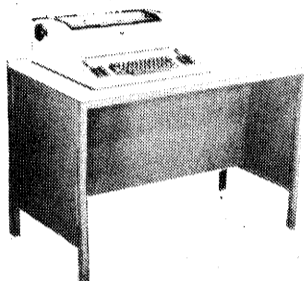
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Loaded with features

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- Ideal for text editing & word processing
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Offer good while supplies last.

Now a heavy duty SelectricTM terminal for less than the cost of a SelectricTM typewriter!

JUST \$495

These recently manufactured (1 to 4 years old) Terminal Communications, Inc. terminals originally cost over \$3,800. They are PTT/C/EBCD terminals running at 134.8 BAUD. Intended for the demanding commercial environment, they are designed to be computer driven. Such key components as clutches and bearings are heavier duty than the office typewriter mechanism.

By purchasing an enormous inventory of these terminals NCE was able to buy them at a very low price. We have added a minimum markup in order to sell them in large quantities quickly. These terminals have been cleaned, adjusted, checked for completeness and operated in local mode. Although they are not tested in terminal mode, a check is made to see that there are no obvious problems. For a period of 30 days after shipment any defective parts may be returned for repair or replacement at no charge. Includes ribbon & typeball.

\$339 AS IS

A great buy for those willing to do some refurbishing, these machines are believed to be complete, but did not work when plugged in. Typical problems include sticky cams, bad solenoids or broken springs. We recommend your seeing them at our giant Ann Arbor warehouse store before you purchase. Includes used ribbon & typeball. At this price there is no warranty. However, they may be returned within 3 days of receipt for a full refund. Applies to prepaid orders only. Purchaser is responsible for freight both ways.

\$695 Refurbished

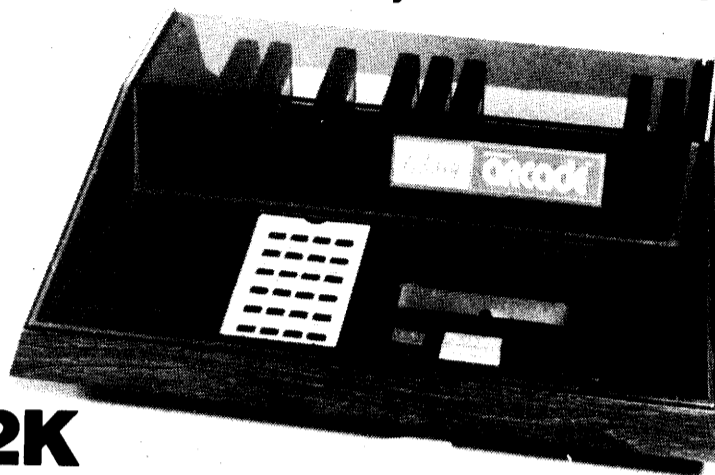
Refurbished machines have been chemically cleaned, lubricated and tested. Worn metal parts were replaced. Platens, as well as plastic and rubber parts are always replaced. Our warranty is limited to replacing any defective parts for a period of 90 days following receipt of equipment. Includes a new ribbon and typeball.

Optional documentation package \$30. Includes schematics, operators and functional specifications manuals.

*Selectric is a trademark of the IBM Corporation.

- Visit with the knowledgeable staff from our Ann Arbor computer store!
- Stay informed - join our mailing list for free copies of future catalog issues and exciting sale announcements.
- See these exciting products!

Bally Professional ArcadeTM



12K Computer only \$299.95 POSTPAID

Order today and get all this for \$299.95

The processing power of the Z-80 is multiplied 5 to 10 fold by custom NMOS chips containing the equivalent of 600 SSI and MSI IC's. The Bally ArcadeTM comes with all these features; 5 function, 10 memory calculator; Gunfight, Checkmate, Scribbling games with color, action, and sound; 24 key keyboard; 4 pistol grip control handles; connects to black and white or color TV. set. 16,000 dot picture image (vs. closer to 4,000 for most other video games). 1 year limited warranty NCE and Bally service depots.

Expandable

- 48K Full keyboard and display at an unbelievably low price.

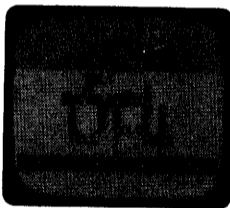
In the third quarter a \$350 expansion package is scheduled. Preliminary specifications include: Full Basic and assembly language. Provision for 2 audio cassette drives. Graphics and Music. Additional 16K RAM. Additional ROM. Industry standard keyboard. 25 x 80 characters with monitor. IEEE port. Price, delivery, and specifications subject to change without notice. Future contemplated options include printers, acoustic coupler, temperature and light control, telephone dialers, disks, Selectric interfaces, digital tape decks and, of course, extensive software.

Software

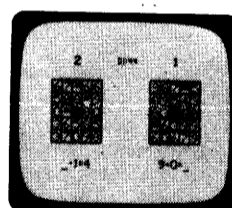
Includes the most popular selections from Bally's professional arcade games, educational programs for the entire family, and functional programs for home, business and the arts. NCE 10 day return privilege applies to Bally VideocadesTM of course. VideocadeTM series includes: STRATEGY — \$19.95 each • Black Jack • Draw Poker • Acey - Deucey • SPORTS - \$24.95 each • Baseball (available now) • Tennis • Hockey • Handball • EDUCATION - \$19.95 each • Bingo Math (available now) • Speed Math • Word Math • Word Hunt • Scramble • ACTION/SKILL - \$19.95 each • 280 Zzzzap (available now) • Dodgem • Sea Wolf • Bombardier • Panzer Attack • Red Baron. OTHERS coming every month.

Get Tiny Basic FREE!

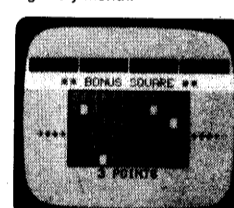
One of the optional ROM cassettes for the Arcade is Palo Alto Tiny Basic. Includes keyboard overlay, 4K ROM cassette, and instruction booklet. Features: music, graphics and color; programs up to 1,800 characters. "Token" feature enabling substituting a single character for an instructional word or phrase. 68 characters from the keyboard. Displays 11 lines of 28 characters/line. Buy Tiny Basic now for \$49.95 and when you buy the expansion package return Tiny Basic and get a full refund of \$49.95. This limited time offer is available only from NCE/Compumart.



Scramble*



Bingo Math*



Word Match*

ORDERED BY:
Company Name _____
Contact _____
Address _____
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ORDER FORM

All orders must include bank check, postal money order, BankAmericard/ Visa or Master Charge number, or qualify for open account (see Terms and Conditions.)

PLEASE FILL IN BELOW FOR CREDIT CARD ORDERS

(Please include all raised numbers)

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Credit Card Account Number _____

For Master Charge only (No. above your name) _____

Expiration or Good Thru Date of Card _____

Signature _____

TERMS AND CONDITIONS: All orders must be signed by authorized person. Equipment may be purchased by cash or credit card (no COD's). Open accounts for only D&B rated businesses with rating of BA2 or better, federal and state institutions or established educational institutions. A formal purchase order must be included, conforming to all terms and conditions stated herein. Net 15 days from date of order FOB Ann Arbor,

Michigan. Shipments will be insured for full value, customer responsibility for setting transit damage claims. Prices and specifications subject to change without notice. NCE/Compumart makes no warranty (other than that stated in ad) with respect to merchantability or fitness of said material for any particular purpose. NCE/Compumart assumes no responsibility for any errors that may appear in this ad.

Quantity	Description	Each	Total
	Bally Arcade	\$299.95	
	Tiny Basic option	49.95	
	Selectric Terminal	495.00	
	Selectric Terminal As Is	339.00	
	Selectric Terminal Refurbished	695.00	
		Total for Goods	
		Free Shipping	
		Mich. residents add 4% Sales Tax	
		Total Amount	

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UNIVERSITY COURSE ON
COMPUTERS IN EDUCATION

The Second West Coast Computer Faire will be held March 3-5, 1978, in San Jose. This is a national conference dealing with home/personal computers that are available for under \$1000. The eventual impact of these computers in the nation's schools is the subject of immense speculation. The Computer Faire provides an opportunity for interested persons to examine the computer systems currently being marketed to users of home and personal computers. In connection with the Faire's conference section "Personal Computers in Education", the University of California Extension is offering this course (X402B (2)) which is an exploration of the educational applications of low-cost home/personal computers.

Emphasis is on formal classroom applications of computers, although those who would like to practice education in the home will find this course invaluable. Topics include: survey of present classroom computing activities; comparison of available low-cost computing hardware; personal/home computers versus programmable calculators; computer kit building at home or at school; sources of materials that can be used with a computer.

LEROY FINKEL, M.A., teacher of computer science, San Carlos High School and De Anza College; assisted by DON INMAN, B.A., Editor, *Calculators/Computers Magazine* and MARVIN WINZENREAD, Ed.D., Associate Professor of Mathematics, California State University, Hayward.

Sessions, to be held at the Lincoln High School Faculty Dining Room, 555 Dana Ave., San Jose, are: Pre-Session, Thursday, March 2, 7-10 p.m.; Intra-Session, Friday, March 3, 6-9 p.m.; Post-Session, Sunday, March 5, 5-7 p.m.. \$75 includes instructional material and admission to the Computer Faire (edp 053215).

Contact: University of California, Extension, 2223 Fulton St., Berkeley CA 94720. (415) 642-1061, Bonnie Stiles.

Conference Session

A COMP SCI PROGRAM
FOR HIGH SCHOOLS

Melvin L. Zeddies will present a comprehensible computer program suitable for use in a secondary school. His discussion will include hardware, software, course titles, description and outlines as well as suggested references.

Zeddies believes that because computers are inter-disciplinary they can provide a "unifying influence for educational experiences". He proposes a curriculum that can be implemented in existing school programs with a "minimum of disruption" while providing students with necessary background and computer experience.

Conference Session

EDUCATION OR RECREATION:
SERIOUS COMPUTING VS. TREKKING

William P. Fornaciari will discuss "Education or Recreation: Drawing the Line." He states that in any discipline there is a fine line between play and serious work. He notes that in the computer field the problem is magnified by the large role that game-playing has had in the development of computer curricula. Throughout the talk he will examine various ways of "drawing the line" between, as he calls them, "trekkers" and "serious programmers."

ANDERSON JACOBSON TO OFFER
PROFESSIONAL TERMINAL FOR \$995
GEARED FOR HOBBY MARKET

Editor's Note: This provides accurate and up-to-date information regarding A-J equipment for the personal computing market. The preceding issue of the Gazette incorrectly carried an obsolete article concerning A-J offerings.

Anderson Jacobson Inc., (AJ), a leader in the field of computer terminals, plans to enter the hobby market with an exciting offer—a professional quality I/O terminal at a price attractive to the serious hobbyist.

Originally selling for over \$4000 the AJ 841 I/O is an IBM Selectric terminal and all flowing type-writer that has been completely refurbished. It includes a built-in ASCII interface and numerous other features attractive to the professional and hobbyist alike.

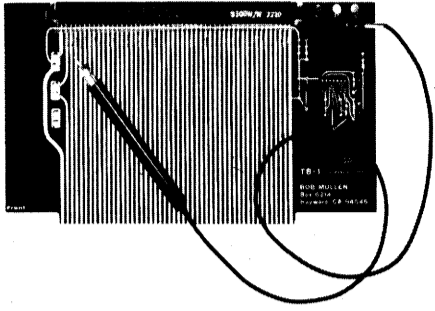
Anderson Jacobson plans to sell this unit through the medium of direct mail for an introductory price of \$995 plus a small shipping charge. The standard price of the unit is \$1195 plus shipping charges. The terminal is fully warranted for thirty days.

Customers will be able to pick up their terminals at specified AJ service locations where the units will be thoroughly tested before delivery. These locations will also provide warranty or repair service as required.

For further details, contact Personal Computer Terminal Department at Anderson Jacobson, Inc., 521 Charcot Ave., San Jose CA 95131 (408) 263-8520.

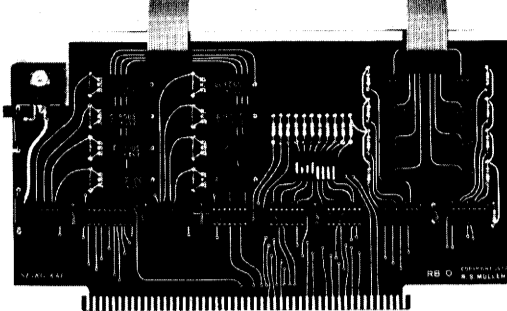
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Whether for troubleshooting or analysis, if you have an S-100 machine at some point you will need our Extender Board with Logic Probe Kit (\$35). The logic probe makes it easy to see which signals are going where... our special edge connector provides easy clip lead probing, jumper links in supply lines allow for fusing/current measurement/shutdown independent of system, and a non-skid needlepoint probe helps prevent accidental shorting. As with other Mullen kits, you also have quality parts, detailed instructions, and a realistic price.

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Available by direct mail (shipped ppd. in USA from stock; Cal res add tax) or at many fine computer stores. Dealer inquiries invited.

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HORIZON™— a complete, high-performance microprocessor system with integrated floppy disk memory. HORIZON is attractive, professionally engineered, and ideal for business, educational and personal applications.

To begin programming in extended BASIC, merely add a CRT or hard copy terminal. HORIZON-1 includes a Z80A processor, 16K RAM, minifloppy™ disk and 12 slot S-100 motherboard with serial terminal interface— all standard equipment.

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The Z80A processor operates at 4MHz— double the power of the 8080. And our 16K RAM board lets the Z80A execute at full speed. HORIZON can load or save a 10K byte disk program in less than 2 seconds. Each diskette can store 90K bytes.

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HORIZON includes the North Star Disk Operating System and full extended BASIC on diskette ready at power-on. Our BASIC, now in widespread use, has everything desired in a BASIC, including sequential and random disk files, formatted output, a powerful line editor, strings, machine language CALL and more.

EXPAND YOUR HORIZON

Also available— Hardware floating point board (FPB); additional 16K memory boards with parity option. Add a second disk drive and you have HORIZON-2. Economical serial and parallel I/O ports may be installed on the motherboard. Many widely available S-100 bus peripheral boards can be added to HORIZON.

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HORIZON processor board, RAM, FPB and MICRO DISK SYSTEM can be bought separately for either Z80 or 8080 S-100 bus systems.

HORIZON-1 \$1599 kit, \$1899 assembled
HORIZON-2 \$1999 kit, \$2349 assembled

16K RAM— \$399 kit, \$459 assembled. Parity option \$39 kit, \$59 assembled. FPB \$259 kit, \$379 assembled. Z80 board \$199 kit, \$259 assembled. Prices subject to change. HORIZON offered in choice of wood or blue metal cover at no extra charge.

Write for free color catalogue or visit your local computer store.

NORTH STAR ★ COMPUTERS

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Conference Panel

TEACHING & LEARNING WITH PERSONAL COMPUTERS

The recent availability of two \$600 plug-em-in-and-use-em home/school computers, the Commodore PET and the Tandy Radio Shack TRS-80, has prompted Bob Albrecht to help elementary school teachers, students, and resource people learn how to use the PET and TRS-80;

Bob states that there are very few instructional materials available. Thus, he is using his teaching experiences to develop "teach yourself" style materials to help students, parents, and teachers learn to read and understand BASIC. He approaches the creation of his learning materials using text and graphic examples as opposed to the usual "math" emphasis.

Bob will take part in a panel entitled "Personal Computers and Learning Environments."

SPECIAL RATES FOR STUDENT GROUPS

Groups of elementary and secondary school students and their sponsors will be admitted to the Computer Faire -- by preregistration -- for \$5.00 per person. Such groups must consist of four or more pre-college students for each adult sponsor, and must forward the following to the Computer Faire no later than February 17th:

1. name and mailing address of each child, and a copy of their student identification,
2. name and mailing address of each adult sponsor,
3. payment of \$5.00 for each child and each sponsor.

These fees will provide registration badges good for admission to the Faire on all three days.

NOTE: A number of school field trips appear to be planned for the first day of the Faire, Friday.

Conference Session

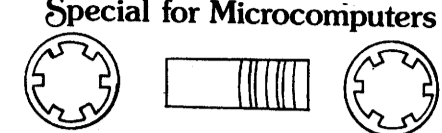
NEW EDUCATIONAL USES OF COMPUTERS

Tom Dwyer will present a talk entitled "Getting It Right: New Roles for Computers in Education." He feels that present uses of computers (such as CAI Computer assisted instruction) have been unsuccessful. His talk will examine better ways of instruction making use of personal computers.

He appears to challenge traditional methods of education when he states, "the guidance of others may very well inhibit the best kinds of human learning. The conclusion . . . is that people have far more intrinsic talent for the business of learning than they have for the business of describing it, or bringing it about in others."

Thus Dwyer concludes that combining an individuals' desire to learn with the use of personal computers will result in more actual learning.

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Conference Session

TEACHERS & COMPUTERS IN THE SCHOOLROOM

Don Black will be presenting a talk about "The Computer in The Schoolroom." He will cover teacher's requirements for an educational system using computers. He divides the topic into hardware and software. Under hardware, he comments on packaging, hardcopy vs graphics, and memory and storage requirements. In the "software" section, he presents the requirements of a language suitable to classroom needs.

Conference Session

CS CURRICULA FOR PUBLIC SCHOOLS TO BE DISCUSSED

Robert S. Jacquiss, Sr. sees microcomputers as an integral part of a high school education. Using computer classes as a base, Jacquiss invisions computer use expanding into basic subject areas such as math, chemistry, social studies and biology.

At the Faire, Mr. Jacquiss will present specific ideas for implementing a computer education program at the pre-college level. These include establishing computer science departments within a high school, developing long-term plans, and re-programming subject-area teachers to include computer usage within their curriculum.

Conference Session

THE ROLE OF MICROS IN PUBLIC SCHOOLS

Peter S. Grimes, Curriculum Supervisor for the San Jose Unified School District (SJUSD), will give a presentation on "The Role of the Microcomputer in a Public School District."

He will include a general description of SJUSD's instructional use of microcomputers, a brief rationale for the development of their microcomputer policy, and an explanation of why SJUSD promoted instructional microcomputing before identifying a curriculum.

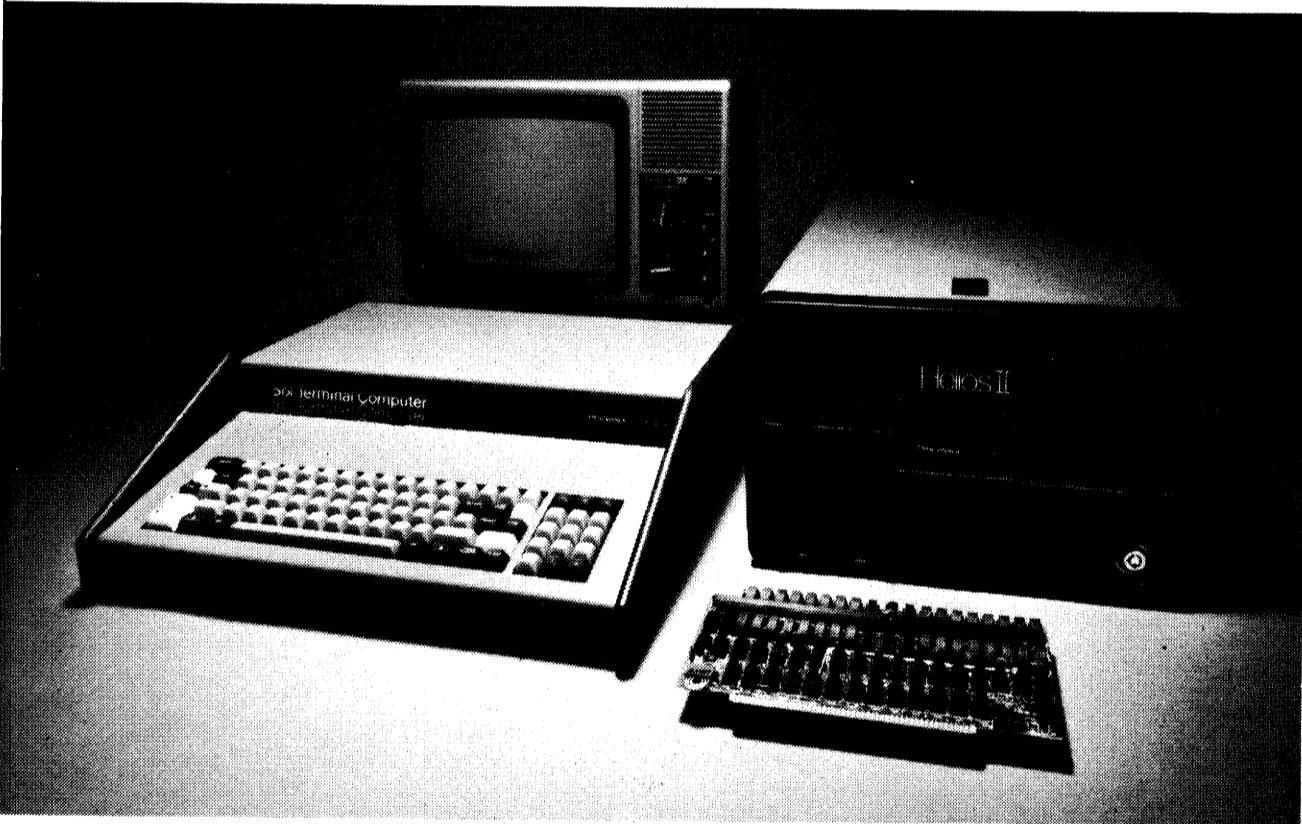
He will also explain in some detail exactly how they are using microcomputers. Finally, a brief exposition of some of the things they have learned will be included.

Conference Session

TEACHING WITH MICROS IN NON-COMPUTER DISCIPLINES

Richard Harms' talk, "Learning with Micro-computers", will describe an instructional approach based upon the microcomputer equipped with tape cassette. He says the approach is structured around the premise that "a person learns a bit at a time" (no pun intended?).

He explains that small segments of any topic are presented to the student. The student works with the material at his own rate. Based on his responses, individual learning paths are developed. He says several non-computer disciplines including journalism and psychology have been successfully implemented.



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offer Helios II/PTDOS, an extraordinarily capable disk operating system. And remember, though we call these small or personal computer systems, they have more power per dollar than anything ever offered. They provide performance fully comparable and often superior to mini-computer systems costing tens of thousands of dollars more.

What you get. What it costs.

Typical systems include Sol System I priced at \$1600 in kit form, \$2095 fully assembled and tested. Included are a Sol-20/8 with SOLOS personality module storing essential system software, an 8192 word memory, a 12" TV/video monitor, and a cassette recorder with BASIC tape.

Sol System II has the same equipment with a larger capacity 16,384 word memory. It sells for \$1825 in kit form; \$2250 fully assembled.

For even more demanding tasks, Sol System III features Sol-20/16 with SOLOS, 32,768 words of memory, the video monitor and the dual drive Helios II Disk Memory System with the PTDOS disk operating system and Extended DISK BASIC Diskette. Price, \$5795 fully assembled and tested.

More information.

For the most recent literature and a demonstration, see your dealer listed below. Or if more convenient, contact us directly. Please address Processor Technology Corporation, Box O, 7100 Johnson Industrial Drive, Pleasanton, CA 94566. Phone (415) 829-2600.

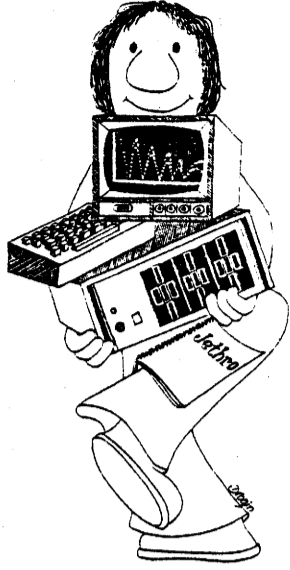
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\$85. 2nd West Coast

Computer Faire — San Jose, Mar. 3, 4, 6
Micro Business — Pasadena, Mar. 17, 18

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Conference Session

COMPUTERS AND THE BLIND — TRULY "PERSONAL" COMPUTING

Computers are providing opportunities for the blind to function effectively in society. Robert Jacquiss, Jr., a blind engineer at Tektronix and a Faire speaker, states that through computers, the blind are able to receive the same information as the sighted. This makes it possible for them to work efficiently and effectively in computer-based jobs.

Jacquiss' talk will discuss ways that microprocessors can aid the blind in eliminating their major problem when working with computers, namely determining computer responses. Currently these include braille terminals, closed circuit TV magnifiers, the Opticon, and speech output devices.

Andrew A. Allison—Consultant

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Conference Session

SENSORY AIDS FOR THE HANDICAPPED

A talk entitled "Microcomputer-Based Sensory Aids for the Handicapped" will be given by J. Stephen Brugler of Telesensory Systems, Inc.

He will describe some of the recent projects, utilizing microcomputer technology, that Telesensory Systems has developed for the handicapped, especially the blind.

Five devices, the SPEECH+ talking calculator for the blind, the TSPS telephone console interface for a blind operator, the Games Center for the blind, the Crib-O-Gram, and the LSI Speech Synthesizer will be included.

ASSISTANCE & REDUCED FEES AVAILABLE FOR THE PHYSICALLY HANDICAPPED

The Second Computer Faire will include a significant collection of technical presentations in the Conference Program, concerning the application of computers for the physically disabled. To assist the disabled who will be attending the Faire, the organizers will be providing simultaneous translation for the hearing-impaired of selected conference talks, as well as a reduced registration charge for those with major physical disabilities: \$6 for a three-day admission. It should also be noted that the Convention Center is equipped with facilities for the physically impaired.

The Faire organizers would like to thank Roger Vass, who is Chairing the Conference Section on Computers for the Physically Disabled, for his suggestions and assistance in helping to better serve this segment of the population.

More than just hardware.

As a dealer of Midwest Scientific Instruments products you get more than just hardware on your shelf. You get a broad range of superior products, and a manufacturer who will help you sell those products.

The finest 6800 hardware available.

MSI has a firmly established reputation for producing the finest 6800 hardware on the market. The MSI 6800 Computer System and MSI FD-8 Floppy Disk Memory System are setting new standards in the industry. The speed, capacity, and flexibility of our system make it suitable for virtually any application.

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To make a powerful computer system work, you need powerful software... and MSI has it. MSI Disk BASIC is available in both Compiler and Interpreter versions. The excellent TSC Editor is available for the FD-8, as is the MSI Reverse Assembler. Our Interpretive Debugger is the most complete debugging package ever released for the 6800.

And more is on the way.

Our R&D division is one of the most aggressive in the micro industry. In about two months, we will introduce our new Double-Sided FD-8 Floppy Disk Memory, and soon after that, we will release our comprehensive Small Business Systems Software Package.

A unique dealer sales promotion program

In addition to a national advertising and sales promotion campaign, MSI provides dealers with a variety of aids designed to help produce high profit sales. This includes materials, direct sales assistance, a unique lead referral system, and our annual dealer sales meeting. The 1978 MSI Dealer Sales Meeting will be held April 13, 14, 15 in Keystone, Colorado.

Applications are now being considered.

MSI is now accepting applications from recognized, qualified dealers and representatives. However, only a limited number of dealers and representatives will be accepted in each geographic area. This is a tremendous opportunity to join with one of the most highly respected and aggressive microcomputer manufacturers in the country. If you believe you can qualify, contact:

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THE HOMEBREW COMPUTER CLUB — A HOBBYIST FORUM IN SILICON VALLEY

Robert Reiling, Editor, *Homebrew Computer Club Newsletter*

Formed March 5, 1975, the Homebrew Computer Club is one of the oldest major hobbyist clubs for personal computer enthusiasts in the world.

Its purpose is to promote sharing of information concerning the development and application of microcomputer technology. The original club group consisted of 32 computer enthusiasts. That quickly grew, however, and today almost ten times that number are regular attendees at the club meetings.

The organization attracts experts in the field of microcomputer technology as well as hobbyists from all over the San Francisco Bay Area.

Homebrew Computer Club meetings are held at two week intervals. The usual meeting location is the Stanford Linear Accelerator Center Auditorium, Sand Hill Rd. between Foothill Expy. & Hwy. 280, Menlo Park, CA. A unique format has been established at these meetings that assures the maximum exchange of information between members.

First, there is a "mapping period" where each person has an opportunity to ask a question and usually one or more people will respond with an answer. No lengthy discussions are allowed during this period. A later period, called the "random access period" is reserved for extensive information exchange. Also, during the mapping period, anyone having new or interesting products software, or information are given the opportunity to speak. Very often, the latest rumors from Silicon Valley manufacturers, are heard. This is not unusual because a number of the club members are employees of firms involved in microprocessors.

During the mapping period, control is ably maintained by the meeting moderator, Lee Felsenstein. With 150-200 or more people on hand, it is important. The following "random access period" is the time to pursue the more detailed discussions. Random access is a sort of free-for-all get-together period to carry on the contacts established during the mapping period. It is also a time when special interest groups meet to exchange the latest ideas on a specific computer system or project.

The club has a monthly newsletter. It contains club information, new product data, programming ideas, tutorial material, and a bulletin board for member announcements. A recent issue listed the systems operated by club members attending a single meeting. A remarkable 182 systems were reported in operation by the 240 in attendance.

A club library has a variety of software and technical data for exchange by members. Gordon French is the custodian. It was Gordon's home where the first club meeting was held.

A sample *Homebrew Computer Club Newsletter* listing meeting dates and location may be obtained by sending a stamped, self-addressed envelope to the *Homebrew Computer Club Newsletter*, P.O. Box 626, Mountain View CA 94042.

XYBEK'S NEW PRAMMER

Editor's Note: This is an update to obsolete information that we erroneously published in the preceding issue.

The Prammer III from Xybek is a PROM/RAM PROGRAMMER for S-100 bus microcomputers. This four layer board contains 1K bytes of RAM and space for 1 to 30K bytes of EPROM in the form of any combination of 2708, TMS2716, and UPD458. Addressing is flexible in that any 1K of EPROM may be assigned to any 1K boundary (2K for 2716) in the board's 32K address space, yet empty sockets do not usurp addresses. The on board EPROM programmer with its integral power supply is activated at the flick of a switch so that any of the above EPROMs may be programmed in the socket which doubles for memory or programming. The board sells for \$369.50 assembled and tested, and is accompanied by programming software and development system listing. It will be available for delivery in March. Xybek's original Prammer, for 1702As is still available at \$259, assembled and tested. See them both in operation at the Faire, Booth 214. Xybek, Box 4925, Stanford, CA 94305, (408)296-8188.

Faire Exhibit

RADIO TELETYPE GROUP TO DEMO MICROCOMPUTER-BASED COMMUNICATIONS APPLICATIONS

Many people interested in computers and communications wonder where a good communications link is that can provide an information interchange between computer hobbyists as well as those just interested in communicating. The answer is the growing use of the amateur radio teletype repeater WR6ACR. This repeater is utilized for the promotion of radio teletype as a means of communications for anyone who is interested. And lately, the interest has been computers! The repeater is located on San Pedro Ridge just north of San Rafael. The frequency is 147.93/147.33 MHz. Those wishing to use the repeater should use narrow band FM transmission with a two-tone audio keying shift of 170 Hz. (2125-2295). Since the signal is FM, signals from miles around will get through perfect copy almost all the time.

A simple T.U. (terminal unit) that decodes the two tones and keys the printer loop supply is available at low cost. The unit consists of a phase lock loop tone decoder, a function generator to create the two tones when keyed and associated circuitry for autostart.

Printers are readily available and very low cost. A Teletype Model 15 or 19 is available for less than \$100 and can be used with your computer providing a conversion program is used to convert from ASCII to the Baudot code which is used exclusively on amateur radio.

Should you want more information call: Allan Bowker at (415)453-1853, San Rafael or if you live in the Peninsula, call Howard Nurse at Palo Alto. In addition, a demonstration system will be operating at the Second West Coast Computer Faire according to Allan Bowker. Users of the repeater will be available to answer questions.

ITC IS MUCH BIGGER THAN WE IMPLIED

Editor's Note: The preceding issue of the Gazette mistakenly carried an undated article concerning ITC and the Verbatim product line, which was about 9 months old. It erroneously indicated that the company was much smaller than it now is. This was our error, and we wish to apologize for it. The following article provides more current information regarding ITC. -JW.

ITC DECEMBER SALES PASS \$2 MILLION

Information Terminals Corp. announced sales for December 1977 exceeding two million dollars. According to Dr. Peter McCuen, President, the increased sales are part of a continuing upward trend for the company. "It's interesting to note that sales for the month of December alone amounted to more than our total annual sales for fiscal year '73," he said. "It was only two years ago that we achieved our first major monthly sales goal of one million dollars per month." "We're gearing up for effective operation at the \$50 million sales level and beyond," he added. Information Terminals Corp., founded in 1969 employs over 700, and its annual sales exceed \$20 million. ITC markets VERBATIM floppy disks as well as data cartridges and magnetic cards. The company is located at 323 Soquel Way, Sunnyvale, CA 94086, (408) 245-4400.



COMPUTER CLUB RAISES FUNDS BY RAFFLING OFF PAID COMPUTER FAIRE REGISTRATIONS

The Sacramento Microcomputer Users' Group (SMUG) has conducted several raffles in recent months to raise funds to support its activities. Paid preregistrations for the Second West Coast Computer Faire were the prizes. So far, they have given away twelve fully paid preregistrations.

WANT ADS

Though our sophisticated publication is primarily for distributing endless monologues regarding the forthcoming Computer Faires, since we were asked to carry a want ad, we have invented a "Want Ad policy":

Classified ads will be accepted for publication in the Silicon Gulch Gazette. Please submit the ad copy, typed and double-spaced, and payment of \$15. Up to one column-inch of your copy will be typeset and will appear in the next available issue of the Gazette. If your ad exceeds one column-inch, we will edit it at our discretion. The \$15 is a minimum charge. Each press run of the Gazette consists of at least 50,000 copies which are distributed without charge to individuals nationwide, and in bulk to stores and organizations.

FOR SALE: Digital Group system with 8080 CPU, 6502 CPU, 26K RAM, EPROM card 64/32 character displays, 2 PhiDecks and interface, keyboard, tv monitor, audio cassette, 25A power supply, CPU cabinet, software, Basic, assembler, editor, and games. All for \$1500. Bill Seijer No. 202, 1717 Woodland Ave., Palo Alto CA 94303 (415)323-2083.

16K STATIC RAM THE WAY YOU LIKE IT

- Assembled and tested \$595
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- 16K kit \$525
- 8K kit \$295
- Kit with all but 2114 memories \$88
- BLANK BOARD \$35

COMPARE THESE FEATURES:

- S-100 BUS COMPATIBLE
- COMPLETELY STATIC WITH NO CLOCKED CHIP-SELECT OR REFRESH
- WILL RUN ON Z-80 SYSTEMS AT 4 MHz WITH NO WAIT STATES
- WILL RUN ON ALPHA MICROSYSTEMS AM-100 AND ON DNA SYSTEMS
- USES 2114 MEMORIES—AN INDUSTRY STANDARD
- HAS INDIVIDUALLY ADDRESSABLE 4K BLOCKS OF MEMORY
- SOFTWARE WRITE PROTECTION IN 4K BLOCKS
- PACKING OR BANK SELECT FEATURE FOR MEMORY EXPANSION AND LOW SOFTWARE OVERHEAD TIMESHARING SYSTEMS
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S-100 BUS TERMINATING BOARD \$25
Absorbs noise, overshoot, ringing, reflection.

S-100 EXTENDER BOARD \$16
With jumpers it power supply lines for current measurements. Low profile so card can remain in the machine with cover off. Wide edge connector.

PRICES SHOWN INCLUDE U.S. SHIPPING. WE ACCEPT VISA, MASTER CHARGE, CASHIERS CHECK, M.O. ALLOW TIME FOR PERSONAL CHECKS TO CLEAR. C.O.D. ORDERS ADD \$1. UTAH RESIDENTS ADD 4% TAX.

DIGITAL MICRO SYSTEMS

BOX 1212, OREM, UTAH 84057
(801) 224-2102

Do-it-yourself manual for microcomputer repair and maintenance. Written for use by the novice. Applies to any single or multi-board system. Also contains useful tables and charts. \$5.00 from Pat Rankin, Box 849, Castroville CA 95012.



THE FIRST WEST COAST COMPUTER FAIRE
A Conference & Exposition on Personal & Home Computers

CONFERENCE PROCEEDINGS

of the largest convention ever held

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over 300 pages of conference papers, including:

(Topic headings with approximate count of 2"x10" pages)

- Friday & Saturday Banquet Speeches (16)
- Tutorials for the Computer Novice (16)
- People & Computers (13)
- Human Aspects of System Design (9)
- Computers for Physically Disabled (7)
- Legal Aspects of Personal Computing (6)
- Heretical Proposals (11)
- Computer Art Systems (2)
- Music & Computers (43)
- Electronic Mail (8)
- Computer Networking for Everyone (14)
- Personal Computers for Education (38)
- Residential Energy & Computers (2)
- Systems for Very Small Businesses (5)
- Entrepreneurs (6)
- Speech Recognition & Speech Synthesis by Computer (14)
- Tutorials on Software Systems Design (11)
- Implementation of Software Systems and Modules (10)
- High-Level Languages for Home Computers (15)
- Multi-Tasking on Home Computers (10)
- Homebrew Hardware (8)
- Bus & Interface Standards (17)
- Microprogrammable Microprocessors for Hobbyists (18)
- Amateur Radio & Computers (11)
- Commercial Hardware (8)

--- plus ---

Names & addresses of the 170+ exhibitors at the Computer Faire

Order now from:	Proceedings:	\$12.00	(\$11.95, plus a nickel, if you prefer)
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Palo Alto CA 94302	Californians Add:	_____	6% Sales Tax
(415) 851-7664	Inside California:	\$13.40	Payment must accompany the order.

april, 1977 · san francisco

"STRINGY FLOPPY" TO BE PREMIERED AT FAIRE

News Release

Exatron Corporation of Sunnyvale, California, has announced that they will introduce the Exatron Stringy Floppy, an innovative mass storage subsystem for computers with the S-100 bus, at the Computer Faire. The subsystem consists of a control board connecting to the bus, a small drive module outside the computer mainframe, and the connecting cable.

The individual continuous-loop tape wafer, less than a fourth the bulk of the standard audio cassette and holding up to 40K bytes, is inserted in the slot in the front of the drive module, and will save or load 4K bytes in about 5 seconds. All operations are software controlled; the utility programs are contained in an EPROM on the control board. The subsystem is assembled and tested at the factory, is delivered ready to operate, and is backed by a one-year full warranty and a 30-day-money-back guarantee. An owner's association has been organized, monthly newsletters are being published, and weekly workshops will be conducted at the manufacturer's plant in Sunnyvale on Saturday mornings for owners and prospective users.

Exatron Corporation has been successfully manufacturing and marketing industrial test equipment for integrated circuits for three years, and, says Robert E. Howell, chairman, "We welcome the opportunity to apply creative engineering to the personal computing field."

Conference Session

MICROS FOR COURT REPORTERS

Douglas DuBrul will present a talk on "Micro-computer Applications in Court Reporting." He states that the court community in general appears to be a near-ideal application area for small computers since it involves shifting a large volume of on-going and adequately funded work from manual to computer-aided processing.

His talk will focus on several microcomputer-based word-processing systems for use by court reporters and their stenographic support personnel. He will describe the manual process to be replaced, indicate some possible functional improvements, and present several design concepts for equipment. He notes that the article is not technical in nature and deals with the topic on a "systems" level.

Conference Session

THE MARIN COMPUTER CENTER: WHAT, HOW AND WHY

David and Annie Fox will describe "The Marin Computer Center -- A New-Age Learning Environment." They will discuss the activities MCC undertakes to fulfill its main goal, which is, as they state it, to bring the "wonder of advanced technology (computers and the like) within reach of all people."

FORETHOUGHT IS THOUGHTFUL OF FAR EAST VISITORS

Forethought Products is one of the exhibitors at the 2nd Computer Faire (booth 421). They noticed our several articles regarding expected Faire visitors from Japan, and contacted us, offering their services.

It seems that one of their personnel who will be manning their booth, Ginny Bear, holds a Master's degree in Japanese and speaks the language, fluently. She has volunteered to assist any Japanese visitors who may have some problem with the language (including assisting them in communicating with vendors other than Forethought). Forethought Products -- an accurately named company.

Last year, several hundred visitors came from Japan to attend the First Faire, including at least one planned tour group. This year, we have already had contact from at least three people indicating they were planning tour groups from Japan to visit the Faire. This includes one person stating that he was organizing a group of about 100 people from the "Moon Base" retail computer stores that reportedly form a national computer distribution operation in Japan.

Conference Session

COMPUTER GRAPHICS: HISTORY AND FUTURE

A historical review of Computer applications in graphics will be presented at the Faire in a slide lecture by Beverly J. Jones, Ph.D.

Dr. Jones will present images dating from 1945 to the present. While most of the images to be shown were generated by large computer systems, the possible adaptations to small machines will be pointed out and discussed. Also included will be a discussion of the research, educational, recreational, and economic potential for computer-generated art.

Conference Session

PATENTS & PERSONAL COMPUTING

David B. Harrison will discuss "Personal Computing and the Patent System." He will focus on the applications of the patent system to personal computing. The difference between inventions and patents, the requirements for patentability, as well as a general discussion and update on the patentability of software will be included.

Additionally, he will address the relationship of patents to copyrights and trade secrets. The need for obtaining licensing and enforcing patents will also be considered.

Conference Session

COPYRIGHT & SOFTWARE: A TUTORIAL

"Copyright and Software" will be the topic for discussion by Los Angeles attorney Kenneth Widelitz.

Widelitz will describe the Copyright Act as revised to be effective January 1, 1978. Included will be discussions of the term copyright, copyright "rights", the manner in which copyright protection is obtained, and what constitutes infringement. Additionally he will address philosophical questions raised when the law is applied to software. For example: When is a copy of a computer program made? Does converting a program from one computer language to another create a new work or a derivative work?

YET ANOTHER COMPUTER STORE OPENING IN SAN JOSE

California Business Computers Corp. will be opening their first sales and demonstration office at 825 Hamilton Ave., Campbell, CA in mid-February.

Known as "Your Local Computer Store" they will feature the complete line of Vector Graphics micro-processor-based home, hobby and small business computers.

The Vector Graphic "Memorite" system, a complete small business system will be available for client demonstration. This system is especially suited for legal, medical, dental, real estate, and small business applications.

Marilyn Anderson with fifteen years of programming experience, will be writing custom software for inventory control, scheduling, and cost accounting to best suit individual business requirements. She will also be teaching classes on programming in the store, later this spring. Service and warranty repair will be done at the Campbell office.

CBC will have the Vector Graphic line and "Memorite" system on display at the Computer Faire in Booth 510. Vector Graphic factory representatives will be available to answer questions.

FREE SOFTWARE in DR. DOBB'S JOURNAL

COMPLETE SYSTEMS & APPLICATIONS SOFTWARE

User documentation, internal specifications, annotated source code. In the two years of publication, *DDJ* has carried a large variety of interpreters, editors, debuggers, monitors, graphics games software, floating point routines and software design articles.

INDEPENDENT CONSUMER EVALUATIONS

PRODUCT REVIEWS & CONSUMER COMMENTS

Dr. Dobb's Journal publishes independent evaluations--good or bad--of products being marketed to hobbyists. It is a subscriber-supported journal. *Dr. Dobb's* carries no paid advertising; it is responsible *only* to its readers. It regularly publishes joyful praise and raging complaints about vendor's products and services.

the digital group

po box 6528 denver, colorado 80206 (303) 777-7133

It is not very often that there is a journal/newsletter that the Digital Group is able to recommend without some hesitation (and we get them all). However, *Dr. Dobb's Journal of Computer Calisthenics & Orthodontia* is one pleasant exception. Jim Warren, the editor, has put together a good concept and is managing to follow through very well indeed. There is no advertising in the *Journal*. It is supported solely on subscriptions. That also means that manufacturers have zero leverage over the content of the magazine. The *Journal's* primary purpose is to place significant software into the public domain and to provide a communications medium for interested hobbyists. The approach is professional and they are growing quickly.

(In case it might appear otherwise to some people, there is no official link whatsoever between the Digital Group and *Dr. Dobb's Journal* - we've taken our lumps as appropriate just like everyone else when Jim felt they were justified.)

We think *Dr. Dobb's Journal* is here to stay and a publication that is a must for everyone in the hobbyist world of computers. Don't miss it!

flyer
NUMBER 8

"THE software source for microcomputers. Highly recommended."
Philadelphia Area Computer Soc., The Data Bus.

"It looks as if it's going to be THE forum of public domain hobbyist software development."

Rating - ☆ ☆ ☆ ☆ ☆
Toronto Region Association of Computer Enthusiasts (TRACE), Newsletter

"The best source for Tiny BASIC and other good things. Should be on your shelf."

The Computer Hobbyist, North Texas (Dallas) Newsletter

& LOTS MORE!

Hot News & Raging Rumor

Systems Projects

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of Computer Calisthenics & Orthodontia

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Mail this coupon or a facsimile to: *Dr. Dobb's Journal*, Dept 56, El Camino Real, Box E, Menlo Park CA 94025

FIRST FAIRE HOMEBREW EXHIBITS WINNERS

We are pleased to (finally) list the following individuals and groups—winners of awards for their "homebrew" exhibits, shown at the First West Coast Computer Faire, last April:

- Franz Frederick — Best Integrated Hardware-Software System
- RTTY Group — Best Group Effort
- Lawrence Hall of Science — Best Exhibit
- Tod Mikuriya — Most Interesting Concept
- Laurence Upjohn — Most "Far Out" System
- Joseph Jaworski — Best Hardware Design
- Daniel Wright & Richard Fish — Best Equipment Ideas
- Don R. Donfray — Most Complete System
- Arthur Weigel — Most Interesting Software
- John French — Best Conversion Effort
- Ben Milander — Best Software Design
- Dave Arnold & Don Hanson — Best Homebrewed Project

Prizes were donated by a number of the commercial exhibitors, and were distributed to these "homebrew" exhibitors some months ago. (Prizes and winners were listed in the previous issue of the Gazette).

The judges were: Gordon French (Chair.), Steve Donprier, Greg Yob, and Jerrv Bileck.

SENIOR CITIZENS OFFERED REDUCED REGISTRATION FOR 2ND FAIRE

Senior citizens with appropriate identification will be admitted to the Computer Faire for a reduced, three-day registration fee of \$6.

COMPUTER RETAILERS' ASSOCIATION FORUM

Time: Sunday, March 5 — 12:00-1:00 p.m.

Chaired by: The CRA acting President (Will be determined prior to WCF)

Intended Audience: Computer Store Owners and Interested Industry Folks

The CRA acting President and Directors will summarize the status of the CRA. The bylaws as adopted at the West Coast Faire, the rules for membership, and future plans for the CRA will be discussed. Audience participation is invited.

SAN JOSE SEZ NO DOOR PRIZES

The regulations of the San Jose Convention Center explicitly prohibit any offerings of door prizes, random drawings, etc.. Therefore, unlike the First Faire, there will - sadly - be no door prizes offered at the Second Faire.

RETAILERS PROGRAM SUNDAY MORN

The Computer Faire will include an exhibit exclusively for computer retailers, and exhibitors' guests on Sunday morning, March 5th, from 10 am to noon. Those computer retailers and distributors who wish to attend this Sunday morning show should include a request to that effect on your letterhead business stationery when you send your preregistration form and fee. If your business stationery is not obviously for a computer retailer, please also indicate which product lines you carry and what your store hours are.

RETAILERS: BE THE 1ST ON YOUR BLOCK (AND SAVE LOOT, TO BOOT)

Store owners may pick up copies of the Proceedings for both the First and Second West Coast Computer Faires any time during the Second Computer Faire, and avoid delivery charges.

Allan B. Borodin, Professor of Computing at the University of Toronto has been appointed Managing Editor of SIAM Journal on Computing. from SIAM News vol. 10, No 6, Dec. '77

SECOND WEST COAST COMPUTER FAIRE

PREREGISTRATION FORM

Admission badges for preregistrations received prior to FEBRUARY 17, 1978

will be mailed to the preregistrant by First-Class Mail. Badges for preregistrations received after that date may be picked up at the Preregistration Desk of the San Jose Convention Center between 9 a.m. and 5 p.m. on any day beginning Thursday, March 2, 1978 (the day before the Faire opens).

Please list me in any directory of computer hobbyists.

NAME _____
 MAILING _____
 ADDRESS _____
 CITY _____ STATE _____ ZIP/POSTAL CODE _____

PREREGISTRATION FEE

Provides:

1. Admission to the Conference Program & Exhibits, March 3, 4 & 5, 1978.
2. Avoidance of lengthy on-site registration lines.
3. More than \$1.70 discount on a copy of the Conference Proceedings.

- "standard" adults: \$8 each \$____for____adults
includes spouses, and college/university students
- senior citizens with identification: \$6 each \$____for____adults
requires copy of senior's identification
- physically disabled with identification: \$6 each \$____for____adults
requires copy of appropriate identification
- pre-college children with identification: \$5 each \$____for____children
requires copy of student identification

BANQUETS & KEYNOTE SPEAKERS

Two nationally-known speakers at each banquet. Banquet & listener seating is limited, and available strictly on a first-registered, first-seated basis.

- Friday evening
beef brochette (dinner & speakers): \$15 each \$____for____people
after-dinner listeners-only: \$5 each \$____for____people
- Saturday evening
filet mignon (dinner & speakers): \$16 each \$____for____people
after-dinner listeners-only: \$5 each \$____for____people

CONFERENCE PROCEEDINGS (to be picked up at the 2nd Faire)

- Conference Proceedings of the SECOND West Coast Computer Faire
\$11 including tax (\$12.72, retail) \$____for 2nd Proceedings
- Conference Proceedings of the FIRST West Coast Computer Faire
\$11 including tax (\$12.72, retail) \$____for 1st Proceedings
- Super deal on BOTH the FIRST and SECOND Proceedings
\$21 including tax (\$25.44, retail) \$____for 1st & 2nd Proc.

total payment accompanying order: \$_____

Send payment & completed Preregistration Form to:
 Computer Faire
 Box 1579
 Palo Alto CA 94302.
 Do NOT send cash. Please send check, or money order. Thank you.

THIS QUESTIONNAIRE MUST BE COMPLETED IN ORDER TO TAKE ADVANTAGE OF THE REDUCED ADMISSION RATE

AGE RANGE	IF IN SCHOOL	SCHOOLING COMPLETED
<input type="checkbox"/> Under 15	<input type="checkbox"/> Grades 1 - 8	<input type="checkbox"/> High School
<input type="checkbox"/> 15 - 18	<input type="checkbox"/> High School	<input type="checkbox"/> A.A. (Jr. College)
<input type="checkbox"/> 19 - 25	<input type="checkbox"/> Technical School	<input type="checkbox"/> Bachelor's
<input type="checkbox"/> 26 - 35	<input type="checkbox"/> Junior College	<input type="checkbox"/> Master's
<input type="checkbox"/> 36 - 45	<input type="checkbox"/> Undergrad, 4-year	<input type="checkbox"/> Doctorate
<input type="checkbox"/> 45 - 65	<input type="checkbox"/> Graduate School	<input type="checkbox"/> Ph.D.
<input type="checkbox"/> Over 65	<input type="checkbox"/> Pre-Master's	<input type="checkbox"/> M.D.
	<input type="checkbox"/> Pre-Ph.D.	<input type="checkbox"/> D. Ed.
	<input type="checkbox"/> Post Doctorate	<input type="checkbox"/> Other

- LEVEL OF INVOLVEMENT AND INTEREST**
- Total novice, newly interested in personal computers
 - Computer hobbyist, only (with or without equipment)
 - Both a computer hobbyist, and a computer professional
 - Currently only a computer professional

Equipment you own

MEMORY	CPU	TERMINAL
A _____ K bytes RAM	<input type="checkbox"/> 8080	<input type="checkbox"/> ASR 33
B _____ K bytes ROM	<input type="checkbox"/> 8008	<input type="checkbox"/> KSR 33
C _____ K bytes EPROM	<input type="checkbox"/> Z-80	<input type="checkbox"/> Baudot TTY
D _____ K bytes PROM	<input type="checkbox"/> 6800	<input type="checkbox"/> Other TTY
E _____ K bytes CORE	<input type="checkbox"/> 6502	<input type="checkbox"/> TVT-2
12 Other: _____	<input type="checkbox"/> SC/MP	<input type="checkbox"/> Polymorphic VDM
	<input type="checkbox"/> PACE	<input type="checkbox"/> ADM-3
	<input type="checkbox"/> 2650	<input type="checkbox"/> SWT CT1024
	<input type="checkbox"/> F-8	<input type="checkbox"/> PT VDM-1
	<input type="checkbox"/> COSMAC	<input type="checkbox"/> Office Selectric
MASS STORAGE	<input type="checkbox"/> 6100	<input type="checkbox"/> I/O Selectric
<input type="checkbox"/> Phillips Cassette Tape	<input type="checkbox"/> LSI-11	<input type="checkbox"/> Other
<input type="checkbox"/> "Byte Standard"	<input type="checkbox"/> PDP-8	<input type="checkbox"/> Have hard-copy
<input type="checkbox"/> Tarbell	<input type="checkbox"/> PDP-11	<input type="checkbox"/> Upper-case only
<input type="checkbox"/> Other	<input type="checkbox"/> BIPOLAR	<input type="checkbox"/> Have soft-copy
<input type="checkbox"/> 3M Cassette	<input type="checkbox"/> TTL	<input type="checkbox"/> Upper-case only
<input type="checkbox"/> Floppy disc	(Homebrew)	<input type="checkbox"/> Homebrewed
<input type="checkbox"/> mini	<input type="checkbox"/> Other	
<input type="checkbox"/> standard		
<input type="checkbox"/> Other		
<input type="checkbox"/> Other mass storage		

COMPUTER & ELECTRONICS PUBLICATIONS YOU RECEIVE

- Byte
- Interface Age
- SCCS Interface
- Personal Computing
- Kilobaud
- Minicomputer News
- Computerworld
- Computer Design
- Datamation
- Mini-Micro Systems
- Computer Decisions
- Others
- Dr. Dobb's Journal
- People's Computers
- Creative Computing
- (IEEE CS) Computer
- Communications of the ACM
- Popular Electronics
- Radio-Electronics
- QST
- Ham Radio
- 73

EMPLOYMENT

- Idle rich, full-time student, or unemployed
- Work with computers
 - Maxi's
 - Mini's
 - Micro's
 - Management
 - Marketing
 - Programming
- Engineer
- Programmer
- Technician
- Work in non-computer digital electronics
- Work in non-digital electronics
 - Radio
 - TV
 - Telecommunications
- Work in non-electronic technical or scientific area
- Work in education
 - CS or EE
 - Other Engineering
 - Other Science
 - Mathematics
 - Statistics or O.R.
 - Education
- Work in Medicine or Biomedical area
- Other
- Am a member of an amateur computer club
- Licensed amateur radio operator ("ham"; not C.B.)



SPRINKLE GAZETTES AMONG YOUR FRIENDS

If you would like to receive a bulk quantity of SGG's to distribute around your company, club, or school, or among your professional associates, please just give us a call or drop us a note. Indicate your shipping address (we'll ship by UPS, so don't give a P.O. Box), desired quantity, and to whom you hope to distribute them.

ELECTRONIKERS PAID TO SMOKE LESS

An electronics firm president in Hayward, California, pays his employees to not smoke on the job. Thirteen persons have begun receiving a \$30 a month bonus during the past year at Speedcall Corporation bringing President Gardiner Hempel's healthful trip to 36 employees.

He does not dictate that they quit completely; only that they not smoke at work. Two employees commented on the "much nicer air" and Hempel said, "It was unbelievable before. You could see layers of smoke in the building at the end of the day."

Gleaned from the San Francisco Chronicle.

NEW COPYRIGHT LAWS BENEFIT AUTHORS

On January first, 1978, new copyright legislation enacted by the government of the United States became effective.

Under this legislation, an author owns his work from the time he creates it until fifty years after his death. In the case of a "work made for hire" the employer is the owner. Any transfer of rights must be explicit and in writing, signed by the author or his employer, whichever is appropriate.

In the past, the publisher of journals automatically acquired all rights to articles published in an issue of the journal, simply by copyrighting the issue. However, under the new law, authors must sign over, or transfer some of the rights that used to be automatically given to the publisher.

The new law will benefit authors more than publishers. Publications will have the right to publish an author's article but the author will retain the right to use his article in any future work, such as books or other articles.

An author will also have the right to refuse permission to third parties to republish all or parts of this work. It should be noted however, that under the provisions of this law, individual readers or their representatives have the right to make fair use of published articles, such as making copies for research or classroom use.

From *SIAM NEWS*, vol 10 No 6, Dec. '77, (Society for Industrial and Applied Mathematics, 33 S. 17th St. Philadelphia, PA 19103).

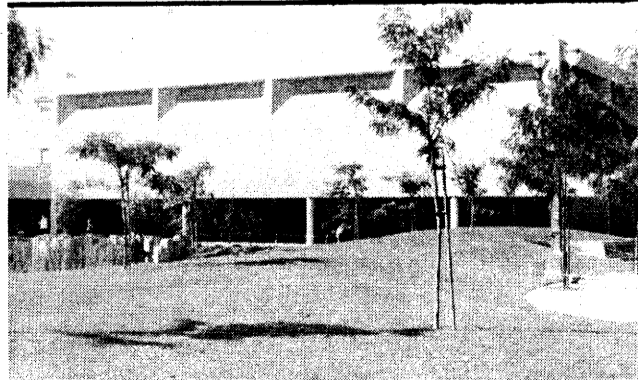
HEARING ON PHOTOCOPYING HELD IN WASHINGTON

The National Commission on New Technological Uses of Copyrighted Works (CONTU) held its seventeenth meeting in Washington, D.C. on October 21, 1977. It was devoted entirely to testimony relating to photocopying.

In the morning session, testimony on photocopying was offered on behalf of the Ad Hoc Committee on Copyright Practices and Implementation of the Council of National Library Associations by a panel headed by Frank E. McKenna. Panel members are from the American Association of Law Libraries, the American Library Association, the Association of Research Libraries, the Medical Library Association, the Music Library Association, and the Special Library Association. The second presentation in the morning session was by Eugene Garfield, Institute of Scientific Information, on the supplying of authorized copies of periodical articles.

In the afternoon recommendations on photocopying were presented by Irwin Karp, Counsel to the Author's League, and Charles Lieb, Copyright Counsel of the Association of American Publishers. There was also a progress report on the Copyright Clearance Center by Ben H. Weil.

All CONTU meetings are open to the public. Transcripts of the meetings are made available through the National Bureau of Standards' National Technical Information Service within two months following each meeting. NTIS, 5285 Port Royal Rd., Springfield MA 22161.



CONFERENCE SECTIONS

COMPUTERS FOR THE PHYSICALLY DISABLED (Friday)

Chair: Dr. Roger Vass

Dr. Robert Suding: "Electronics for the Handicapped"

Guy Hoelen: "Communication for the Severely Handicapped via Personal Computers"

Tim Scully: "Microcomputer Communication for the Handicapped"

Horace Enea: "Speech Recognition as an Aid to the Handicapped"

COMPUTERS FOR THE VISUALLY HANDICAPPED (Friday)

Chair: Dr. Roger Vass

Robert Jaquiss, Jr: "Microprocessor in Aids for the Blind"

Susan Halle Phillips: "Development of Prototype Equipment to Enable the Blind to be Telephone Operators"

Dr. Carter C. Collins: "Blind Mobility Studies with a Microcomputer"

William F. Jolitz: "The Design of a Voice/Adapter for Computers"

Dr. J.S. Brugler: "Microcomputer-based Sensory Aids for the Handicapped"

SPEECH INPUT & OUTPUT (Friday)

M.H. Hitchcock: "Machine Recognition of Speech"

D. Lloyd Rice: "Synthetic Speech from English Text"

COMPUTER ESOTERICA

Tom Pittman: "Deus Ex Machina or the True Computerist"

James S. Albus: "Peoples' Capitalism: The Economics of the Robot Revolution"

Dennis Reinhardt: "Thoughts on the Prospects for Automated Intelligence"

James S. Albus: "Brain Modeling and Robot Control Systems"

COMPUTERS IN EDUCATION (PART I) (Friday)

William J. Wagner: "Microcomputers in a High School--Expanding Our Audience"

Don Black II: "Introducing the Computer to the Schoolroom"

William F. Fornaciari, Jr: "Education or Recreation: Drawing the Line"

WRITING ABOUT COMPUTERS (Friday)

Ted Lewis: "Becoming a Successful Writer About Computers"

Douglas J. Meham: "Writing a User's Guide"

Richard J. Nelson: "Editing and Publishing a Club Newsletter"

HIGH LEVEL LANGUAGES AND TRANSLATORS (Friday)

Lichen Wang & Sassan Hazeghi: "A Short Note on High Level Languages and Microprocessors"

Val Skalabrin: "Table Driven Software"

Karl Nicholas: "An Arithmetic Evaluator for the SAM-76 Language"

R. Broucke: "Compiler Construction for Small Computers"

William F. Wilkinson: "Design Considerations in the Implementation of a Higher-Level Language"

DESIGNING WITH MICROPROCESSORS (Friday)

Rodnay Zaks & Austin Lesea: "Microprocessor Interfacing Techniques"

Peter S. Merrill: "Testing for Overheating in Personal Computers"

BLOCK STRUCTURED HIGH LEVEL LANGUAGES FOR MICROCOMPUTERS (Friday)

Lt. Mark S. Moranville: "Algol-M, an Implementation of a High Level Block Structured Language for a Microprocessor-based computer system"

Thomas W. Crosley: "SPL/M--A Cassette-based Compiler"

Marc H. Lewis: "An Experimental PASCAL-like Language for Microprocessors"

MICROCOMPUTER APPLICATIONS (Friday)

David Stodolsky: "Improving Name Recognition and Coordination in Video Conferencing"

Robert Goff: "The Bedside Microcomputer in the Intensive Care Nursery"

David Stodolsky: "An Automated Conference Mediator"

LEGAL ASPECTS OF HOME COMPUTERS (Friday)

Kenneth S. Wideltz: "Copyrights and Software: Some Philosophical and Practical Considerations"

David B. Harrison: "Personal Computing and the Patent System"

HARDWARE & SOFTWARE STANDARDS (Friday)

Tom Pittman II: "Microprocessor Standards--the Software Issues"

George Morrow & Howard Fuller: "Proposed IEEE Standards for the S-100 Bus"

MINI-SYMPOSIUM: COMPATIBILITY OF THE S-100 BUS (Friday)

Chair: Steve Edelman

Panel Members: Phil Tubb, ALF Products

Kells Elmquist, Ithaca Audio

Bob Tuttle, Medical Methods Research

George Morrow, Thinker Toys

PUBLIC-ACCESS COMPUTER CENTERS (Saturday)

Jim Dunion: "Micro's in the Museum--a Realizable Fantasy (Disneyland On Your Doorstep?)"

David & Annie Fox: "The Marin Computer Center--A New Age Learning Environment"

Conference Session

A TOTAL BEGINNER'S INTRO TO PERSONAL COMPUTING

Bob Moody will present an "Introduction to Personal Computing - A Beginner's Approach", as a starting point for people just getting turned on to personal computers.

Pointing out they're not just for geniuses, Moody's presentation will attempt to demystify computers. He hopes to instruct computer beginners in basic knowledge of what computers are, how to ask questions about them, and what can be done with them.

Moody will delineate current uses of computers in the home, music, and in new businesses. His focus is on the computer as a tool for everyone in today's society.

Conference Session

SIGNATURE ANALYSIS BY MICROS

Handwritten signature recognition can be an "accurate, fast, low-cost personal identification system", states Kuno Zimmerman. Having conducted a search of existing patents and literature on both signature recognition algorithms and signature input devices, Mr. Zimmerman will discuss these findings as well as introduce a basic system consisting of a simple graphic tablet, an A-to-D converter and a Microcomputer.

Conference Session

COMPUTER JARGON FOR THE ABSOLUTE NOVICE

John Shen will introduce the computer phreaker's foreign language in his presentation, "Beginner's Guide to Computer Jargon."

Using the "players-scorecard routine", Shen will give newcomers to the field useful background information on the development of the different classification of computers as well as names and numbers.

A TALK FOR THOSE WHO ARE TALKED INTO COMING TO THE FAIRE BY SOMEONE ELSE

The Second Faire has something for everyone including "A Talk for People Who Got Talked Into Coming Here By Someone Else." Jo Murray will present this nontechnical talk on the history of microcomputers and how they work. It is oriented to the person who wants to know more about personal computing but is still just a bit scared of the whole idea. (The primary title of Murray's talk is "Everything You Never Wanted to Ask About Computers Because You Didn't Think You'd Understand It Anyway").

Murray's discussion will include the microcomputer industry in general, a brief history, a description of vacuum tubes, transistors, silicon chips, . . . and no formulas whatsoever.

Murray is Assistant Metropolitan Editor of the *Oakland Tribune* and is currently working on a non-technical book about computers.

Conference Session

THE PROSPECTS FOR AUTOMATED INTELLIGENCE

"Thoughts on the Prospects for Automated Intelligence" will be the topic under discussion by Dennis Reinhardt at the Second Faire.

Looking to the future, Reinhardt sees a personal computer with hardware capacity comparable to the human brain as a possibility 26 to 48 years from now. In his talk Reinhardt will discuss how this possibility was calculated as well as exploring some of the technical problems involved in producing a small computer with this capacity.

Reinhardt is associated with Automated Intelligence Computer Systems of Palo Alto, California.

COMPUTERIZED SHORTHAND TO ALLOW TYPING AT SPEAKING SPEEDS

A computerized shorthand system will be discussed by Professor W.D. Maurer.

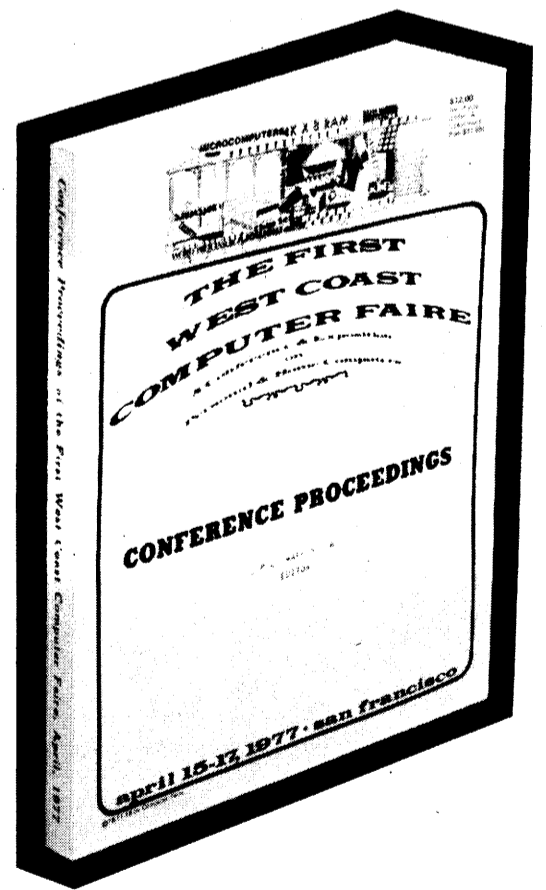
The purpose of such a system, according to Maurer, is to allow the user to take dictation "at speed". This allows one-step transcribing - the dictated correspondence is typed at the same time it's dictated - rather than the current two-stage system. It has been estimated this could also result in a 50% increase in typing speed.

Maurer will discuss fundamental design considerations and design details as well as present a list of two-character codes.

FIRST COMPUTER FAIRE CONFERENCE PROCEEDINGS NOW AVAILABLE

The *Conference Proceedings of the First West Coast Computer Faire* has finally been published. Containing over 330 pages of abstracts, tutorials and technical talks presented by more than 90 speakers at the First Faire, this publication is of historical as well as technical value in the computer field: This is the first time the papers from a major conference exclusively devoted to home and hobby computing have ever been gathered together and published.

The papers and abstracts are grouped under 25 different Section headings, ranging from the Friday and Saturday banquet Speeches, and Tutorials for the Computer Novice, through Computer Art Systems, and Music & Computers, to Bus & Interface Standards, and Tutorials on Software Systems Design. These include presentations by such well-known figures as science fiction author Frederik Pohl, Professor John McCarthy - the Director of Stanford's Artificial Intelligence Project, Carl Helmers - the Editor-in-Chief of *Byte* Publications, and John Chowning - the Director of the Computer Music Project at Stanford University.



HOW TO OBTAIN A COPY:

Copies of the *Proceedings* may be purchased in most retail computer stores, or may be ordered directly from the Computer Faire, Box 1579, Palo Alto CA 94302. When ordering direct, payment must accompany the order - \$12.68 outside of California, \$13.40 for orders shipped to California addresses. This payment includes shipping and handling charges, and tax where applicable. Copies are in stock and will be shipped by UPS or parcel post within one week of receipt of order and payment.

SECOND WEST COAST COMPUTER FAIRE

March 3 - 4 - 5, 1978
9am-6pm 9am-6pm Noon-5pm

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 2nd Choice _____
 3rd Choice _____

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Occupied By:
 (Bracket all names sharing same room)

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Hour _____
Date of Departure _____
Mode of Travel _____

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2 HOLIDAY INN 1355 N. 4th St San Jose CA 95113	\$24	\$28		
3 SAN JOSE HYATT HOUSE 1740 N. First St San Jose CA 95112	\$29	\$34		

Conference Session

VOICE SYNTHESIS FROM TYPED TEXT

At the Second Faire, William F. Jolitz will present a design for a Voice Output Adapter able to generate speech from ordinary typed text.

Based on a VOTRAX VS-6, synthesizer, the device uses a set of rules rather than a dictionary to accomplish phonetic translation.

The Adapter has two key features, independence and compactness. While experimentation has been done in English using a VOTRAX synthesizer, the machine is language and synthesizer independent. Additionally, it is compact. All software is in the main memory making the use of peripheral memory unnecessary.

Conference Session

COMPUTERS' SPEAKEASY

D. Lloyd Rice of Computalker Consultants will discuss "Synthetic Speech from English Text."

Rice will describe a flexible rule processor and a set of rules which convert normally-spelled English text into the phonetically-spelled strings needed for a speech synthesizer system.

Also discussed will be the problems of speech synthesizer systems, including the proper assignment of stress patterns and ways of handling ambiguous pronunciation.

COMPUTER-DISC-TERMINAL OFFERED BY TEI

News Release

Dated: 78 Jan 10

TEI, Inc., of Houston has announced the availability of another model in their new PROCESSOR TERMINAL series. Designated the MCS-PT112/32, this new design is a complete and self-contained computer system with display, disk storage, a full keyboard and a 12-slot motherboard. It may be used either as a standalone processor or as a processor terminal in a larger system.

Features of the MCS-PT112/32 include a 15" high-resolution monitor with a face plate of smokey plexiglass to reduce glare and enhance type visibility, a full upper and lower case ASCII keyboard with eight user designated special function keys and a 16-key numeric cluster pad. One Shugart SA-400 mini-floppy disk drive is standard.

The 12-slot mainframe contains a CPU board that features an 8080 processor and a special circuit that implements a start up "jump to" routine to any user selected byte address. Press the reset switch and the system boots to your preselected address. 32K static RAM memory is provided with additional RAM as an optional item. A disk controller which will handle three mini-drives is included. The minidrive media is soft-sectored and has a capacity of 90 KB, unformatted (80.6 formatted). The video controller board uses a 24 x 80 format with several special features. The I/O board provides three parallel and three serial ports with selectable baud rates of 75 to 9600. Outputs are RS-232C and TTL.

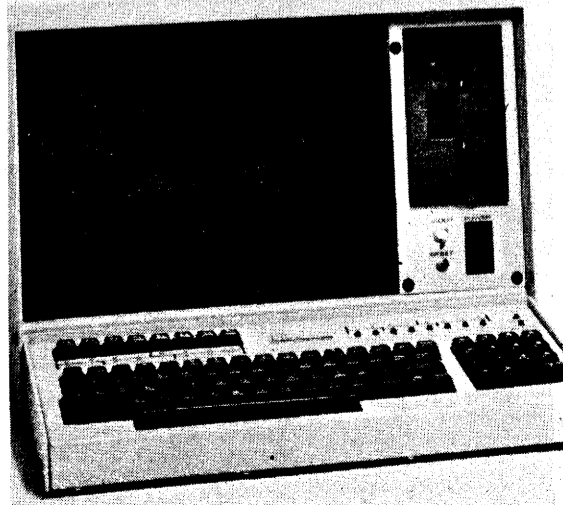
The unit is housed in a heavy duty aluminum cabinet with power provided by a constant voltage transformer (CVT) power supply that makes brownouts a thing of the past. Fan, washable filter and a full complement of spare edge connectors for ancillary cards.

Software provided with the system includes CP/M operating system and SuperBASIC, a 20K interpreter.

The PROCESSOR TERMINAL Model MCS-PT112/32 fully assembled and tested is priced at \$4795.

Other models in the PT series include the MCS-PT208/32, MCS-PT212/32 and the MCS-PT412/32.

For more information contact CMC MARKETING CORP., 5601 Bintliff, Suite 515, Houston TX 77036 or call (713) 783-8880.



Conference Session

DO-IT-YOURSELF EXOTIC GAME CREATION

The Second Computer Faire will provide an opportunity to "Create Your Own (Computer) Game". This laboratory session, alternatively titled "An Experience in Synectic, Synergistic Serendipity", will be led by Ted Kahn. The session will offer participants a chance to generate and expand on new ideas for various computer games.

Using META-GAME, a game developed by Kahn, to generate new game ideas, the session will provide an exercise in group problem solving as people work together devising a game structure.

Kahn's game plan promises a creative and congenial experience as groups reach unexpected results by developing games which combine unrelated fields (e.g. physics and fantasy).

Conference Session

PRODUCING A COMPUTER CLUB NEWSLETTER

"Editing and Publishing A Club Newsletter" will be the topic discussed by Richard Nelson.

Nelson will address the practical aspects of putting out a newsletter from the viewpoint of an enthusiast-turned-editor. Included will be methods, techniques, and resources for getting the job done.

Nelson, the current editor-publisher of 65 Notes, a monthly newsletter for the HP-65 Users Club, will emphasize that interest and willingness to work are keys to success, rather than writing and editing expertise.

Conference Session

ENABLING THE BLIND TO WORK AS PHONE OPERATORS

Susan Phillips will discuss "Development of Prototype Equipment to Enable the Blind to be Telephone Operators".

Ms. Phillips will examine the development and design of a specially built TSPS (Traffic Service Position System) which enables the blind to function competitively as telephone operators. This new TSPS provides to the blind operator the ability to receive the visual information used by the sighted operator by utilizing a voice synthesizer.

Ms. Phillips is a vocational counselor for Sensory Aids Foundation which initiated this project.

Conference Session

A "CEREBRAL" COMPUTER DESIGN

The inventor of the neurophysiological model—the Cerebellar Model Arithmetic Computer (CMAC), James S. Albus, will describe his research work in his talk, "Brain Modeling and Robot Control Systems".

CMAC demonstrates the capacity to learn, generalize, recognize patterns, perform associative recall, compute multivariate analog functions, and decompose input commands into sequences of output commands in a context-sensitive manner.

Outlines for the design of a full-scale working model of a human (or possibly super-human) brain will be given. The possibility of implementing such a device on a network of hobby computers will be discussed taking into consideration the similarities between the method of operation of the human brain and computers.



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- Blue Sky* - Tiny BASIC and Tiny PILOT were born in our pages; there's now talk of robots and . . .
- People & Computers* - examination of the growing impact of computers on our lives and society.
- Fun & Fantasy* - computer games; whimsical odds and ends; and our swashbuckling hero—FORTRAN Man!

Some Comments about *People's Computers*:

- "One of the first, if not *the* first, of the people-oriented computer publications . . . At \$8 a year, it is a good bargain. You'll like it." *Kilobaud*
- "The editorial flavor is . . . intended to be readable and enjoyable for the neophyte. Our resident non-computer people at *Byte* grabbed the first issue so quickly that it became difficult to find a copy . . . Should be sampled to be believed." *Byte*
- "*People's Computers* has been plugging away for years as a force for good in the community". *Personal Computing*
- "For the novice as well as the experienced computer user . . . an informal style, many useful annotations . . . a sounding board for novel ideas." *Computer Notes*
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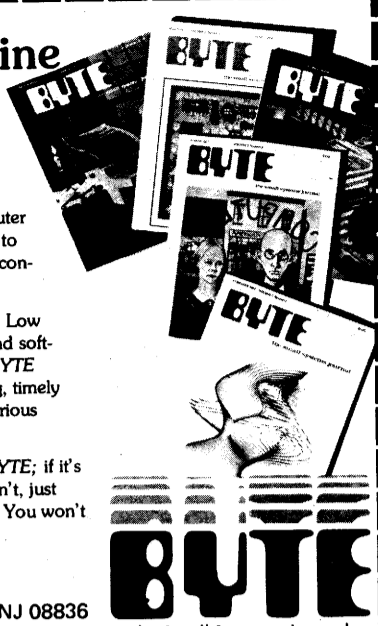
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BYTE
The Small Systems Journal

Conference Session

CAPABILITIES & LIMITATIONS OF MICROCOMPUTERS IN BUSINESS APPLICATIONS

Gene Murrow will discuss "Microcomputer Applications in Business: Possibilities and Limitations" at the Second Faire.

Murrow is President of Computer Power and Light, Inc., in Studio City, California, a company which has been installing microcomputer systems in businesses since Fall of 1976. His presentation will describe four aspects of that experience: a short description of the hardware they use, customers case histories, jobs they've turned down, and important but often overlooked aspects of microcomputing in business applications.

Conference Session

A MICROCOMPUTER-BASED ACCOUNTING SYSTEM

"Microledger—Computerized Accounting for the Beginner" is a talk that will be given by Thomas P. Bun. Microledger is a General Ledger System "reduced to the absolute essentials", Bun states. It is written in BASIC, employs only two files—a Chart of Accounts and Journal, and will run in 8 kilobytes of user memory.

Some familiarity with simple accounting practices is required to use the package, however, Bun notes, it is based on a foolproof, step-by-step procedure, designed with the novice computer user in mind. The documentation includes a ready started Chart of Accounts for the small business user.

Bun also says that once data is entered, changes are easily made both to the Chart and the Journal. He goes on to add that even after posting, adjustments may be made promptly, both to the Profit and Loss Statement and to the Balance sheet.

Conference Session

MICROS IN AN INTENSIVE CARE NURSERY

Dr. Robert A. Goff will present a talk on "The Bedside Microcomputer in the Intensive Care Nursery." He explains that children in intensive care nurseries (ICN) usually have serious medical problems which generate considerable paper work.

Dr. Goff notes that software has been developed to enable pediatricians and neonatologists to use bedside microcomputers in the ICN, providing instant processing of and access to the voluminous lab data and even to data summaries.

He notes that the data is stored in a problem-oriented format, and may be accessed with an inquiry to a particular problem. His program is written in North Star Extended Disc BASIC and is implemented on a SOL/20 with 48K RAM and triple North Star Microdisc drives.

The talk will also discuss the structure of the software and the reasons for both the programming language used, and the selection of the hardware configuration.

Conference Session

MICROSYSTEMS IN CONSUMER RESEARCH

The possible use of microcomputers in consumer research for product developers or advertising agencies will be discussed by Dr. H.P. Munro.

Munro has used microcomputers in a university-based social psych research lab, but he feels the same configuration of equipment could be used to do pre-market studies of goods and advertising messages.

Dr. Munro will focus his remarks on two areas of concern: 1) psychological and statistical cautions to observe in order to generate useful data, and 2) some "how-to" suggestions regarding appropriate input hardware implementing those cautions.

Dr. Munro is Director of the Laboratory for Research and Instruction in Rhetoric and Communication at Kent State University, Kent, Ohio.

Conference Session

TELECONFERENCE COORDINATION VIA COMPUTER

"Improving Name Recognition and Coordination in Video Conferencing" will be the topic of a presentation by Dr. David Stodolsky.

Stodolsky will discuss ways a computer-based mediation system can be used to resolve coordination problems of group video conferencing. The system permits flexible interaction among participants while balancing participation. This results in improved quality of the deliberative decisions.

Stodolsky is from the Center for Educational Research at Stanford University.

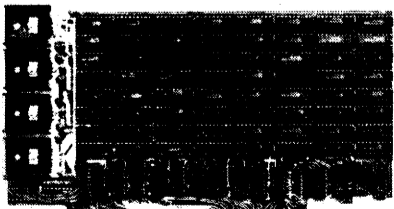
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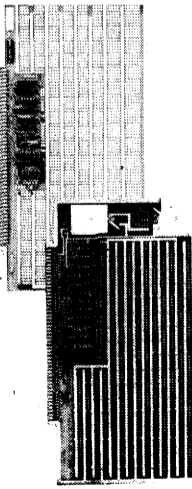
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30 YEARS OF CHESS ALGORITHMS AND NOW THE FIRST MICROCOMPUTER CHESS TOURNAMENT

In the early forties, John von Neumann (who is considered to be one of the principal inventors of the internally stored programmable device, i.e. the digital computer) presented the minimax algorithm as applied to the solution of a game tree representing a two-person zero-sum game of perfect information. He then indicated that chess is such a game in his book, *Theory of Games and Economic Behaviour*, co-authored with Oskar Morgenstern, and—in theory—implied that a total solution is indeed possible. Another of the most famous 20th Century mathematicians, Norbert Wiener, in the book, *Cybernetics*, continued to discuss the computerization of chess and pointed out the differences between the optimum game, which would require astronomical amounts of memory and time and a reasonable game.

Finally in 1949, the first proposal for an actual computer program to play chess was made by Claude Shannon, the English mathematician who is also known to be the father of modern communications theory. His paper was first published in the *Philosophical Magazine*, in 1950, and again in *Scientific American*, in 1950. Many of Shannon's original ideas appear in today's programs, almost 30 years later. We refer to full-width, fixed-depth tree searches as a Shannon type-A strategy while a Shannon type-B strategy involves forward pruning, and variable depth in the search.

From these beginnings the progress in computer chess has been made primarily by specialists in computer science and artificial intelligence. Research workers at universities with access to large scale and ultra-large-scale computers have been participating in national and international computer chess tournaments since 1970. The explosive technological growth of microelectronics and LSI chips has now provided a larger arena for chess programming. It is now possible that amateur researchers in love with both chess and computers will make advances in this field.

The Microcomputer Chess Tournament at the Second West Coast Computer Faire will include four types of entries:

1. Commercially available chess machines based on a microprocessor, ROM, RAM, keypad, and LED display such as Chess Challenger, and Compu-Chess, with retail prices from \$160 to \$320.
2. Software provided by the manufacturers of hobby and personal computers used to promote the sale of the computers.
3. Software developed by very small business enterprises for sale at retail computer stores or via advertisements in the hobby computer periodicals.
4. Software developed by individuals on their own systems strictly for the fun of it.

The tournament guidelines were printed in the previous issue of the *Silicon Gulch Gazette*. The informal structure of this tournament—since it is being held to promote Microcomputer Chess—will allow us to accept entrants up until the time we have to schedule the first round, which should be just before the first day of the Faire. If you have a program (and a computer) or just want to be involved and help out at the tournament please contact the Tournament Director, Larry Wagner, or the Tournament Coordinator, Roy Elder at (408) 745-2810.

Conference Session

ECL SUPERSPEED FOR HOMEBREWERS

Chuck Hastings will present "A Recipe for Homebrew ECL." He explains that ECL (emitter-coupled logic) is understood by most computer designers as the "fastest stuff available". He also notes that ECL is thought only practical for large companies to use. However, Hastings will present a design technique which, if followed, will result in an ECL system (developed with limited resources) with as good, or better chances of technical success as with equivalent TTL (transistor-transistor logic) systems. He states that "Homebrew ECL is a serious possibility for applications which need the speed."

The talk will present a practical recipe, used once successfully, for designing, building, and troubleshooting a small ECL system with the level of resources available in a reasonably well-equipped homebrew lab.

SLOW-SCAN TV PICTURE ENHANCEMENT & GENERATION ON HOME COMPUTERS

For the amateur radio and computer enthusiasts coming to the Faire, Clayton W. Abrams will be giving a talk entitled "Amateur Radio SSTV Generation by Microprocessor Computers."

Included will be two SSTV character generator programs created by Mr. Abrams and published in *73 Magazine* in 1977. But primarily, Mr. Abrams will discuss a new program he has devised that will receive SSTV pictures with a SWTPC 6800 computer, enhance the picture, and then either print a copy of the picture on an alphanumeric terminal or retransmit it through a ham transmitter.

He will also be talking on some computer algorithms useful for improving SSTV pictures.

Conference Session

BECOMING A MANUFACTURER

"Selling Your Hardware Ideas: How to Start and Run a Manufacturing-Oriented Computer Company" will be discussed by Thomas S. Rose at the Second Faire.

Rose will discuss the problems an entrepreneur is likely to face in the initial and continuing phases of his operation. Topics will include financing, government laws and regulations, product design considerations, establishing production, initiating contacts with customers, and purchasing.

Rose, President of Astro Electronics, founded the business and his own experience will be reflected in the presentation.

BURN A PROM

COMMUNICATIONS ELECTRONICS introduces the GIMIX™ 4K PROM board with built in programmer and duplicator that plugs into the SS50 bus for use with the S.W.T.P. or similar computer. The 4K Prom Programmer and Duplicator (PPD) board holds four 2708s and includes a 2708 with all necessary software. Master switch with warning light allows you to insert and remove PROMs without shutting down your computer. Includes four write protect switches, one for each PROM. All four PROMs can be written at the same time for duplicating if desired. Dip switch addressing to any 4K boundary. When not being used for burning PROMs, our 4K PPD **may be used as a 4K ROM board.** Other GIMIX™ products now available for the SS50 bus:

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Interfaces your computer with up to 34 normally open switches. Each input is opto isolated and current limited. The board detects a momentary closure of any switch and passes the switch number to your computer through a parallel I.O. port with handshake lines. The board has a FIFO buffer memory which can store 64 switch numbers, is self scanning, and has complete debouncing circuitry. Any input voltage from 4 to 24 VDC can be used. With this board your computer can monitor wall switches, model railroads, alarms, automatic machinery, and many other applications.

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Conference Session

**TABLE-DRIVEN PROGRAMMING:
A TUTORIAL**

A tutorial session, "Table-Driven Software" will be conducted by Val Skalabrin at the Second Faire. Table-driven software is a programming technique where one table-driven program can functionally replace many traditionally designed coded programs. The session seeks to give participants sufficient exposure to enable them to recognize, design and code simple, table-driven applications.

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ALPHA MICRO USERS ORGANIZE

Dear Jim, 78 Jan 30
 A meeting was held at 3033 Iris Avenue, in Boulder, Colorado on January 20th. Those in attendance were John Ashenhurst, Jim Taylor, Gary Hardman (Data Processing Consulting, Inc) Steve Patterson (Prime Radix), Dick Leach (Consultant), and Bob Doherty (Colorado Research and Prediction Lab), and Harold McIntosh (University of Puebla, Mexico).

It was agreed that the overriding interest of all the members was the continued success of Alpha Micro Systems. The users' group could coordinate and respond to problems from the members and reduce the load on AMS.

A non-profit organization should be established with bylaws, goals and objectives, board of directors, officers, dues, annual convention, quarterly seminars, and directors meetings.

On February 3rd, another meeting [was going to be] held at the above address to resolve the following:

1. A legal opinion will be obtained to define the exact nature of the organization.
2. Three sets of by-laws will be available to start to construct the by-laws of the organization.
3. A board of directors will have been named, which will include dealers, OEMers, and users. AMS declines and vendors are not appropriate yet.
4. Temporary officers will be named.
5. Some committees will be named; membership, by-laws, Computer Faire.
6. Finances will be discussed and annual dues determined.
7. A letter will be drafted to send to potential members soliciting membership and explaining the benefits.
8. Dates for a board of directors meeting and the annual convention will be discussed.
9. Discuss subject matter for Users to handle.

A meeting at the West Coast Computer Faire has been arranged for Alpha Micro Users. An announcement will be in the *Silicon Gulch Gazette*. You are invited to attend.

Sincerely,
 James Taylor, Vice President
 Data Processing Consulting, Inc.
 Box 1723
 Boulder CO 80302

SOL Users UNITE

With ever-increasing numbers of persons becoming members of the Homebrew Computer Club in the San Francisco Bay area, offshoot groups are forming around specific kinds of computer products. One such offshoot is the SOL Users' Society (SOLUS) which held their first meeting in July, 1977. Processor Technology, manufacturer of SOL computers, usually attends their meetings, as part of a cooperative but independent relationship SOLUS has with Processor Technology.

Goals listed in the club's first newsletter, *SOLUS NEWS*, are to 1) facilitate communications among SOL users, 2) provide a mechanism for exchange of SOL-compatible software, 3) give feedback from SOL users to Processor Technology, and 4) encourage the development and testing of SOL-compatible hardware and software products by independent sources.

The group has set up a software exchange program at the Marin Computer Center. Two categories of programs will be maintained: public domain and proprietary. Public domain programs will be distributed to SOLUS members at cost, while the proprietary programs will carry an additional charge for royalties to the author. The group has decided to make the TDK Audua C-60 cassette the standard form for software distribution. More information on the software library and exchange may be obtained from David Fox at (415) 388-1294.

To join SOLUS, contact the SOLUS Treasurer, 1439 Kinsport Lane, San Jose CA 95120. The membership fee is \$4, used to cover expenses and the cost of the *SOLUS NEWS*.

Conference Session

**ALPHA-MICRO USERS GROUP
TO IPL* AT THE FAIRE**

An Alpha-Micro Users Group is being organized and a meeting is being planned for the West Coast Computer Faire.

The objectives to be discussed in the meeting are such issues as nationwide service arrangements, cross licensing agreements, information exchanges, problem solving, coordination of requests to the manufacturer, a newsletter, and conventions and seminars. You are encouraged to attend and add your ideas.

For further information contact Jim Taylor, Data Processing Consulting, Inc., Box 1723, Boulder CO 80306. Telephone: (303) 449-8847.

*IPL - A term used on old-fashioned BEM's - Big Expensive Machines - meaning to start up (Initial Program Load).



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SOLUS

The SOL User's Society (SOLUS) will hold a meeting during the Faire. Everyone is invited to attend, to meet the Steering Committee, and to help plan for the future. SOLUS is particularly interested in meeting people who are willing to help establish chapters outside the San Francisco Bay Area. Among the subjects to be discussed are software exchange procedures and hardware incompatibility problems.

For further information contact SOLUS at Box 23471, San Jose, CA 95153.

Conference Session

ON WRITING GOOD DOCUMENTATION

Douglas J. Mecham will provide useful ideas to generate good user documentation in a conference session titled "Writing a User's Guide".

Mecham calls this the "decade of the user." More and more non-computer oriented people have direct access to computer systems. Therefore, good user documentation is the key to effective use of a computer system.

The objective of the user documentation is to break down the barrier between the real user and the computer system hardware and software.

Mecham will provide an eight-point plan to aid writers in developing clear, effective documentation to accomplish this task.

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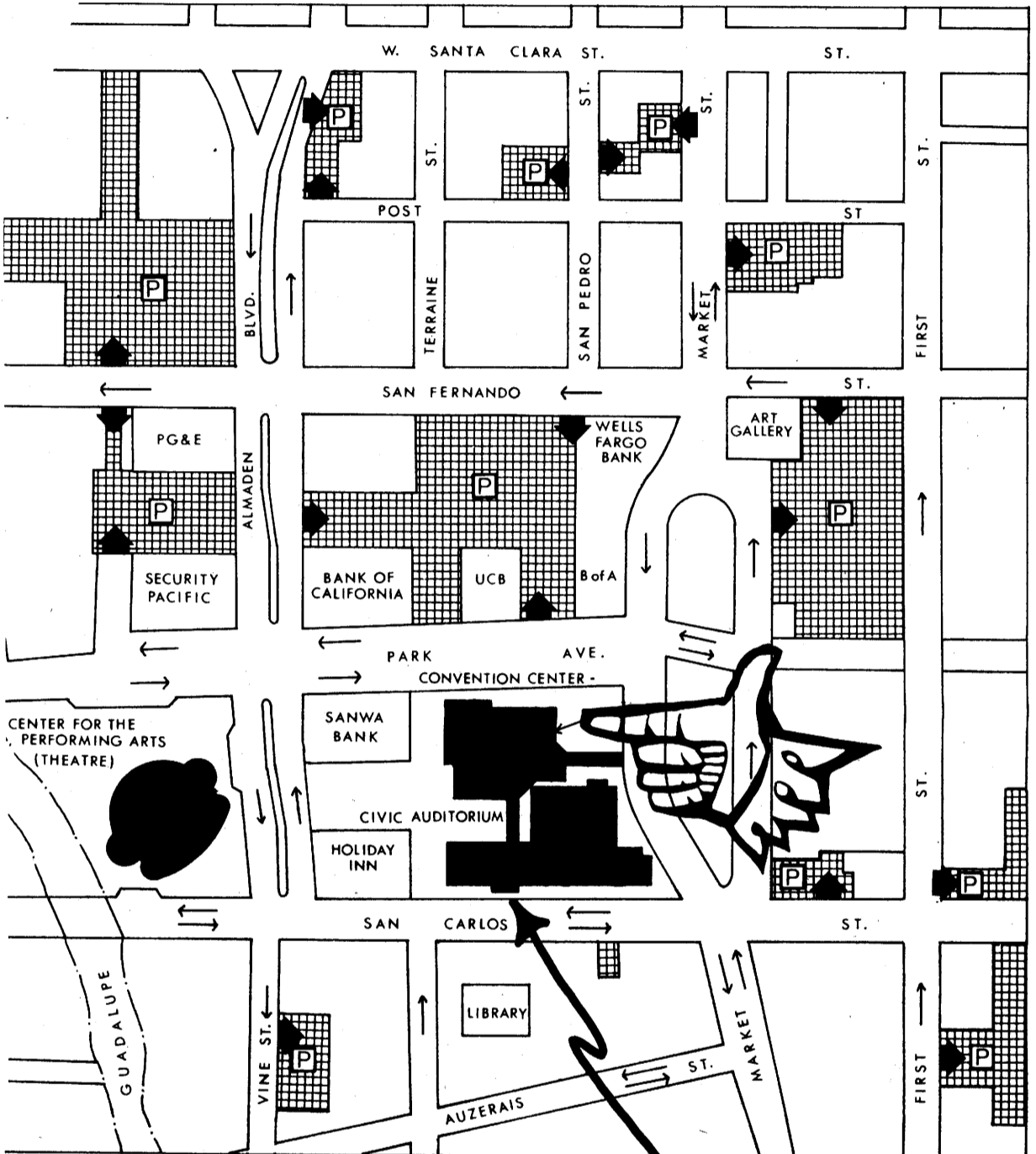
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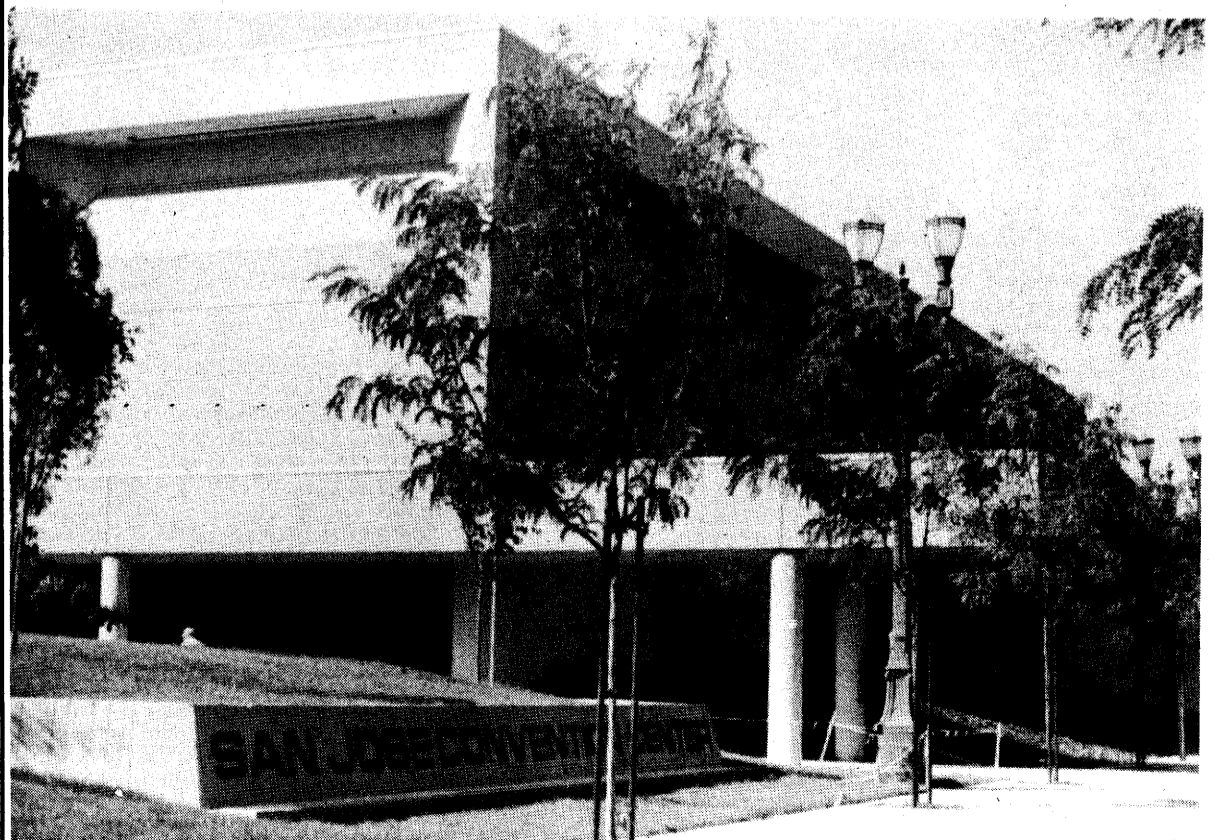
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COMPUTERS AND COMMUNICATIONS

Six, 3-day seminars will be presented this summer by Technology Transfer, Inc.
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 Abramson: Satellite Data Communications. July 17-19, 1978. Washington, D.C.
 Kleinrock/Frank/Roberts*Experts on Networks. July 24-26, 1978. Atlanta, GA. (*One day registration available).
 Lucky/Green: Data Communications Services and Protocols. August 2-4, 1978. Los Angeles, CA.
 Denning: Performance Evaluation. August 14-16, 1978. Los Angeles CA.
 Kleinrock: Computer Networks. August 21-23, 1978, Chicago, IL.
 Seminar fee: \$575. Discounts for prepayment, groups and series. Call or write: Technology Transfer, Inc., Box 49765, Los Angeles, CA 90049 (213)476-1331.

SOLUS PREPARES SOFTWARE DIRECTORY

News Release 78 Jan 29
 The SOL User's Society (SOLUS) is preparing a directory of programs that are tailored to run under the SOLOS and CUTER operating systems. The list will be published in the SOLUS newsletter at no charge to the software vendors.
 To qualify for listing in the directory, a program must be compatible with both SOLOS and CUTER and be available on CUTS format or Kansas City standard cassettes. It must be well-documented for the user, extensively tested and debugged, and supported by a warranty to repair or replace for at least 3 months. Programs written in higher-level languages will be accepted if the interpreter meets these specifications.
 Software vendors should send a brief description and ordering information to SOLUS News, Box 23741, San Jose, CA 95153.

INFO SCIENCE COURSES AT GOLDEN GATE UNIVERSITY

Golden Gate University in San Francisco is offering courses in their undergraduate program in Information Science for the upcoming Spring semester.
 They are:
 Data Processing (InfS 1); two sections
 Systems Analysis and Design (InfS 102)
 Basic Programming for Business Applications (InfS 110)
 COBOL Programming for Business Systems (InfS 114)
 Structured Programming (InfS 118)
 Information Systems for Business (InfS 135)
 These classes meet in the evening at 536 Mission St. in San Francisco. The courses carry three semester units credit and the tuition for the undergraduate courses is \$50 per unit, or \$150 for the course.
 Qualified students can enroll on a non-degree basis or apply for admission as candidates for the B.S. degree in Management with a major in Information Science. For more information write Dean of Admissions, Golden Gate University, 536 Mission St., San Francisco CA 94105 or call (415) 391-7800.
 The first class meetings were Jan 30th.

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Conference Session

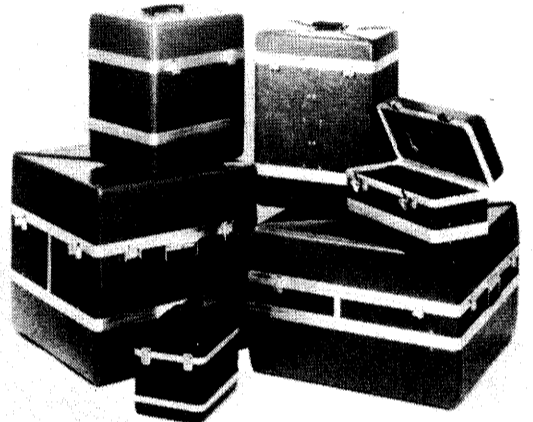
PERSONAL COMPUTER NETWORKING

PCNET, a personal computer network, was organized after last year's Computer Faire. This year, Mike Wilber will offer "A Peek Behind the PCNET Design".
 While the discussion will include various aspects of the PCNET design, Wilber's focus will be to show the motivation behind the design rather than to simply expose it.
 Wilber states, "The most important consideration throughout the PCNET design is to maximize its accessibility to as broad as possible a segment of the hobbyist community." His discussion will include background, ground rules, and design issues behind PCNET.

Conference Session

PERSONAL COMPUTER NETWORK PROTOCOLS

Ron Crane will detail "Communication Protocols for a Personal Computer Network." Crane states that "a need exists for low-cost, quick, and direct machine-to-machine communication between an increasingly widespread base of machines."
 His talk will summarize design requirements and architecture of a layered set of communication protocols for personal computers. The current state of this evolving collection of protocols will also be included.



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6 in.	1.06	3.85	7.16/K	6.19/K
6 1/2 in.	1.15	4.05	7.57/K	6.52/K
7 in.	1.20	4.25	7.98/K	6.85/K
7 1/2 in.	1.25	4.45	8.39/K	7.18/K
8 in.	1.29	4.65	8.80/K	7.53/K
8 1/2 in.	1.32	4.85	9.21/K	7.84/K
9 in.	1.38	5.05	9.62/K	8.17/K
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Conference Session

**PASCAL PROGRAMMING:
AN INTRODUCTION TO A GREAT
ALTERNATIVE TO BASIC**

"An Introduction to Programming in Pascal" will be presented by Chip Weems.

Weems' presentation will concentrate on the use of Pascal at the beginners level. It will cover simple and structured statements in Pascal, simple and structured data types, and procedures and functions. The emphasis will be on using Pascal statements. However, the power of user-defined data types will also be discussed. Additionally some of the available implementations of Pascal will be reviewed.

Weems is a graduate Teaching Assistant at Oregon State University in Corvallis.

Conference Session

COMPILER DESIGN FOR WEE MACHINES

A talk entitled "Compiler Construction for Small Computers" will be presented by Roger Broucke, of the University of Texas at Austin.

He will describe a simple parser that, he claims, could be easily implemented on a small computer or a microcomputer. Broucke states that the parser is the heart of any compiler since it is what translates the complex statements of a higher-level language and eventually decomposes them in small elements ending in machine instruction.

To describe the Parser in detail, Broucke will use a SNOBOL-implementation of it and three examples of translated statements.

Conference Session

**AN ALGOL COMPILER ON AN 8080
... NOW!**

The design and implementation of the ALGOL-M programming language for use on a microprocessor-based system will be described by Lt. Mark S. Moranville.

The implementation is comprised of two subsystems, a compiler which generates code for a hypothetical zero-address machine and a run-time monitor which executes this code. The system was implemented in PL/M to run on a 8080 microcomputer in a diskette-based environment with at least 20K bytes of user storage.

Lt. Moranville is currently in the Computer Science Department at the Naval Postgraduate School in Monterey, California.

Conference Session

TRANSLATORS FOR BASIC

William F. Wilkerson will present a discussion of various types of compilers and interpreters in his talk "Design Tradeoffs in the Implementation of Basic Language Interpreters." He will focus on estimating system memory requirements and the resultant user program execution speeds.

Wilkerson will specifically discuss CROMEMCO's new, extended disk-based BASIC and a 12K BASIC written for the 6800 microprocessor.

Wilkerson is associated with Shepardson Microsystem, Inc. of Cupertino, California, which has designed a number of software systems and applications products.

Conference Session

**CASSETTE-BASED COMPILER
FOR PL/M SUBSET**

A talk entitled "SPL/M - A Cassette-Based Compiler" will be presented by Thomas Crosley. He explains that SPL/M is a subset of the PL/M language, suitable for systems programming on small computers. The subset was necessary in order to fit the one-pass compiler into his system (20K of RAM and two cassette decks).

His talk will describe how the subset selection was made, and includes the BNF for SPL/M. The implementation is also described with an emphasis on code generation and optimization.

Conference Session

FINDING COMPUTER HOT-SPOTS

If your computer is too hot to handle you need to attend "Testing for Overheating in Personal Computers." Pete Merrill, consulting engineer, will conduct this session.

Merrill will discuss how temperature-indicating lacquers can be an inexpensive means of isolating overheating. Included in the discussion will be permissible chip junction temperatures and corresponding lacquer temperatures.

Merrill will present the results of tests on the Commodore PET-2001 Series 8K computer.

Conference Session

**GIVING YOUR COMPUTER
SOME FEELINGS**

"Hybrid Pressure Transducers: Fingers of the Robot" will be the topic of a presentation by Arthur Zias of National Semiconductor.

While pressure transducers have been built for fifty years, their application has been limited and expensive. New, inexpensive processing has resulted in a low-cost silicon pressure transducer.

Mr. Zias will review both the history of transducers and their processing techniques. However, the major focus of his discussion will be on the physical and economic limitations and how they effect the applications of transducers.

Conference Session

**IEEE STANDARDS LEADER TO
DISCUSS STANDARDS**

The critical issues in the standardization efforts for microprocessors will be the topic discussed by Tom Pittman at a Faire conference session.

Pittman, Chairperson of the Software Subcommittee for the IEEE Microprocessor Standards Committee, will address questions such as: Who wants standards? What are standards? What are the advantages and disadvantages and when will they happen?

Also discussed will be the need for individuals to play an active and positive role in developing the standards.

Conference Session

**INTEL SPEAKER TO DISCUSS
COMPUTERIZED CONTROLLERS
FOR HOBBYISTS**

"Single Chip Microcomputers for the Hobbyist" is a talk that will be presented by John Beaston of Intel Corporation. He will speak on computers with EPROM (Erasable, Programmable Read-Only Memory) and will use as an example, the EPROM-based Intel 8748. He states that the development of EPROM chips opens "a whole new world of versatile, low cost, dedicated control for the computer hobbyist."

Conference Session

INTERFACING - NITTY GRITTIES

Rodney Zaks and Austin Lesea of Sybex will discuss "Microprocessor Interfacing Techniques" at the Computer Faire.

Microcomputers have simplified the art of interfacing components and boards into systems. LSI has reduced interfacing to techniques and components. Zaks and Austin will discuss both the architecture (the components) and the interconnect (the problems).

Zaks is President of Sybex located in Berkeley, California. Austin, also from Sybex, is the author of over 20 books in the field including *Microprocessor - From Chips to Systems*.

Conference Session

SATELLITE TRACKING FOR HAMS

John L. DuBois will present a talk entitled "A Real-Time Tracking System for Amateur Radio Satellite Communication Antennas."

He will describe a complete system for pointing an amateur radio satellite antenna and tracking a satellite as it passes without operator attention. He says the system is primarily suitable for polar-orbiting satellites of the amateur OSCAR or NOAA series.

He notes the design for a S-100 compatible hardware controller board for the antenna rotators, which is now available commercially, is given along with a BASIC program to run the system.

He notes that the only input required to the program is the equator crossing time and longitude of the satellite for the pass desired. The system then takes care of all required computations, points the antenna, and prints time, azimuth, elevation, range and doppler shift on the console concurrent with each antenna update.

DuBois adds that the system does require a hardware clock in the S-100 bus computer and about 24K of memory. It then operates with most common types of azimuth and elevation antenna rotators.

Conference Session

MUSIC SYNTHESIS VIA MICROS

Cesar Castro and Allen Heaberlein are the co-authors of a talk entitled: "Microprocessor Controlled Synthesizer."

This talk will discuss the hardware and software design of a music synthesizer which utilizes a standard microprocessor and a relatively simple synthesizer card. They note that basically, the synthesizer hardware is used for the high speed data processing and the software is used for the slower data manipulations.

They continue, "The hardware allows the microprocessor to control the frequency and amplitude of up to 32 tonal channels. Amplitude control provides the means of producing attack and decay envelopes and frequency control provides the means of producing frequency modulation of the output wave form."

The synthesizer card they have designed has storage space for 16 unique tonal wave forms which are used to simulate different sounds. The selection of waveforms is controlled by the microprocessor.

The co-authors state that the philosophy in mind while developing the synthesizer was to tax the software as much as possible and also give the software as much control as possible, thus simplifying the hardware and giving the greatest degree of flexibility.

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Conference Session

**DISYSTEM-A DUAL PROCESSOR
DEVELOPMENT SYSTEM**

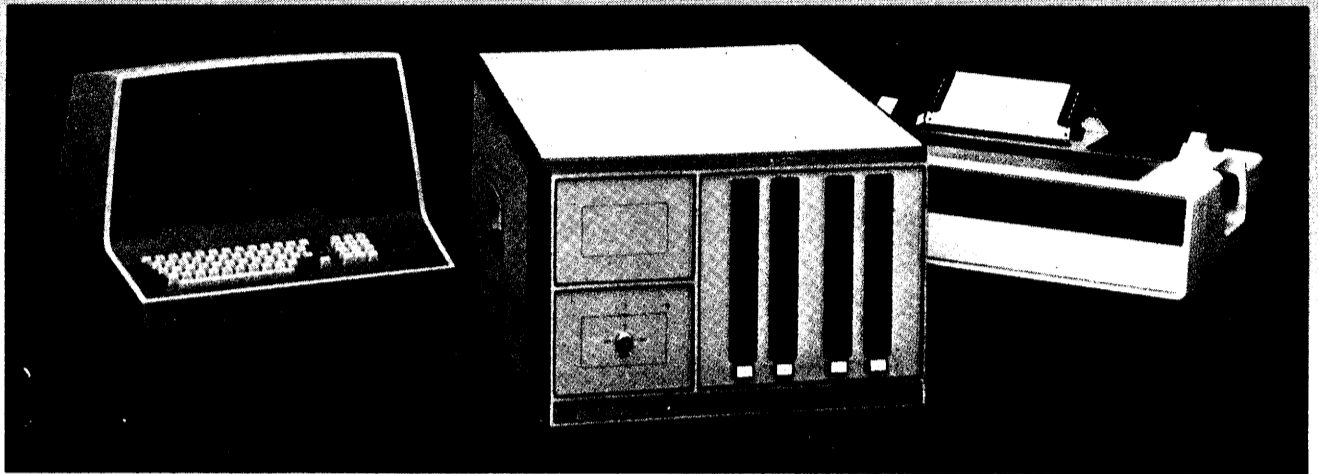
Claude Burdet, of the Systemathica Consulting Group, will present a talk on "The Disystem: A Multiprocessor Development System with Integrated Disc-Oriented Interconnections." He will describe the "general structure of a new type of microprocessor-based computer system; one of its distinguishing features being two processors which communicate through a linkage module to become a versatile dual CPU..."

Burdet states that the modular design of the Disystem main frame is especially suited for implementation of business and industrial applications on turnkey systems. He adds it can also potentially expand an existing microcomputer system into a parallel processing configuration "which will, in effect, perform 16-bit multi-byte operations."

**NEW YORK CHARTER FLIGHT TO
SECOND COMPUTER FAIRE**

Steve Edelman, of the Ithaca Computer Group, is arranging a low-fare charter flight from New York and its surroundings to the Second West Coast Computer Faire, to be held in San Jose, California, March 3rd through 5th. For details, contact Steve at Box 91, Ithaca, New York 14850, (607) 273-3271.

Now we can announce it— the multi-disk drive System Three Computer



A fast Z80 microcomputer with up to 512 kilobytes of RAM, 4 disk drives and 1 megabyte of disk storage — with CRT terminal and fast printer. Even an optional PROM programmer. Strong software support, too, like FORTRAN IV, Extended BASIC, and Macro Assembler.

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Chances are you've already heard that there is a Cromemco System Three Computer. We've proudly previewed it at WESCON on the West Coast and NYPC on the East Coast.

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This new CS-3 is a computer that won't be outdated soon. It has a 21-

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The S-100 is the bus that Cromemco so strongly supports with over a dozen plug-in circuits ranging from analog I/O to high-speed RAM memory with our bank-select feature.

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78 MAY 10

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News Release

Dated: 78 Jan 12

Compucolor Corporation of Norcross, Georgia, announces the latest in personal computers — the Compucolor II, or Renaissance Machine. The Compucolor II is a personal computer system with an 8-color integral display billed as "The Renaissance Machine for the Renaissance Man".

The Compucolor II will have its own 8-color, 13-inch diagonal display, a typewriter-like keyboard with a large variety of extra function keys, 24 K memory, an 8080A CPU, with the only built-in mini-disk drive mass storage device available on a home computer. And since the Compucolor II utilizes BASIC 8001, a conversational programming language with English-type statements and familiar mathematical notations, it won't take long for users to learn to write and store their own programs.

As Extra Mintz, President of Intelligent Systems Corporation, the parent company of Compucolor explains, "Right now all the attention is being focused on video games, but our research indicates there's a growing and vital market out there just as interested in function as fun. . .men, women and entire families who are involved in a diverse range of intellectual, cultural, business and recreational pursuits. That's who we're after, the 'Renaissance Man', and we've come up with the marketing scheme to reach him."

Compucolor has developed a complete games library on diskettes designed to take advantage of the Compucolor II's advanced color graphics hardware. Like StarTrek, Blackjack, Chess, Checkers, Othello and Biorhythms, and educational games like Math Tutor for youngsters. The new Compucolor II is a full-fledged microcomputer system. There are Compucolor II Renaissance Programs available right now for checkbook balancing and income tax compilation. Load your records from the Compucolor II to a diskette and you've got a permanent record of all your personal business transactions.

Mintz puts it this way, "the market's there for a serious home computer system at the right price, a system you can work with and play with. . .that's what the Compucolor II is all about. It's a unique and sophisticated system for a unique and growing market".

For further information contact: Compucolor Corporation, 5965 Peachtree Corners East, Norcross, Georgia 30071, (404) 449-5961.



STATE-OF-THE-ART OF PERSONAL COMPUTING DETAILED IN 2nd COMPUTER FAIRE CONFERENCE PROCEEDINGS

The Conference Proceedings of the Second West Coast Computer Faire contains over 500 pages of tutorials and technical papers presented at the Faire, held in San Jose, California early in March, 1978. Prepared in the same form as the IEEE produces its COMPCON Digest, the 8"x11" Proceedings contains papers ranging over a wide variety of subjects, from introductions for the novice and exotic computer games, through computers in the arts and in education, to personal computing for the physically disabled and legal aspects of home computers. Still other sections address small business systems, hardware and software standards, design details for personal computing networks, and a variety of hardware and software products and designs.

The Second Proceedings is available in many retail stores or may be obtained by ordering it directly from the Computer Faire. Also, copies are still available of the FIRST Computer Faire Proceedings — a 320+ page collection of papers and tutorial talks presented at the First West Coast Computer Faire, held in April, 1977, in San Francisco.

To order these immediately-available unique publications, forward your name and address and correct payment to: The Computer Faire, Box 1579, Palo Alto CA 94302, (415)851-7075.

Only FIRST Faire Proceedings—\$13 outside California, or \$13.72 to California addresses

Only SECOND Faire Proceedings—\$14 outside California, or \$14.78 to California addresses

Both FIRST and SECOND Proceedings—\$25 outside California, or \$26.50 to California addresses

Prices include handling, UPS or 4th Class shipping charges, and any applicable taxes.

CBEMA CALLS FOR DEREGULATION OF PHONE TERMINATION EQUIPMENT

The Computer and Business Equipment Manufacturers Association (CBEMA) has gone on record calling for complete deregulation of all equipment that connects to the telephone common carrier lines.

In comments submitted to the Federal Communications Commission (FCC) the Association stated, "The terminal equipment market should be recognized and treated as a competitive marketplace, and terminal equipment should be provided on an unregulated non-tariff basis. Carrier offering of equipment should be through separate entities, unsubsidized by regulated services." This proposes that the common carriers—the telephone and telegraph companies—should limit their services to providing communications lines, and get entirely out of the business of providing telephones, terminals, typewriters, etc.

According to CBEMA, users of a telephone network have such diversified requirements that only a viable competitive marketplace can meet their needs. CBEMA seeks to see all equipment deregulated, including data terminals, facsimile equipment, answering devices and the telephone itself.

CALL ISSUED FOR TALKS & LEADERS FOR LOS ANGELES COMPUTER FAIRE

See page 5 for details.
Deadline for final submissions is SEPT. 1st.

PUBLIC ACCESS COMPUTER CENTERS OFFER COMPUTER POWER & EDUCATION TO EVERYONE

Joan Lasselle

The word is out, computers are for everybody. So say the directors of four public access computer centers in the San Francisco Bay Area, and they're working to make information, programs and machines available to individuals and groups, adults



and children. In a centralized, technological society like ours, "computer literacy" may be becoming a basic skill. Comprehension of what computers are, what they do best, and what they can't do at all, may be part of a general public school education. Computer centers are working with that in mind.

In the Bay Area, public access computer centers include Lawrence Hall of Science in Berkeley and the newly-opened Marin Computer Center. Two others, the Lo*op Center in Cotati and the Community Computer Center in Menlo Park, no longer offer storefront settings with computer time and terminals available to the public, although they are still active in public school computer education. All of the centers have a common focus—giving the general public access to computers. This has been done by making computers available on a rental basis, offering introductory classes about computers and programming. Additionally, all the centers serve as extended classrooms and carry computer education into Bay Area schools. Center personnel initiate and conduct programs and serve as a support staff for interested teachers. The emphasis is on providing a non-threatening learning and exploring environment for children and adults, allowing them to explore not only machines' capabilities, but also and more particularly to explore their own abilities.

Lawrence Hall of Science

Lawrence Hall of Science is the largest of these public access computer facilities having over 30,000

continued on page 10



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Proceedings Section

COMPUTERS FOR THE PHYSICALLY IMPAIRED

"Computers for the Physically Handicapped," a chapter in the *Proceedings*, focuses on a truly personal use of microcomputers. Micros offer the flexibility to create systems able to meet the individual needs of physically impaired individuals.

In "Microcomputer Communication for the Handicapped", Tim Scully tells the story of Robin, a young woman and cerebral palsy victim, who has lived her 20 odd years without the ability to communicate. Scully describes how he tailored a microcomputer system to Robin's specific problems to facilitate her communication ability.

Within the article Scully describes the hardware and software used to implement a communication system which allows Robin to construct words and sentences displayed on a video screen. The paper contains schematic drawings of the hardware modifications and copies of the basic program and subroutines Scully designed to assist Robin.

Scully, a Research Fellow of the Humanistic Psychology Institute, and currently in prison, met Robin through a United States Probation Officer, while temporarily free on appeal bond. His conviction (conspiracy to manufacture LSD) was upheld, but he continued to work with Robin under the constraints of both his and her situation. The machine flexibility that allowed Robin to gain communication ability also allowed Scully the ability to continue his work.

This chapter also contains two brief abstracts, "Electronics for the Handicapped" by Robert Suding and "Speech Recognition as an Aid to the Handicapped" by Horace Enea and John Reykjalin.

WANT ADS

Want Ads are being accepted for publication in the *Silicon Gulch Gazette*. Please submit the ad copy, typed and double-spaced, and payment of \$20. Up to one column-inch of your copy will be typeset, and will appear in the next available issue of the *Gazette*. If your ad exceeds one column-inch, we will edit it at our discretion. The \$20 is a minimum charge. Each press run of the *Gazette* consists of at least 50,000 copies which are distributed without charge to individuals nationwide, and in bulk to stores and organizations.

If you are a microcomputer hobbyist, you will enjoy the ancient game of GO. Go, the oldest game still in its original form, has all the complexities of programming yet is exciting from the outset. Send for our free catalog. Write: Catalog, Sabaki Go Company, P.O. Box 4195, Wilmington DE 19807.

LOW-COST WORD PROCESSING — put your microcomputer to work. Make it retype business letters until they're perfect. Maintain address lists. Read how we got a good printer, tape punch and reader for \$50. Newsletter 12 issues \$12.95 US (\$20 US overseas), checks payable BOOKMAKERS, Box 158, San Luis Rey CA 92068.

S100 COMPUTER USER NOTES — We're getting a group of users together about six times a year for a rap session on products, hard and soft, and on computing. People ask questions, point out their and others' mistakes, share fixes. Six issues \$5 US (\$10 US overseas), checks payable BOOKMAKERS, Box 158, San Luis Rey CA 92068.

RADIO-SHACK COMPUTER USER NOTES—We're supporting the fabulous TRS 80. You don't want to find out about computing by buying everything available. Share your, and others, experiences. Twelve issues \$10 US (\$18 US overseas), checks payable to BOOKMAKERS, Box 158, San Luis Rey CA 92068.



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HORIZON-2 \$1999 kit; \$2349 assembled.

16K RAM—\$399 kit; \$459 assembled; Parity option \$39 kit; \$59 assembled. FPB \$259 kit; \$359 assembled. Z80 board \$199 kit; \$259 assembled. Prices subject to change. HORIZON offered in choice of wood or blue metal cover at no extra charge.

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GRAPHICS PACKAGE: DOODLER by Les Logan quickly draws horizontal, vertical and diagonal lines and saves the patterns for later display. PLOTTER by Peter Maggs creates adjustable bar charts and linear or log scale graphs (80 by 50 points on PET, 128 by 48 on TRS-80) with automatic scaling and labeling of axes—perfect for data analysis. LETTER displays messages in large block letters from a full character set under program control. All for **\$12.95**

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Editor: Jim Warren
Spiritual Counsel: Father Ishmael Ishimoto
Staff Writers: Bill Baumann
Joan Lasselle
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IEEE COMPUTER SOCIETY SPONSORS SOFTWARE & APPLICATIONS CONFERENCE

Papers are being solicited for the Second International Conference on Computer Software and Applications - COMPSAC 78, to be held in Chicago, Illinois, November 13-16, 1978. Sponsored by the IEEE Computer Society, COMPSAC 78 will bring together computer practitioners, users, and researchers to share their ideas, experiences and requirements for applications software, management techniques, and software development support, including automated techniques. Papers in the following and related areas are invited:

- o Software development methodology
- o Data base management systems
- o Transaction and information management systems
- o Reliability and Maintainability
- o Case studies
- o Software tools
- o Social, legal, and regulatory issues
- o Operating systems including distributed operating systems
- o Software management
- o Data communication and computer networking
- o Computerized decision making systems
- o Applications in business, communication, education, energy, government, military, process control, and transportation
- o Mini/Micro software development
- o Organizational impact of EDP technology
- o Application-oriented languages

Papers should range in length between 1000 and 5000 words. Submission deadline is June 1, 1978. Papers should be submitted for consideration to:

Prof. C. V. Ramamoorthy
Dept. of EE & Computer Science
University of California
Berkeley CA 94720

Authors will be notified of acceptance by August 1, 1978, and will be given instruction for final preparation of their papers for inclusion in the conference proceedings. Exceptionally high quality papers will be considered for publication in IEEE Transactions on Computers or IEEE Transactions on Software Engineering.

1978 MUG MEETING TO BE HELD AT SAN FRANCISCO'S JACK TAR HOTEL, JUNE 7-9

Final arrangements for the Seventh Annual MUMPS User's Group meeting (the first on the West Coast) were announced today by Richard E. Zapolin, Executive Director of the medically-oriented data processing group. The surge of interest in the MUMPS language resulting from availability of ANSI Standard packages and new implementations and advances in both speed and effectiveness of the language promise to make this the biggest and most lively MUG meeting yet.

Five alternative six-hour tutorials will be available simultaneously on June 7th. Each will serve the needs of a different audience: new Managers of MUMPS installations; programmers at entry, intermediate and expert levels of skills; and systems analysts. The scientific sessions on June 8th and 9th will range from an open forum on the use of computing in ambulatory care to sessions on database security, file handling, and hardware considerations in large multi-user, multi-application MUMPS systems. Vendors of MUMPS systems, applications, and services will be present at the meeting to discuss their various products. Informal interactions with other MUMPS users and developers will provide the usual stimulating environment at the Conference. A reception, a luncheon and a choice of site visits will complete the annual gathering.

For additional meeting information, including the registration and tutorial fees or the low conference rate at the newly-refurbished Jack Tar Hotel, contact the MUMPS Users' Group at Box 208, Bedford MA 01730.

SOLUS ADDRESS CORRECTION

The last Gazette (Vol. 2, No. 3) had a SOLUS news item on page 18 which had a typo: The address had digits reversed. The correct address is: SOLUS, P.O. Box 23471, San Jose CA 95153.

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BUTT, BUTT, BUTT...

To the Editor
—Silicon Gulch Gazette, Received 78 Jan 29
I was disappointed to see a fine free market outfit like the Computer Faire essentially advocating the California Clean Indoor Air Initiative. I am a militant non-smoker who has been known to eject violaters from posted no-smoking areas. I support that part of the initiative which applies to real public places like government council chambers. After all, I pay taxes too.

However, the real aim of the bill is to regulate private businesses like restaurants and theaters. A private business gets my money only by providing me with a service. A restaurant that does not provide me a smoke-free environment will not get my repeat business, but it will get some explicit verbage on why not.

The micro/hobby computer industry is a glowing example of how services and products will blossom when a market is demonstrated. No one has legislated the existence or acceptance of the S-100 bus.

If non-smokers want restaurants that don't have smoke, they should stop patronizing those that do. Instead of trying to control other people's businesses through the use of government force, GASP should organize voluntary boycotts of businesses which do not cater to non-smokers and disseminate information on those that do.

Entering a place of business is a voluntary activity. Unless a business advertises non-smoking accomodations and then doesn't deliver (fraud), the government has no right to interfere.

June R. Genis

Editors Response:

We ran the notice regarding the California Clean Indoor Air Initiative for several reasons:

1. Those of us responsible for editing and publishing the Gazette view it favorably.
2. It is our impression that a large percentage of computer phreaques would at least be interested in the initiative (including those who would oppose it) — and probably a majority would favor it. Data points:

A. A quarter or less of the several hundred people who attend each Homebrew Computer Club meeting choose to sit in the "Smoking" section of the auditorium...which always has empty seats.

B. All four S.F. Bay area Chapters of the Association for Computing Machinery have chosen—within the past year or two—to provide non-smoking areas at their meetings.

C. In a 1976 local SIGMICRO survey, only less than 5 respondents indicated that they disapproved of such arrangements. All other respondents ranged from "adamantly approve" to "don't care".

3. Unlike the well-funded opposition that is organizing to oppose this Initiative—e.g. the Washington-based Tobacco Institute, and the California Association of Tobacco & Candy Distributers—the proponents of this Initiative truly form a grassroots, people's movement with extremely limited finances (and no financial incentive). We would also give equal space to any other widespread, underfinanced grassroots political movement which we felt would be of interest to our readership.

4. By June's rationale, there should also be no law prohibiting murder and mayhem—as long as it occurs in a privately-owned business establishment—for many view smoke in the air they breathe as an attack, though the bruises are more subtle, and the pain less intense (at least it is, prior to the lung surgery).

5. Finally, the Initiative doesn't prohibit smoking by those who wish to smoke; it merely guarantees non-smokers the opportunity to avoid smoking in many public places where that opportunity currently does not exist.

—JW



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RELIABLE LARGE-AREA LCDs NOW AVAILABLE

Editor's Note: Small liquid crystal displays have been available for some years. Reliable large-screen LCD's, however, have been difficult to produce - primarily due to the difficulty in keeping the precise and very thin separation between the two plates of glass that contain the liquid crystal. Bernie Feldman has invented a delightfully simple (and patentable) technique for doing this. He simply sprinkles wee tiny "BB's" randomly throughout the display area. These keep the glass plates properly separated, while at the same time allowing high temperature sealing of the perimeter of the plates, to assure a reliable LCD, free of leaks. It is our understanding that such reliability is unique in the field of large-area LCD units.

We have included this article in this "computer periodical" because (1) we feel that there are a great variety of applications for the marriage of microcomputers and reliable, large-area LCD's, (2) it is our impression that this is the first such unit available in the marketplace, and (3) TCI offers an excellent opportunity for two classes of go-getters: the venture capitalist interested in high technology, and the microprocessor preacher who would like to perform an innovative marriage of his or her expertise with this newly available display technology. -JW.

The first large-area Liquid Crystal Displays (LCD's) to be used in a microprocessor-based product were announced recently by Transparent Conductors Inc.

The Goleta, California firm has developed a message center they call a "Smart Sign" using one display with 16 alphanumeric characters each 1.75" tall. This compact product has been designed primarily for the point-of-purchase advertising market but can be interfaced with much more complex systems. The "Smart

Proceedings Section

SPEECH INPUT & OUTPUT

Computer recognition and generation of spoken words and phrases is discussed in the *Proceedings* chapter, "Speech Input and Output".

M.H. Hitchcock addresses three major questions in "Machine Recognition of Speech." Is voice control of machines realistic today? If so, what kinds of applications lend themselves to today's technology? How well do they have to work and how much should they cost?

To answer these questions Hitchcock describes the technology currently available, looks at specific examples of speech input systems in use today, and applies cost-effectiveness standards to existing systems. Additionally, he looks at the potential for speech recognition systems.

The chapter also contains a brief abstract by D. Lloyd Rice, "Synthetic Speech from English Text."



Sign" paints copy on in a dynamic manner.

Bernard Feldman, company president, explains the evolution of the product. "LCD's (Liquid Crystal Display) unlike most other displays (lamps, LED's, neon) do not emit light. They reflect light selectively in response to electrically alterable molecular alignments of crystal-like organic liquids. This accounts for the minuscule energy requirements of these displays and their unique applicability for watches and calculators. It also explains the LCD's ability to remain highly readable even in bright ambient light. We expect public acceptance of "Smart Signs" to be very high as in the watch market and preliminary marketing studies indicate that retailers have been waiting for a versatile, easily programmable, indoor message center."

The seven year old company actually makes larger displays, but feels that their model 216 "Smart Sign" will open up the large area display market within the next 18 months. As for the electronics of the model 216, 128 bytes of the onboard 8021 ROM are used as a character generator to convert the ASCII data from either keyboard or cassette input to the eleven-segment character font that produces full alphanumeric displays.

The balance of the 1K ROM is used to do simple things such as presenting real time and selecting blocks of 1K RAM (used for character storage) on scheduled command. Each of the 176 liquid crystal segments has its own latch-driver facilitating full multiplexing of the input data.

"People are just beginning to realize the large scale potential of large area LCD's, Feldman said. "Exxon just entered the flat screen display business and others are also interested. As computers bloom, particularly small scale units, the CRT looks less attractive and the LCD, while still blue sky, looks better and better."

Feldman went on to cite three major requirements for full-capability flat screen LCD's: (1) a liquid with inherent memory to eliminate dedicated drivers, (2) colored liquids, and (3) a reliable large-area display-manufacturing technique.

"I feel we have No. 3 pretty well solved, and we have a patent position to protect us", Feldman continued, "But we're dependent on the chemists to produce better, more versatile liquids and then we may see something larger than the 3" and 4" screens which Hughes and the Japanese have built. Meanwhile, we're looking for companies with similar interests to pursue this with."

Presently a firm with 7 employees, TCI is seeking capital to set up a production facility to make "Smart Signs". Feldman commented, "The more large area LCD's people see, the more uses will be found for them in the entire range of electronic hardware and display. Frankly, we're very excited about different applications for big LCD's and would be glad to hear from anyone who has some ideas to share. LCD's aren't the answer to everything, but the blue sky is very, very blue."

For more details, contact TCI, 26 Coromar Dr., Goleta CA 93017, (805) 968-3561.

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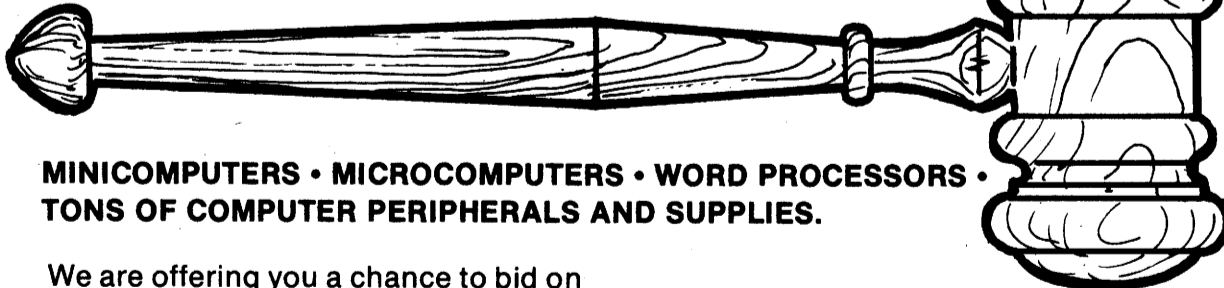
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Third Faire Call for Papers

GIVE A TALK ABOUT YOUR FAVORITE PROJECT AT THE LOS ANGELES FAIRE

The Third West Coast Computer Faire will be held in the mammoth Los Angeles Convention Center, November 3-5, 1978. As has been true of the preceding two Computer Faires, a major Conference Program is being planned. Also as was uniquely true of the first two Faires, a *Conference Proceedings* will be published containing all of the papers that are accepted for presentation in the Los Angeles Program.

You are invited to propose a talk to be given at the Faire and an accompanying paper to be published in the *Proceedings*. The following is a *partial* list of possible topics:

- Introductions for the novice
- Impacts on the society & culture
- Computer Art & Interactive stain glass
- Electronic Music Systems
- Microcomputers in the theatre
- Home computing & Telecommunications
- Prosthesis for the physically impaired
- Legal aspects of consumer computing
- Computers in learning environments
- Exotic games & complex simulations
- Computing power for small businesses
- The Business of small computers
- Hardware & Software standards
- Homebrew & Commercial Hardware
- Low-, High-, & Exotic-level software
- Speech Recognition & Synthesis
- Etc.

Again note: This is a *partial* list. You are encouraged to suggest your own topic and approach it in your own way.

This is an enthusiast's convention, rather than a professionals' convention. As such, you need not be an "expert" in order to give a talk. For professional conferences, papers are carefully refereed, and accepted only if the referees agree that the paper is "good enough" (in their opinions). The Computer Faire operates the other way around. The submitted papers will be read by computer hobbyists, and will be rejected only if several of the readers agree that (a) the paper is really awful, or (b) the paper is a blatant or predominant sales pitch for a commercial product that contains essentially no useful details about that product. This results in an admittedly greater variation in the quality of the papers, however it also provides beginner-speakers the opportunity to present their pet idea or discuss their innovative project.

All papers that are submitted remain the property of the authors. The Faire requires only permission to publish the papers in the *Proceedings*. This means that, in addition to being able to present your ideas to a live audience of interested amateurs and professionals--and thereby often obtain highly useful immediate feedback, you are also free to submit your paper for publication in one of the computer periodicals such as *Byte*, *Interface Age*, *Popular Electronics*, etc., which pay for articles, and -- eventually -- provide you with an even wider exposure for your ideas.

Also each author of an accepted paper receives two complimentary registrations for the Faire, plus a copy of the *Proceedings*.

HOW TO GIVE A TALK/SUBMIT A PAPER:

1. Simply send your name, mailing address, and proposed title for one or more talks to: The Computer Faire, Box 1579, Palo Alto CA 94302, and begin drafting your paper.

2. You will receive an Author's kit that will include special paper and complete instructions regarding the actual physical preparation of the paper (you submit your paper in "camera-ready" form, ready for photo-reduction and publication in the *Proceedings*).

3. You MUST return the completed, camera-ready paper in the specified format, *no later than:*
FRIDAY, SEPTEMBER 1, 1978

This two month lead time is necessary to allow the reading and acceptance of the papers, organization and preparation of them for printing, and scheduling of their presentation in the Conference Program.

ORGANIZE/CHAIR A CONFERENCE SECTION ON YOUR FAVORITE TOPIC

You are also encouraged to aid and direct the organization of the Conference Program. If there is a topic you would like to see presented in the Conference volunteer to organize the Section addressing that topic. The Computer Faire will underwrite your phone bills and provide you with assistance and suggestions in locating speakers. You will (a) assure that the topic you desire is, in fact, included in the program, (b) gain the opportunity to directly communicate with the leading experimenters working in that area, and (c) have the satisfaction of being an *active* participant in Los Angeles' first Computer Faire. Of course, the Faire will provide two complimentary registrations and a copy of the *Proceedings* to each person who actively organizes and Chairs a Conference Section.

To propose to organize a Conference Section, please send your name, mailing address, work and home phone, proposed topic, and suggested speakers (if any; you don't need to know any, we will help you if you wish) to: The Computer Faire, Box 1579, Palo Alto CA 94302.

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2nd FAIRE DRAWS VARIETY OF INTERNATIONAL VISITORS

Dear Jim, 78 Mar 28

I thought you might be interested to have some information I collected from the Faire on the country of origin of overseas buyers who stopped at my booth.

During the Faire, I spoke with buyers from the following countries:

- Australia Iran
Canada Israel
Columbia Japan
Denmark Mexico
England Philippines
France Sweden
Germany Switzerland
Holland Syria

This widespread international distribution may have gone unnoticed by exhibitors who were not specifically oriented to foreign markets and may be of interest to Silicon Gulch readers.

Yours sincerely, MicroTech Exports

Oscar A. Rosenbloom

Proceedings Section

COMPUTER ESOTERICA DISCUSSED

There is little doubt as to why one section of the Conference Proceedings of the Second West Coast Computer Faire was called "Computer Esoterica!" The Section contains four papers of varying complexity covering a broad range of topics.

Tom Pittman offers an article entitled "Deus Ex Machina, or the True Computerist" in which he gives serious thought to some philosophical aspects of computing.

"Thoughts on the Prospects for Automated Intelligence" are offered in a paper by Dennis Reinhardt. Using the human brain as a goal, he looks into the future of hardware and software technology. He figures that in 26-48 years (extrapolating from present growth rates) a computer should be available with a capacity similar to the human brain. These projections are explained in detail in the paper.

James S. Albus presents a paper along similar lines though more technical in nature. Titled "Brain Modeling and Robot Control Systems," he explains his work on brain modeling. According to James, his Microprocessor, which is called the Cerebellar Model Arithmetic Computer (CMAC), demonstrates the capacity to learn, generalize, recognize patterns, perform associative recall, computer multivariant analog functions, and decompose input commands into sequences of output commands in a context-sensitive manner. He makes use of similarities between the human brain and computers and notes evidence which implies that clusters of neurons are arranged in hierarchies in human brains so as to produce And/Or task decompositions.

Proceedings Section

DESIGNING WITH MICROPROCESSORS DISCUSSES HEAT & HOW TO "SEE" IT

Two articles are found in "Designing with Microprocessors." One paper in this section is called "Testing for Overheating in Personal Computers" by Peter S. Merrill. He states that excessive temperatures can cause errors, intermittent operation, and can shorten the operating life of semiconductor components. Peter offers a simple way to test for overheating using inexpensive lacquers. When a drop of the lacquer is placed on the semiconductor part it has an opaque, dull color. When the indicating temperature is reached or exceeded the drop will turn color (irreversibly) or become clear. Peter notes that a variety of lacquers are available, with "indicating temperatures throughout the range applicable to personal computers."

In the article he includes sections on estimating junction temperatures from case hot spot temperatures, estimating junction temperatures of power semiconductors, and an example where he tests component temperatures in the Commodore PET 2001 series personal computer with 8K memory. Charts and tables accompany the article to illustrate his test results, as well as a list of suppliers who handle the temperature-sensitive materials.

The other paper is "Microprocessor Interfacing Techniques" by Rodney Zaks and Austin Lesea. They present a short summary of their book, Microprocessor Interfacing Techniques.

Proceedings Section

MICROCOMPUTERS FOR EDUCATION AND LEARNING

The Proceedings includes a major chapter on "Personal Computers for Learning Environments." Here the reader will find descriptions of educational programs currently using microcomputers, and evaluations of the potential for microcomputers as learning tools.

In "Personal Computers and Learning Environments: How They Will Interact," Ludwig Braun points out that the computer means a basic change in the teacher-student interaction. With micros, the emphasis changes from information transmission to information processing. Braun conjectures on future applications for personal computers, one of the most exciting being the combination of video-disc systems and personal computers.

Both Karl L. Zinn and Thomas A. Dwyer agree that personal computers provide the opportunity for new, exciting learning experiences. Zinn and Dwyer see personal computers as providing increased access to computers thereby allowing for more creative, self-directed learning.

Dwyer emphasizes his belief in the value of learning on one's own. In "Getting It Right: New Roles for Computers in Education", he describes how personal computers give individuals the ability to direct their own learning.

Due to the increased access and personal control provided by personal computers, Karl L. Zinn feels they are important tools which will change the use of computers in higher education. In "Implications of Personal Computing for College Learning Activities", Zinn describes work being done at the Center for Research on Learning at the University of Michigan. He points to the effect personal computers will have on kinds of learning activities that use computers, and offers sample applications in various areas of instruction. Zinn also includes a list of suggested readings for further study of the role of computers in education.

Three papers describe personal computer use in public school education. Peter S. Grimes, Curriculum Supervisor for the San Jose Unified School District, describes the instructional use of microcomputers in that system. In addition to a detailed look at the program in this large school district, Grimes discusses the rationale behind SJUSD's decision to promote instructional microcomputing. Grimes also reviews the San Jose program, revealing what they have learned.

Both Liza Loop and Bob Albrecht have classroom experience in teaching computer-based classes. In "Computers For Elementary School Children" Albrecht outlines work he is currently doing in classroom. Ms. Loop makes a case for computer instruction in public classrooms in "Bringing Computer Awareness to the Classroom." She feels that, as computers become more a part of our daily lives, computer awareness becomes a necessary survival skill. In her paper, Ms. Loop defines computer awareness and describes teaching she has done both at the LO*OP Center in Cotati, California, and in public school classrooms.

Also included in this chapter is a brief abstract by Arthur Luehrman of the Lawrence Hall of Science in Berkeley. Luehrman describes learning programs based on microcomputers currently being planned at LHS.

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It is not very often that there is a journal/newsletter that the Digital Group is able to recommend without some hesitation (and we get them all). However, Dr. Dobb's Journal of Computer Calisthenics & Orthodontia is one pleasant exception. Jim Warren, the editor, has put together a good concept and is managing to follow through very well indeed. There is no advertising in the Journal. It is supported solely on subscriptions. That also means that manufacturers have zero leverage over the content of the magazine. The Journal's primary purpose is to place significant software into the public domain and to provide a communications medium for interested hobbyists. The approach is professional and they are growing quickly.

(In case it might appear otherwise to some people, there is no official link whatsoever between the Digital Group and Dr. Dobb's Journal - we've taken our lumps as appropriate just like everyone else when Jim felt they were justified.)

We think Dr. Dobb's Journal is here to stay and a publication that is a must for everyone in the hobbyist world of computers. Don't miss it!

flyer

NUMBER 8

"THE software source for microcomputers. Highly recommended."

Philadelphia Area Computer Soc. The Data Bus.

"It looks as if it's going to be THE forum of public domain hobbyist software development.

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COMPUTER FAIRE

Proceedings Section

INTRODUCTION FOR NOVICES

The opening chapter of the *Proceedings*, "An Introduction for the Absolute Novice", provides general information to the computer novice and a resource for educators who will introduce new users to computers. Three separate papers introduce the computer novice to the historical development of the computer, a basic explanation of "computerspeak", and a general overview of potential applications for microcomputers.

Jo Murray's "Everything You Never Wanted to Ask About Computers Because You Didn't Think You'd Understand It Anyway" gives a summary of the historical events that led us to microcomputers and to the Computer Faire. Murray, who is Suburban



Editor of the *Oakland Tribune*, writes from a non-technical point of view. In an informal style, she highlights major factors in the emergence of today's microcomputer industry from Babbage to Boole to silicon.

Having discovered the roots of this industry, readers can go on to John T. Shen's "Beginner's Guide to Computer Jargon." Shen introduces a basic computer-related vocabulary necessary for finding one's way through any computer store.

Readers in the market for a computer may want to access the applications for microcomputers in their own situation. Robert Moody catalogues the range of possibilities for home and business use in "Introduction to Personal Computing, A Beginner's Approach". Moody gives specific examples of ways that basic computer functions can be applied to new businesses, home entertainment and community organizations.

Proceedings Section

COMPUTERS IN THE ARTS

"Computers in the Arts," a section of the second *Proceedings*, presents three papers that describe the computer as a tool to enhance and personalize artistic expression.

Beverly J. Jones, Ph.D., reviews the history of computers in art from 1945 to the present in "Computer Art and Art Related Applications in Computer Graphics: A Historical Perspective and Projected Possibilities." The paper is a summary of ideas from her presentation at the Faire.

Dr. Jones projects possible future applications of the computer in art, based on current research. These include creating forms to better understand visual perception, creating responsive kinetic sculpture to explore artificial intelligence, and generating images for use in testing and aesthetic response.

Dr. Jones concludes that the microcomputer will offer the public the ability to manipulate and create programs which will allow them to design their own artifacts. This would include not only prints, sculpture, and paintings, but also furniture and woven fabrics.

Microprocessors can also be used to generate music. The "Microprocessor Controlled Synthesizer", by Cesar Castro and Allen Heaberlin, discusses the hardware and software design of a synthesizer which utilizes a standard microprocessor and a relatively simple synthesizer card.

This synthesizer provides high quality sound synthesis, by allowing for up to 32 simultaneous notes to be synthesized. Also, the attack, decay, and steady state amplitude of each note can be controlled. The flexibility of this design is achieved by having much of the processing and control in the software.

Also included with this paper is an appendix which describes mathematical analysis of tone generation.

Byron D. Wagner presents a second application of microprocessors for music in "Designing Your Own Real-time Tools: A Microprocessor-Based Stereo-Audio Spectrum Analyzer for Recording Studios, Electronic Music and Speech Recognition." Wagner, an independent record producer and recording engineer, describes the design, construction, software development, testing, and calibration of a real-time, 1/3 octave audio spectrum analyzer using a color television as a graphic display screen.

Wagner includes a discussion of applications and guidelines for customizing systems to user needs. Software and schematic drawings of hardware are included with the paper.

Proceedings Section

BUSINESS COMPUTING ON SMALL MACHINES

In the section "Business Computing on Small Machines" there are four articles for businesspeople dealing with programming for business, budgeting for maintenance, microcomputer applications in small business, and MICROLEDGER (which is computerized accounting software for microcomputers).

Michael R. Levy is the author of "So You Want To Program For Small Business." Beginning at the beginning, Michael attempts a description of small businesses, and finds he must trust the statistics of the Internal Revenue Service. He then characterizes both the small businessperson and programmers as he has encountered them. Following those not-so-complimentary-but-honest characterizations, he carefully details how to provide programming services to small businessmen. He notes the importance of written contracts as well as step-by-step guidelines in developing the programming service. There are also sections on hardware and software in which Michael comments on problems and limitations of the equipment, including maintenance considerations.

The next article in the section is by Dr. William J. Schenker, M.D., called "Budgeting for Maintenance - The Hidden Iceberg." The title clues us to the main contents of the article. The paper includes lists of some "standard recommendations," the author's observations about them, and some additional "maverick recommendations". Many of these comments advise prospective buyers of computer systems so they can plan their maintenance budgets in advance. One of Dr. Schenker's more interesting pieces of advice is to "buy two of everything!" Completely duplicate your whole system so that in the case of a failure, all you have to do is switch systems or replace the faulty component. He does realize that for many persons, such duplication would be economically impossible. However, many of his "maverick recommendations" make the prospect of buying two sets of equipment not so foolish.

His advice appears, on the whole, quite reliable although even Dr. Schenker realizes that it is sometimes difficult to trust information. He has advice for this problem too. He tells you whom to see for more personalized advice as well as whom to avoid.

One last piece of information that he includes is Cohen's Corollary to Murphy's Law. It ties in well with his comments on purchasing and maintaining computer equipment.

Along similar lines but from a retailer's point of view, Gene Murrow presents a paper entitled "Microcomputer Applications in Business: Possibilities and Limitations." His business, Computer Power and Light, has been installing microcomputer systems for approximately two years. His paper covers four aspects of the experience he has encountered. There is a short description of the hardware they use, some customer "case histories" where they have provided business systems, some of the jobs they turned down, and some of what they consider to be important but often overlooked aspects of microcomputing in business applications.

The last article of this section is called "MICROLEDGER-Computerized Accounting for the Beginner" by Thomas P. Bun. It is a General Ledger system reduced to the absolute essentials. It is written in BASIC, employs only two files (Chart of Accounts and Journal) and runs in 8K of user memory. Thomas states it is designed with the novice computer user in mind and is based on a "foolproof, step-by-step procedure" although familiarity with accounting practices is required.

The article gives an explanation of uses of MICROLEDGER, how it is organized, its restrictions (due to its simplified structure) as well as extensions that can be made to it. The paper's appendix illustrates the system's several different ledgers.

Proceedings Section

COMPUTER CENTERS FOR THE PUBLIC

"Public Access Computer Centers," provides information about two centers currently making computers available to the public.

Jim Dunion describes the role of computer technology at the American Museum of Energy in Oak Ridge, Tennessee, in "Micros in the Museum - A Realizable Fantasy."

Dunion presents a plan to incorporate micros as an integral part of Museum exhibits. This plan includes verbal information systems, electronic bulletin boards, color graphics displays, and the potential for interactive exhibits. The Museum hopes to serve as a community computer resource. To do this, they plan to offer classes in programming, and sponsor various computer-related events.

A second public access computer center is described in "The Marin Computer Center - A New Age Learning Environment." In this paper, Annie and David Fox, co-directors of MCC, describe the philosophy behind this non-profit educational center. In addition, the Foxes present their view on the role of computers as an educational tool.

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Proceedings Section

EXOTIC COMPUTER GAMES

The second *Proceedings* includes a section on "Exotic Computer Games." This chapter contains papers on game design and new game applications.

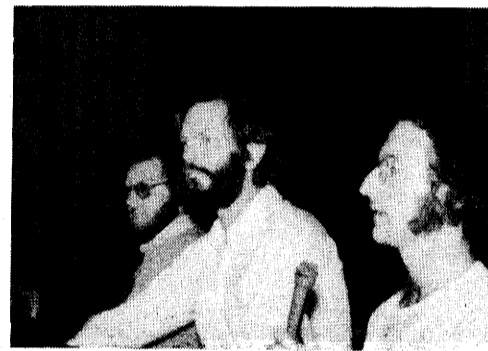
In "Ambitious Games for Small Computers" Larry Tesler presents various simple encoding techniques he and a friend have used to gain more storage on an 8-kilobyte microcomputer. These techniques free up over 1,000 bytes of storage which allow more challenging games to be played on a small machine.

One of the most interesting type of games available is the epic game. More involving than the single-answer game, the epic involves exploring the unknown, facing hazards and finding treasure. In "Epic Computer Games: Some Speculations" Dennis R. Allison discusses epic game design (what makes it interesting), scripting (not programming) and ideas for electronic conflict resolution. Additionally Allison speculates about an electronic novel in which the player is the hero.

Due to the similarity between video game logic and psychological testing logic, microcomputers can be used to test perceptual and cognitive abilities. "Psychological Tests With Video Games" by Sam Hersh and Al Ahumada explains that the low cost, portability, and ease of programming of microcomputers make them useful testing tools.

Hersh and Ahumada describe their testing system including three demonstration tests.

"Exotic Computer Games" also includes a brief abstract: "Create Your Own (Computer) Game" by Ted Kahn. This describes a game-generating workshop held at the Faire.



Proceedings Section

BREWING HOME HARDWARE

In the *Conference Proceedings* section headed "Brewing Home Hardware" Don Lancaster offers an article called "Two Cheap Video Secrets." He explains that cheap video is a collection of ideas that will slash the cost and complexity of both alphanumeric and graphics microprocessor-based video displays. Don notes that the basic idea behind cheap video is to totally eliminate any TVT system timing and let the microprocessor do all the work. He continues to explain that the object is to use both the TV set and the microprocessor with a minimum of modification, putting as little hardware between the two as possible.

He says that there are two secrets involved in cheap video. They are Scan Microinstruction and Upstream Tap. Together they cause the microcomputer to output characters at a rate fast enough for direct video use. How this is done is fully explained in the article and its accompanying charts.

The second paper in this section is by Chuck Hastings and is called, aptly enough, "A Recipe for Homebrew ECL." Emitter-coupled logic is thought to be the "fastest stuff available." Chuck agrees that it is. However, contrary to the popular belief that only large companies with extensive equipment and labs can design with it, Chuck himself accomplished the task of building a system with what he describes as a "well-equipped homebrew lab."

He first explains the results of his own work, and details some of the problem areas. Then, he goes into an extended explanation of how to do it and what to watch for. The title of his paper is accurately reflected by the listing of ingredients he provides and his directions regarding how they are put together.

Apparently a large problem faced by the hobbyist involved with homebrew ECL is the noise created by the equipment itself. Chuck has quite a bit to say about "interconnection practice" which helps keep the logic relatively free of its own noise.

At the end of the article he provides a list of vendors from whom various parts can be purchased, as well as a list of books that can be used in constructing homebrew ECL.

The final article in the section is called "N-Channel Pace 16-bit Microprocessor System" by Ed Schoell of Victoria, Australia. Ed explains that his system was developed to fill the gap between evaluation kits offered by microprocessor chip manufacturers and full-sized microcomputers available from the United States. He explains the components of the kit, its interfaces, and the software details. Ed notes that the 16-bit field has been neglected on a world-wide basis and hopes this will help open it up.

FIRST West Coast Computer Faire CONFERENCE PROCEEDINGS

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Proceedings Section

MICROCOMPUTER APPLICATIONS DISCUSSED

The "Microcomputer Applications" section in the *Conference Proceedings of the Second West Coast Computer Faire* includes a variety of articles. They range from computerized shorthand through handwritten signature recognition, hardware design for consumer research, improving name recognition in video conferencing, applications in intensive care nurseries, to an automated conference mediator.

Professor W.D. Maurer discusses "Toward a Computerized Shorthand System." By computerized shorthand he defines a system with the following components: 1) a language of abbreviations for common English words, 2) a microcomputer program which accepts English words in abbreviated or unabbreviated form and prints them out in unabbreviated form, and 3) a typewriter connected to a microcomputer that can perform the program.

He states that there are many problems to be overcome. For example, traditional shorthand systems are based on sounds rather than words. Thus, to accommodate the computer he had to design a language of abbreviations which then became the shorthand system.

An area where this shorthand system might be employed is described in "Microcomputer Applications in Court Reporting" by Douglas W. DuBrul.

The purpose of this paper is to describe the "ideal" word processing system in order to improve transcript production for court reporters and reduce the cost of computerized data searching for attorneys. One of the important advantages to computerized court reporting is that the attorney himself can make computer searches for key words and phrases he might need in preparing a case.

DuBrul examines existing methods of court reporting and from this overview draws out possible areas where microcomputers could play a role. Using a "Systems engineering" approach, Douglas proposes the components for the system he envisions.

Kuno Zimmerman discusses "Real Time Handwritten Signature Recognition." He sees the need for an accurate, fast and low cost personal identification system increasing steadily in our society. Recognizing the need, several people have approached the problem in different ways, from fingerprinting and voice prints to handwritten pressure and acceleration patterns.

The pressure and acceleration patterns, in other words, how hard one presses the pen onto the paper and how fast one writes, are areas that are very difficult to forge. Kuno presents a review of the products patented in these two areas and then explains his own experiments performed on a system consisting of a graphic tablet, a modified Intel SDK-80, a Datel A-D converter, . . . and an interconnected HP-3000.

"Input Hardware Design for Consumer Attitude Research with a Microcomputer" is an article by Dr. H.P. Munro. He observes that while the system he has experience with is a "university-based social psych communication research lab" used for measuring audience responses to various appeals and messages in an investigation of theories of rhetoric and communication, it could easily be transformed into a consumer attitude research tool.

In this article two areas of interest will be included for the person wishing to use his/her microcomputer for attitude research. They are 1) psychological and statistical cautions which should be employed in order to generate useful and accurate data, and 2) some "how to" suggestions regarding input hardware necessary to implement these cautions.

"Improving Name Recognition and Coordination in Video Conferencing" is the first of two papers by David Stodolsky. In it he explains a computer-based mediation system which can reduce problems of technical and social coordination while lowering costs and improving name recognition. Computers at each video conference site are responsible for camera activation and name display. A program in the main computer is responsible for the order in which speakers are allowed to speak. Details of this system are included in the article.

The second paper by David Stodolsky is entitled "An Automated Conference Mediator." This article complements the previous article. He notes that the central controller is a PDP-8E computer with 4K words of memory, floppy disk storage, and a video compatible display. BASIC is the language utilized for all programs.

David comments that the design objective for the project was, "the creation of a tool for the study of automatically facilitated group interaction, which would not, by its form, induce limitations on group processes."

The final paper in this section is called "The Bedside Microcomputer in the Intensive Care Nursery" by Dr. Robert C.A. Goff. Dr. Goff explains the specific application of a bedside microcomputer in intensive care nurseries where a large mass of information on each patient is processed daily.

SECOND Computer Faire CONFERENCE PROCEEDINGS

Proceedings Section

HIGH LEVEL LANGUAGES & TRANSLATORS FOR MICROS

The *Proceedings* section on "High Level Languages & Translators" contains five papers. The first is a technical paper entitled "A Short Note on High Level Languages and Microprocessors" by Sassan Hazeghi and Lichen Wang.

They note the increasing importance of high level languages in systems software such as compilers, interpreters, operating systems and even assemblers. The article deals, in part, with practical aspects of bridging the gap between high level programming languages and computer hardware. A half-compiling-half-interpreting method is discussed.

They also present a measurement and analysis technique useful when dealing with tight memory situations and the slow speed of a microprocessor running an interpreter. They claim the analysis technique will give a good estimate of timing and storage requirements *before* implementation as well as helping optimize the speed and storage usage of the implementation.

The paper concludes with implementation results of the programming language PASCAL on a family of microprocessors. (Six tables are included for clarification.)

The next article in this section is by Roger Broucke: "Compiler Construction for Small Computers." He describes a simple parsing algorithm that can be used in a compiler to translate complex statements into machine instructions.

He proposes that a simple parser (which could easily be implemented on a mini or microcomputer) is the heart of any compiler. It decomposes the complex statements of a higher level language into small elements and eventually into machine instructions.

Included in the article is a SNOBOL implementation (one page of coding) and three examples of translated statements.

"Table Driven Software, An Example" by Val Skalabrin, describes in detail a Mini Data Base Management System (MDBMS) which can be implemented in any computer language that has the ability to move a contiguous segment of bytes between the data record and a work area. MDBMS is a set of computer programs, user manuals, user training and support which allows the business manager's staff to create, maintain, and add or drop types of information kept in the files without requiring additional Data-Processing Center programming.

William F. Wilkinson discusses "Design Consideration in the Implementation of a Higher-Level Language (Including Details of the Internals of Cromemco 16K BASIC)".

The paper introduces, at a tutorial level, some important considerations that must be weighed in the design of a compiler or interpreter. It also presents techniques employed in various language processor implementations and discusses a successful BASIC language interpreter.

Wilkinson notes that much of the information contained in the article will be of interest to relative novices in the field of system-level programming, and accordingly he includes a "glossary" of terms that might be unfamiliar to some readers.

However, the paper also contains information regarding the internals of Cromemco 16K BASIC which, William observes, will hopefully be appreciated by more advanced programmers.

The final paper in this section is "An Arithmetic Evaluator for the SAM-76 Language" by Karl Nicholas. He attempts to approximate APL in expressing equations while remaining completely compatible with SAM-76. The pages are full of examples and commentary on the SAM-76 language.

Proceedings Section

COMMERCIAL HARDWARE DISCUSSED AT FAIRE

The *Proceedings* chapter, "Commercial Hardware," contains four articles which bring the reader up-to-date on hardware developments for the hobbyist and small business user.

"Interfacing A 16-Bit Processor to the S-100 Bus" by John Walker describes Marinchip Systems' CPU board that allows the Texas Instrument TMS 9900 processor to be used on the S-100 bus. Walker discusses the problems of interfacing a 16-bit processor to the S-100 bus. Focusing on the peculiarities of the bus structure and the solutions to deal with them, he describes performance tradeoffs and compromises made in the design.

The article "Single Chip Microcomputers for the Hobbyist" by John Beaston tells how this new technology allows the hobbyist to experiment with control applications such as burglar alarms, radio controlled models, and ham radio accessories.

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COMPUTER FAIRE

Proceedings Section

HARDWARE & SOFTWARE STANDARDS

Two articles are in the *Conference Proceedings* section headed "Hardware and Software Standards." Tom Pittman, a member of the IEEE Computer Society Microprocessor Standards Committee, presents "Microprocessor Standards -- The Software Issues."

Tom reports that the Committee has been working toward six specific goals, including bus standards and three software areas: floating point, relocatable code, and assembly language. He notes that the Committee has learned not only about the areas under



discussion, but the social and political aspects as well. In the paper, Tom answers the basic questions:

- Why standardize these areas?
- Who is in favor of standardization? Who is opposed?
- Who is doing the work?
- When will results become evident?
- How can microprocessor users help?

He concludes that there *will be standards*. How good they are and how soon they will come depends on the microprocessor community and its collective voice calling for action.

The other article under the "Standards" section is called "Proposed IEEE Standards for the S-100 Bus, A Preliminary Specification" by George Morrow and Howard Fullmer.

This is a sixteen page document completely detailing the IEEE Committee proposal for bus



standardization (as of March, 1978). The paper is a specification for both timing and signal disciplines. "Signal discipline is described using the Bus Master/Bus Slave language associated with Digital Equipment's PDP 11. This point of view facilitated the development of a simple and highly reliable DMA protocol which is perhaps the most important aspect of the standard."

This specification includes Bus Signal Definitions and notes, signal characteristics, timing notes, and diagrams of S-100 Bus timing (Memory or I/O write, interrupt and wait timing, and bus exchange timing). It also covers direct memory access (DMA) requirements, with the use of a chart to show their proposed DMA cycle.

Proceedings Section

HAM RADIO APPLICATIONS DISCUSSED

The *Conference Proceedings of the Second West Coast Computer Faire* includes two articles for amateur radio enthusiasts. Under the heading "Computers in Amateur Radio" Clayton W. Abrams presents "SSTV Generation by Microprocessor" and John L. DuBois offers "A Real Time Tracking System for Amateur Radio Satellite Communication Antennas." Both articles provide extensive technical details, including a number of diagrams and -- in DuBois' article -- a BASIC Program is given.

Clayton Abrams' article discusses his slow-scan television character generation program and focuses on his SSTV picture enhancement program. He comments on noise reduction, contrast enhancement, zoom enhancement, and other useful features. He also includes an example of his SSTV generation in picture form at the end of the article.

John L. DuBois' article, as the title indicates, describes a hardware/software system for pointing an antenna at a polar orbiting satellite such as OSCAR-7, and tracking it during a pass. The program is written in BASIC and does all computations necessary for tracking once it has the pass equator crossing time and longitude. The system uses a S-100 Bus microcomputer. Specified hardware, including A/D (analog/digital) conversion and parallel output for interface with antenna azimuth and elevation rotators is described.

Proceedings Section

THE VISUALLY HANDICAPPED & MICROCOMPUTERS

The *Proceedings* section on "Computers for the Visually Handicapped," contains five papers which detail systems currently in use to aid blind and partially-sighted individuals.

Microcomputers can aid the blind in determining computer responses. Robert S. Jacquiss, Jr., in "Microprocessors in Aids for the Blind", gives an overview of the use of braille terminals, the Optacon, closed-circuit television magnifiers and speech output devices in allowing blind and partially-sighted persons to receive the same information as sighted co-workers. Jacquiss points out that the cost and size of braille books can now be reduced by storing them on data cassettes.

"The Design of a Voice Output Adapter for Computers" by William Jolitz further details how microcomputers can aid visually handicapped programmers. Based on DEC LSI-11 microcomputer and VOTRAX VS-6 synthesizer, the system enables the visually handicapped person to use an HP 9825A desk-top calculator. Jolitz states that voice synthesizers overcome the limitations of braille systems, and that microcomputers have made the necessary hardware for this affordable.

Microprocessors are enabling the blind to determine machine response and thereby compete with sighted workers as telephone operators. Receiving visual cues as spoken words is the key. Susan Halle Phillips explains the design and operation of a system which allows blind telephone operators to use a TSPS (Traffic Service Position System) console in her paper, "Development of Prototype Equipment to Enable the Blind to be Telephone Operators." TSPS is used by long distance operators. The design of this equipment to allow TSPS to be used by blind operators has resulted in two persons being placed within the Pacific Telephone System.

The inability to receive visual cues not only limits the blind in employment opportunities, but also in general mobility. Carter C. Collins, et al, discusses "Blind Mobility Studies With A Microcomputer." The study uses an ultrasonic locator system to evaluate the effects of sensory aids, i.e. a tactile imaging device. The study shows that optical information received through sensory devices can contain enough information to permit the blind to avoid obstacles and to increase their mobility. The paper includes a description of the tracking device, the obstacle course and an artist's conception of the 1024-point fully portable electrotactile mobility aid used for the study.

Telesensory Systems, Inc. is a company that has used microcomputers in the design of sensory aids for the handicapped. J.S. Brugler describes five of these systems in "Microcomputer-Based Sensory Aids for the Handicapped." Included are descriptions of SPEECH, a talking calculator for the blind, and Crib-O-Gram, a device for screening hearing loss in newborn babies.

Proceedings Section

WRITING ABOUT COMPUTERS FOR FAME & PROFIT

Three articles highlight the *Proceedings* section called "Writing About Computers".

Ted Lewis begins the section with a short article titled "Becoming A Successful Writer About Computers." He gives several basic concepts which appear useful to guide the beginner to a clear expression of ideas. His article, in its own clear presentation, appears as an example of what he is expressing.

A paper by Douglas J. Mecham discussing "Writing a User's Guide", digs into the specifics of clear writing for computer documentation. He begins his discussion at a general level noting that the best idea in the world is not worth much, unless it is communicated and used. Similarly, the key to effective use of any computer system is good documentation, so that the user, at any point, can know exactly where he is at, how to move ahead, and how to extract himself from any problem that might arise.

Through the use of eight sub-headings Douglas carefully and clearly gives the writer a guide for writing good documentation. He directs his documentation to the user and bends everything toward facilitating their use of the computer. Many detailed hints are included that he feels are necessary for writing clear documentation. His ideas complement the next, more technical, paper.

Richard Nelson provides a detailed description of "Editing and Publishing a Club Newsletter." He takes the approach of someone considering starting a newsletter. He examines the pros and cons of becoming an editor and delves further into concrete details involved in publishing a newsletter. Sections on deciding on a format, preparing the text (including typing and photographs), paste-up techniques, printing, mailing, and finances are included.

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BLOCK STRUCTURED LANGUAGES FOR MICROS

Four articles make up the *Conference Proceedings* section titled "Block Structured High Level Languages for Microcomputers". The first is called "Algol-M, An Implementation of a High Level Block Structured Language for a Microprocessor-Based Computer System" by Mark S. Moranville. He describes the design and implementation of the Algol-M programming language. Mark says the implementation is made up of two subsystems: a compiler which generates code for a hypothetical zero-address machine and a run-time monitor which executes the code. He notes that the system was implemented in PL/M to run on an 8080 microcomputer in a diskette-based environment with at least 20K of user storage.

Mark comments on software, the objectives of Algol-M and special features of Algol-M. He also includes a short history of Algol, as well as a section on implementation with charts and benchmark programs to illustrate the structure of Algol-M as compared to BASIC.

Thomas W. Crosley discusses "SPL/M--A Cassette-Based Compiler." SPL/M is a subset of PL/M which was created in order to fit the one-pass compiler into the author's system, (which has 20K of RAM and two cassette decks). He explains the origins of SPL/M as well as the implementation of the language with sections on parsing, symbol table routines, error handling, and code generation. Several pages of SPL/M grammar are included as well as example compiler output.

The next paper, "An Experimental PASCAL-like Language for Microprocessors" is by H. Marc Lewis. It describes an experimental, high level language oriented to microprocessor use. Marc notes the design criteria included modest memory requirements (less than 16K), self-compilation, simplicity, reasonable access to hardware features, and ease of extensibility. The program structure, data declarations and control structures are described in the paper accompanied by examples. An appendix gives a formal description of the language through the use of syntax graphs.

Chip Weems presents the last paper of this section entitled "An Introduction to Programming in PASCAL." This paper, in the form of a tutorial, concentrates on the use of PASCAL at the beginner's level. Chip notes that a minimal knowledge of some other programming language is assumed.

Areas covered in the paper are simple and structured statements in PASCAL, simple and structured data types, and procedures and functions. In Part I Chip asks "What is PASCAL?" and proceeds to answer the question by beginning with "historical perspectives." Part II is a summary of PASCAL statements with examples. There is an appendix in which he includes a listing of machines on which PASCAL has been implemented, as well as information about the PASCAL User's Group.

Proceedings Section

FOR COMPUTER CRAFTSPEOPLE AND BUSINESSPEOPLE

Three articles form the section "For Computer Businesspeople & Craftspeople." They basically deal with setting up a computer business, whether it is a manufacturing company, a retail computer store, or a consulting service.

Don Dible, in his article "Money For Your Business--Where To Find It, How To Get It" discusses financial resources for the beginning entrepreneur. He considers the shortage of capital one of the most frequent and most severe problems facing new businesses. Thus he examines and explains several sources of capital. Along with listing sources he includes a section called "Economizing" in which he tells how to cut costs in some areas of a business.

Thomas S. Rose, who apparently has faced many of the initial problems in starting a business, presents a paper called "Selling Your Hardware Ideas: How to Start and Run A Manufacturing-Oriented Computer Company." After a blanket statement advising against starting this kind of a business, he explains some of the details involved. He notes that one must first consider the chances for success. The variables he used for making this decision are listed. If one is still not discouraged, Thomas goes on to discuss financing, relations with the government (from licensing agencies, to the IRS), production hints, marketing systems, accounting, and ethics.

The final article is an abstract of a panel discussion entitled "Bringing Your Computer Business On-Line." Stephen Murtha, Elliott MacLennan, and Robert Jones participated, considering many of the aspects of starting a computer business. They first discussed the form the business should take. The four forms -- one of which the beginning businessperson can choose -- are: The sole proprietorship, the partnership, the Subchapter S corporation, and the Subchapter C corporation. They were explained with regard to legal and tax complexities. The abstract also discusses making a business plan and briefly comments on financing the young business.

FAIRE PANEL PARTICIPANTS OFFER TAPES OF "FUTURE DEVELOPMENTS IN PERSONAL COMPUTING"

The panel on "Future Developments in Personal Computing" at the Second West Coast Computer Faire was filled to the doors (and into the hall!) with people eager to hear the prognostications of the five panel members: Adam Osborne, Portia Isaacson, Ted Nelson, Dick Heiser, and John French.

The crowd was so enthusiastic that the participants decided to tape the session (for which no formal paper had been prepared) and make it available after the Faire. Those cassettes are now available from Dick Heiser's Computer Store, 820 Broadway, Santa Monica, CA 90401 (213) 451-0713. The cost for two cassettes in a plastic binder is \$9.95 plus \$1 handling charge plus California sales tax if you reside in California. They ask an additional \$0.85 if you want the cassettes shipped COD. For further information contact Dick Heiser at The Computer Store.

ACM SEEKS NOMINATIONS FOR ANNUAL GRACE MURRAY HOPPER AWARD

News Release Dated: 78 Mar 1

The Association for Computing Machinery is seeking nominations for its Grace Murray Hopper Award, given each year to the outstanding young computer professional selected on the basis of a single recent major technical or service contribution to the computer industry. In order to qualify, candidates must have been 30 years of age or less at the time the qualifying contribution was made.

The Award will be presented at the opening session of the Association's Annual Conference on December 4, 1978, in Washington D.C. The Award is in the amount of \$1,000, donated by the Univac Division of Sperry Rand, and is accompanied by a certificate.

"Clearly, the award that had the biggest effect on my life," said Grace Murray Hopper recently, "was the first one I received, when I was young. It told me that someone was looking at my work and evaluating it. It encouraged me tremendously; it was like a pat on the back. That is what I hope this ACM award will do. I hope it will lead people to look at and appreciate all of the fine work the young people in the computer field are doing — in business data processing, in personal computing, in medical applications of computers, and so on. I hope it will say to the young people, 'You have done a good job, you are in the right field, keep going!' Further, I hope this will encourage our senior people to look at the work of their juniors and recommend that they be rewarded for their achievements. If the Award does that, I will be very happy."

While the Award is given to the outstanding young "computer" professional, emphasis for the 1978 award will be placed on contributions in the fields of business data processing and personal computing. The Committee felt that these fields have not been adequately rewarded for outstanding contributions in the past.

The last three winners of the Grace Murray Hopper Award are: Edward A. Shortliffe, for his development of a program that consults with physicians about diagnosis and treatment of infection; Allen L. Scherr, for his pioneering study in quantitative computer performance analysis; and George N. Baird for the development and implementation of the U.S. Navy's COBOL compiler evaluation system.

Nominations, which may be made by the nominees themselves, should be sent to:

Richard G. Canning
Chairman, ACM Grace Murray Hopper Award Committee
925 Anza Avenue
Vista, California 92083

In order to be considered for the 1978 Award, nominations should be received by Mr. Canning no later than June 30, 1978.

Please include the following information:

1. Name, address, and phone number of the person making the nomination.
2. Name, address, and phone number of the nominee.
3. A statement (200 to 500 words) on why the candidate deserves the Award describing the contribution.
4. The date of birth of the nominee and the date on which the qualifying work was completed.

Proceedings Section

MAJOR DISCUSSION OF COMPUTERS IN EDUCATION NOW AVAILABLE

The *Proceedings* chapter, "Computers in Education" includes seven articles that describe computer activities currently taking place in schools, and presents guidelines for developing computer curricula for pre-college education.

William J. Wagner calls for the need to expand student audiences in his paper "Micro Computers in a High School — Expanding Our Audience." Wagner explains that all too often computer courses are aimed only at "computer hotshots" and "the good students in math and science." He sees a need for computer activities aimed at various levels of student ability and interest.

Wagner describes the computer program at Mountain View High School in Mt. View, California where he is a teacher. He relates how the program got started, its curricular offerings and discusses the hardware in use.

Two articles in this part of the *Proceedings* describe comprehensive computer programs suitable for use in secondary schools. In "A Comprehensive Computer Science Program for the Secondary School Utilizing Personal Computing Systems," Melvin L. Zeddies describes a computer curriculum that can be incorporated into the coursework of any school. Zeddies proposes a computer science department for a secondary school. His proposal includes hardware and software necessary, course titles, descriptions, outlines, and suggested references.

"Microprocessor Computer Systems Uses in Education" by Robert S. Jacquiss calls for long range planning. Jacquiss believes the computer can be a teaching tool in most subject areas. His paper describes what is needed to implement a program, and the potential problems. Jacquiss summarizes his paper in a twelve point ideal computer system from the user standpoint.

Don Black has written two papers on implementing computer programs in the classroom. "Introducing the Computer to the Schoolroom" describes Black's own experiences. He sets forth a strategy for implementing a computer program and outlines specific learning applications. His second paper, "The Computer In the Schoolroom" goes beyond the preceding introduction and describes the parameters of an adequate system. Black discusses both hardware and software appropriate for schoolroom use. He includes an appendix, and the pilot language syntax.

Richard Harms' paper, "Learning With Micro Computers" describes how CAI can be successfully used to individualize learning. Harms points out that with CAI, "individual learning paths are developed" as students work with materials at their own rate.

A second description of computers meeting students' specific learning needs is found in "Back to Basic (Basics)" by David M. Stone. Mr. Stone tells how computers can be used as a practice tool to help students learn arithmetic computation skills. Each student can work on his/her own level. The computer then provides a print-out of the results for the teacher. This way the child's progress can be monitored.

One of the most popular applications of computers is games. However William P. Fornaciari, Jr. feels that computer games can jeopardize the integrity of a computer education program if students are allowed or encouraged to play the same game over and over. In "Education or Recreation: Drawing the Line" he asks "How much is enough?"

Fornaciari offers a description of the computer center he has developed as a model for encouraging a problem solving focus by students.

Proceedings Paper

ISAACSON DISCUSSES FUTURE OF "DINKY COMPUTERS"

Portia Isaacson's banquet address, "Dinky Computers are Changing Our Lives" appears in the *Proceedings*. Isaacson calls this the "age of abundant computers." Computers can now be found in cars, sewing machines and typewriters. Computers are a part, or are becoming a part, of our daily lives.

The new dinky computers make computer power available to a broad spectrum of people and institutions. Isaacson states, "Computers will be used in old ways by people and businesses who couldn't afford them before, and in many new innovative ways that we couldn't even have thought of before."

These new uses will affect business, government, individuals, and the computer industry itself. Isaacson describes applications for small computers in each of these areas and discusses the implications resulting from their implementation.

Within the computer industry dinky computers mean less demand for large computers. This will result in "distributed computing" as the nature of data processing centers changes.

While Isaacson admits new access will open negative as well as positive options for computer use, she remains highly optimistic. Accordingly she states, "we've only glimpsed the brave, new world being created by dinky computers."

ACM SPONSORS CONFERENCE ON HISTORY OF PROGRAMMING LANGUAGES

News Release Dated: 78 Feb 28

A History of Programming Languages Conference, sponsored by ACM Special Interest Group on Programming Languages (SIGPLAN) will take place at the Hyatt House Hotel at the Los Angeles International Airport on June 1-3, 1978, which is just prior to the 1978 AFIPS National Computer Conference in Anaheim, California.

The purpose of the conference is to create a permanent historical record of the significant events that created the need for the development of the individual languages, of the environment in which decisions were made, and of the rationale behind the decisions which led to the particular language style. In selecting those languages to be discussed, it was decided to limit the choice to those that were deemed most significant *and* which were developed and in use by the end of 1967. The criteria for choosing the languages to be included are the following (not necessarily in order of importance, nor required to have each one apply to each language):

- Influence on language design
- Overall impact on environment
- Novelty (first of its kind)
- Uniqueness
- Usage

It should be emphasized that this is *not* a conference on the entire history of programming languages. Rather, it is a significant attempt to provide an appropriate technical historical written record for the early aspects of the selected languages.

At least one key contributor to the *original technical* development of each language will present a paper on the language and participate in discussions. The languages selected, and the speakers who have agreed to participate, include:

ALGOL (58,60) - Al Perlis, Peter Naur; APL - Kenneth Iverson; APT - Douglas Ross; BASIC - Tom Kurtz; COBOL - Jean Sammet; FORTRAN - John Backus; GPSS - Geoff Gordon; JOSS - Charles Baker; JOVIAL - Jules Schwartz; LISP - John McCarthy; PL/I - George Radin; SIMULA - Kristen Nygaard; SNOBOL - Ralph Griswold. The keynote speaker will be Captain Grace Murray Hopper.

The Chairperson of the conference is Jean E. Sammet (IBM); she is also serving as the Program Chairperson. J.A.N. Lee (VPI & SU) is the Administrative Chairperson. The members of the Program Committee are Tom Cheatham (Harvard U.), John Goodenough (SofTech), Henry Ledgard (U. Mass.), J.A.N. Lee (VPI & SU), Barbara Liskov (M.I.T.), Bob Rosin (Bell Labs.), and Henry Tropp (Humboldt State U.).

The emphasis of this conference is on high technical quality in presenting the historical information. One method being used to assist in achieving this will be to provide each speaker with a series of questions, the answers to which will hopefully be contained somewhere in the written paper.

The papers written by the invited authors will be distributed as preprints at the conference as an issue of SIGPLAN Notices. A final edited proceedings will be published separately after the conference.

Attendance will be open up to the capacity of the facilities on a first-come, first-served basis. Advanced registration is strongly recommended. General information can be obtained by writing the PubCity Chairperson — Billy G. Claybrook, Department of Computer Science, Virginia Polytechnic Institute and State University, Blacksburg, VA 24061 (703/951-5420). Hotel and registration information can be received by writing Horrie Ratkevich, Ground Systems Group, Hughes Aircraft Corp., 1901 West Malvern, Mail Drop 606-K126, Fullerton, CA 92634.

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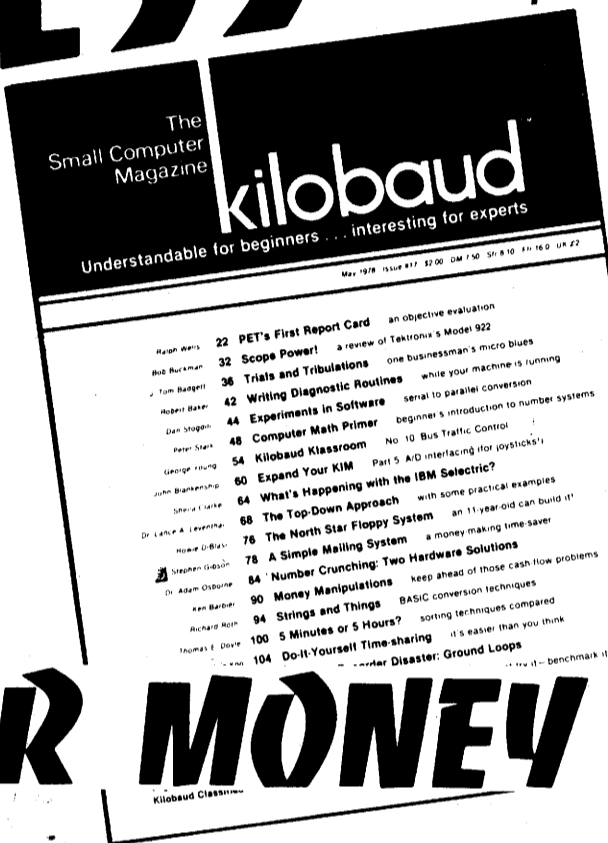
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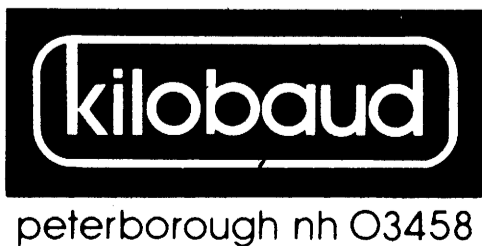
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RESULTS OF THE FIRST MICROCOMPUTER CHESS TOURNAMENT

Larry Wagner, Tournament Director

For the two and a half days of the Faire, a little less than a dozen microprocessors (and their memories, I/O, power supplies, etc.) along with their programmers competed in a computer-versus-computer Chess Tournament. This was the first Computer Chess Tournament without terminals and telephone hookups to remote machines whose value could be measured in millions of dollars. The most expensive computer entered cost around \$6000 while the lowest cost entry was a "homebrew" box containing \$85 worth of parts. When it was all over, SARGON, a program for a Z-80, developed by a husband and wife programming team, finished in First Place with a convincing 5 wins out of 5 games played.

After the field of entries was established, the class structure was defined to be:

- Class A Microcomputers with 8K or more of memory
Class B Microcomputers with less than 8K of memory
Class C Programs running in BASIC

The prize certificates were awarded by the class, however, all the entries were played against each other. As the tournament progressed, adjustments in the rules and scheduling were made. During the first day, two of the programs running in Basic could not keep up with the time control of 50 moves in 2 hours. It was decided that they would play each other in a single 9 hour match on the second day, while the other competitors were playing in two 4 hour matches. Several matches had to be restarted due to loss of power when someone pulled a plug by mistake, or the realization that there was a notation misunderstanding, or for undetected move-entry errors.

We noticed that the machines had a tendency to make repeated moves or perpetual checks even when they were significantly ahead in material. In order to prevent these games from resulting in a draw, we allowed the programmers to adjust the machines to increase or decrease the look-ahead level or response time to try and get out of these "lockup" situations.

At the conclusion of the computer-versus-computer tournament, Alan Benson, Senior Regional Vice President of the United States Chess Federation and ICCF Postal Master, played a simultaneous exhibition against all the computers (and a few humans too). We have printed several of the game scores with Alan's chess commentary. Anyone interested in present and future developments in Computer Chess should subscribe to the "Computer Chess Newsletter" by contacting the editor, Doug Penrod, 1445 La Cima Rd, Santa Barbara CA 93101.

Microcomputer Chess Tournament Final Results

Table with 11 columns: No., Entrant, Rounds Played (1-6), Points, Class-Place. Lists 11 entrants and their performance across rounds.

Notes- W= Win, L= Loss, D= Draw, (and number of opponent)

The scheduling would only allow 3 or 4 games for some entrants

* These games were decided by the time control forfeit.

** A 1/2 point bye was given here.

Proceedings Section

A PERSONAL COMPUTER NETWORK

After the First West Coast Computer Faire, the PCNET committee was organized to build a personal computer network. This year's Proceedings contains three articles by members of that committee in a chapter titled, "Communications Networks and Personal Computers."

Mike Wilber offers "A Peek Behind the PCNET Design." This paper describes the organization of PCNET and its groundrules. Wilber states that PCNET attempts to offer useful communication techniques to the hobbyist community. Its design includes simple, inexpensive implementation, and room to add new features as advanced facilities develop.

"Communication Protocols for a Personal Computer Network" by Ron Crane provides the details of the design and implementation of PCNET. The protocol hierarchy contains five levels of protocols for both hardware and software which allow for communication from one user program computer to another.

The protocols are explained from a second perspective by Robert Maas in "PCNET Protocol Tutorial." Maas' explanation is aimed at persons planning to write their own software. He describes the function of each of the five layers, as well as the internal working of the program. Also included is a reference to additional papers about PCNET.

Proceedings Section

THE LAW AND HOME COMPUTERS

"Legal Aspects of Home Computers," a chapter in the Proceedings, reviews the patent and copyright system as it applies to personal computing.

In "Personal Computing and the Patent System" David B. Harrison discusses the need for patent and copyright laws to foster and promote progress. He sees these laws as encouraging inventors and authors to disclose their ideas thereby making advances such as personal computing technology possible.

Harrison discusses the difference between patents and inventions, requirements for patentability, and the relationship of patents to copyright and trade secrets. He also reviews procedures for obtaining licensing and enforcing patents.

Kenneth Widelitz summarizes the application of copyright laws to software in an abstract of his presentation at the Faire, "Copyright and Software: Some Philosophical and Practical Considerations."

Widelitz points out that when copyright laws are applied to software, certain philosophical issues emerge. Is a program a writing and/or a mechanical device? When is a copy of a program made? Is a program based on a previous program a derivative work?

Widelitz also discusses the implication of the Copyright Act of 1976 when copyright laws are applied to software.

Details of plays and contestants will appear in future issues of the Gazette.



1. KLEINROCK QUEUEING SYSTEMS JULY 10-12, 1978 WASHINGTON, D.C.

2. ABRAMSON SATELLITE DATA COMMUNICATIONS JULY 17-19, 1978 WASHINGTON, D.C.

3. KLEINROCK-FRANK-ROBERTS EXPERTS ON NETWORKS (1-Day Registration Available) JULY 24-26, 1978 ATLANTA, GEORGIA

4. LUCKY-GREEN DATA COMMUNICATION SERVICES AND PROTOCOLS AUGUST 24, 1978 LOS ANGELES

5. DENNING PERFORMANCE EVALUATION AUGUST 14-16, 1978 BOSTON, MASS.

6. KLEINROCK COMPUTER NETWORKS AUGUST 21-23, 1978 CHICAGO, ILLINOIS

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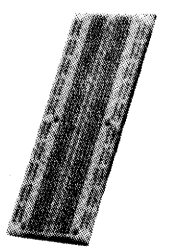
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continued from page 1

participants in its computer related projects last year. The focus of the Computer Education Project directed by Arthur Luehrmann is to get people actively involved. Gone are the museum days with "please don't touch the exhibit" signs. LHS wants you to touch and offers everything from single-visit workshops to a full schedule of classes for adults and children, individually and in groups. The course offerings range from basic introduction and exploration to programming in BASIC and PILOT. Additionally, individuals may rent computer time for the very low rate of \$1.50 per hour to do anything they want.

LHS serves as a classroom for over 25 elementary and secondary schools in the Bay Area and has 60 time-sharing computer ports in 40 schools. Schools lease the equipment and time-sharing services of ~~time sharing computer ports in 40 schools. Schools lease the equipment and time sharing services of~~ three minicomputers, thereby allowing them to offer classes within their own curriculum on their own campuses.

LHS's move into the community also includes a special project at the California School for the Deaf in Berkeley and a planned teacher training course to be offered next Fall. Both programs work with teachers to provide initial instruction and follow-up support to work out any specific problems the teachers may encounter as they develop in-school com-

puter curricula.

The Marin Computer Center

Under the direction of David and Annie Fox, the Marin Computer Center opened in September, 1977. Located in San Rafael, MCC offers a chance for people and technology to get together in a low-key, open, exploratory environment. David and Annie come from non-technology backgrounds—his counseling and hers education—and they emphasize the learning that goes on through exploration.

The Center is equipped with nine Processor Technology Sol computers and an Equinox 100 with Northstar floppy disc. The equipment serves groups and individuals who come to the Center for field trips, programming classes in BASIC or rental time available on an hourly basis for individual projects or games.

Using microcomputers allows MCC to go into classrooms. To date, classes outside the Center have been elective classes. School districts wanting to rent equipment can do so on a month-to-month or yearly basis.

While the current focus of MCC is on computers, the purpose of the Center is to include all kinds of technology. At present, text editing and some printing services are available as well as color video equipment and an Advent video projection system which can be rented on a daily basis. David Fox sees ham radio equipment and bio-feedback set-ups as possible future additions to the Center. Additionally, the center plans to serve as a clearinghouse for software and hardware. In exchange for software, they will test it and give feedback to its authors. They are also willing to serve as distributors for software, making it available for purchase on cassettes.

The Lo*op Center & Community Computer Center

Due to decisions to change directions, the Lo*op Center in Cotati and Community Computer Center in Menlo Park, have closed their storefront operations. Lisa Loop, the Lo*op Center's Director, is now working on curriculum. Joanne Verplank of CCC is writing about using computers, and consulting on various computer education programs. While in operation, Lo*op Center and CCC offered the same kinds of programs LHS and Marin offer today—rental time on machines, games, programming and computer awareness classes, on-site programs at area schools, and teacher support.

Making Computer Centers Work

Joanne Verplank offers some insight into the problems facing computer centers developing programs in schools. The most obvious problems are cost and time. It was not practical for CCC to take its mini-computer equipment into a school on a short-term basis. The programs were limited by such things as having to move equipment from the Center to schools and from school to school, limited numbers of available phone lines, excessive numbers of students at one time, and having to work within the constraints of the school schedule. For any program to be successful, hands-on experience is a must, and if a machine is only available for a short period of time with 15 to 20 students trying to use it, the results are frustrating. The availability of a Center where students can use a machine independently or with a friend is ideal, but here accessibility (otherwise known as transportation) becomes a problem, especially for younger children.

Lisa Loop feels more public school teachers would be willing to take on computer education projects if better materials were available. She is currently working on a computer package which would include teacher's manual, a listing of community resources available to supplement the program—e.g. suitable fieldtrips and speakers—software to go with a micro-processor, and a program learning text. The materials would be appropriate for 4th grade through adult students and would essentially be teacher independent. While this type of package may be inviting to hesitant teachers, there is a need to gear programs to meet specific needs of the individual students and learning programs. In her own teaching, she gears programs to the level of "machine sophistication" of the students she is working with. She stresses the need to be aware of the students and to be sensitive to their interests and limitations.

Arthur Luehrmann's focus on curriculum is much broader at Lawrence Hall of Science. One plan for a future LHS project is to develop a 9th grade curriculum suitable for adoption by any school district. The curriculum would use a non-numeric approach, focusing on problem-solving and procedures using graphics and words. This would enable students to view the machine from a broader perspective than the math orientation usually associated with computer education.

A second project awaiting funding is directed

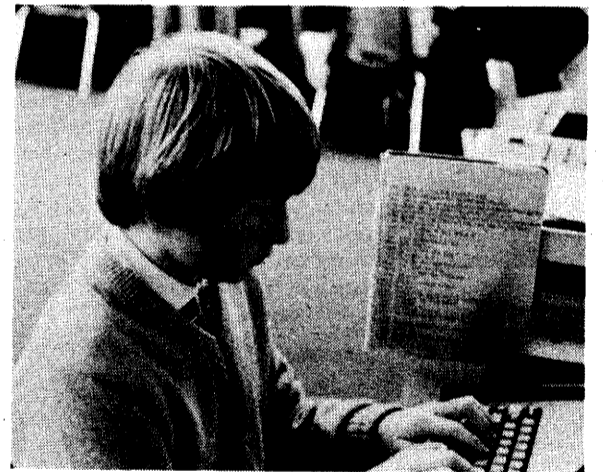
toward women re-entering the job market. The program would seek to train the women in computer programming through a nine month course. It would include not only class instruction at LHS, but also would place a microcomputer in each student's home. This would allow unlimited access to the computer so that students could develop confidence in using the machine, as well as confidence in their own ability to work in a technological field. Without leaving their home, women with families would gain a highly marketable skill and perhaps alter their role within their family at the same time.

Computer Education for the General Public

As it stands today, most computer education going on in public schools is grassroots. Individual, interested teachers are developing their own programs, seeking assistance in some cases from existing computer centers, but generally winging it on their own. Many are able to use gifted education funds from the state to cover program costs, but this limits the programs in terms of the kinds of students involved.

To date, no school districts have implemented a district-wide computer education program and—given the financial crunch most districts find themselves in today—the funds that would support developing this may or may not become available. Luehrmann sees the necessity for federal and state entitlement funds to make such programs a reality, and that will take education at a different level—demythifying computers and establishing computer literacy as a necessary basic skill, not simply a frill.

The future of the public access computer centers in the Bay Area is uncertain. Two storefront operations have closed in the past year while a new independent center has opened, and one program in a large educational and research institution remains strong and growing. Their survival and growth may well depend on their ability to convince the public schools that computer literacy is a necessary skill. That will take time and an awareness on the part of schools that ignorance of computers limits students abilities to get jobs, enter specific career fields, enter certain areas of study, and deal efficiently and effectively with their world. Until that happens, public access computer centers are providing a source of innovative programs for teachers to draw on, and a community classroom where people can structure their own learning.



BAY AREA COMPUTER CENTERS

Marin Computer Center
70 Skyview Terrace, Room 301
San Rafael, CA 94903
(415) 472-2650

Lawrence Hall of Science
Computer Education Program
University of California
Berkeley, CA 94720
(415) 642-1238

CENTERS OUTSIDE THE BAY AREA

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Portland, Oregon

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Los Angeles, CA

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Failure Analysis

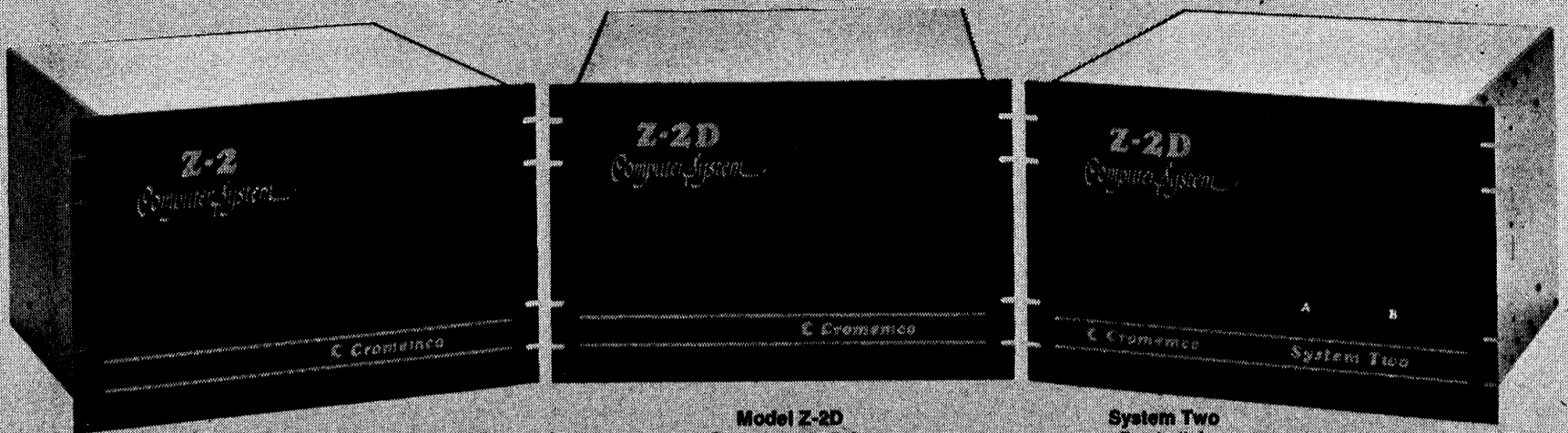
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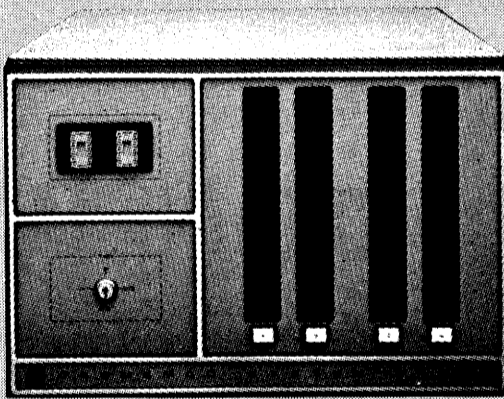
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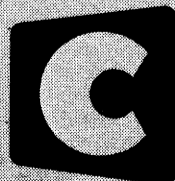
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