TIME SENSITIVE!
concerns August 26-28 computer convention

ADDRESS CORRECTION REQUESTED

Bulk Rate
U.S. Postage
Paid
San Jose CA
Permit 2196

SILICON GULCH GAZETTE

No. 37, July, 1983 | 345 Swett Road | Woodside, California 94062-9990 | (415)851-8437

Typesetting on Microcomputers Using TEX

The logical extension of word processing software is software to do typesetting, and a few simple programs have recently been marketed. In general, however, they are "toy" programs, meant strictly for simple typesetting projects such as correspondence.

Now, Tyx Corp. and Unidot, Inc. announce the release of TYXTEX, the 16-bit version of TEX, the revolutionary typesetting software developed at Stanford University by Don Knuth. TYXTEX is fully compatible with Stanford TEX and runs under the Xenix operating system.

According to C. Gordon Bell, VP of Engineering at DEC, "...TEX is potentially the most significant invention in typesetting in this century. It introduces a standard language for computer typography and in terms of importance could rank near the introduction of Gutenberg press."

TYXTEX is available for the IBM PC, Victor 9000, and DEC Rainbow.

In addition to the TEX program, the product includes macro sets to easily implement common typesetting formats, digitized type font families, "TEX for Beginners" documentation, and perhaps the most interesting feature, a "soft proofer" program which allows the user to preview his typesetting on the screen. The version on the screen exactly duplicates output from a high quality output device.

TYXTEX has strong page formatting capability, so a user may automatically paginate his text, or choose double or triple column output, to his own specifications. Users may define their own macros, allowing infinite flexibility for various projects. It is a superior system for mathematical and technical typesetting.

Doing your own typesetting can project a professional image, give you control of your documents, eliminate expensive revises, and save you money on printing and mailing costs.

Software is available to print the typeset files on various output devices such as the Autologic Micro 5, Canon LBP-10 laser printer, and Epson MX80.

Tyx and Unidot will be providing output service of the device independent files which TYXTEX produces for a minimal fee on the Autologic Micro 5, high resolution professional phototypesetting equipment, so professional output is now possible for the single user, small or large company, without the $10-70K plus expense of typesetting equipment.

TYXTEX retails for $2495.

For further information, contact: Tyx Corp., 11250 Roger Bacon Drive, Suite 16, Reston, VA 22090, (703)471-0233 or Unidot, Inc., 568 Weddell Drive, Suite 4, Sunnyvale, CA 94089, (408)745-0505.

First IBM PC Faire to be '83's Largest PC Event

The First IBM PC Faire, focusing on the IBM Personal Computer and PC-compatible products, is expected to be the largest such event of this year. Approximately 90% of its 550+exhibit booths have already been rented by over 300 companies, including IBM's 8-booth island exhibit displaying its latest products and enhancements.

A broad range of speakers have submitted papers for the Technical Conference, with more Conference sessions being organized, daily. Over 60 speakers are expected to make presentations at the IBM PC Faire.

IBM's PC MANAGER DISCUSSES FUTURE

Don Estridge, the Vice President of IBM's Systems Products Division, and – as General Manager of the group responsible for the IBM PC – the prime mover behind IBM's phenomenally successful entry into the personal computing market, will be one of the key speakers. He will discuss trends in the future of personal computing and of IBM's activities in this area.

INTEL's MICRO MANAGER SHARES VIEWS

David House, Intel's Vice President and General Manager of the Microcomputer Group will be another key speaker at the IBM PC Faire.

COINVENTOR OF THE MICROPROCESSOR INVENTS AGAIN

Dr. Federico Faggin, the coinventor of the microprocessor while at Intel, later the founder of Zilog, and now President of Cygnet Technologies will introduce a major enhancement for personal office computing at the PC Faire – a highly integrated voice/data/graphics system that works with the IBM PC and other microcomputers. This product appears likely to be a major development in microcomputing.

IN-DEPTH SEMINARS & TUTORIALS

The First IBM PC Faire, an event organized exclusively by Computer Faire, will take place in San Francisco's 4-story Civic Auditorium plus the adjacent Brooks Hall and San Franciscan Hotel. Preregistration is available from a number of stores in and out of the Bay area. On-site registration is $18 and covers all three days of the exhibits and Technical Conference.

The PC Faire will include 10 in-depth seminars covering a variety of topics including the very popular, "How to Select a Personal or Business Computer." PC World is offering full-day "Micro Ease" hands-on tutorials, familiarizing new users with the IBM PC and related products. (There is an additional charge for these half-day and full-day seminars and tutorials.)

Conference Session

IBM PC Design Group to Address Product Producers & Entrepreneurs

A key group of technical specialists from IBM's Personal Computer facility in Boca Raton will provide an in-depth discussion of major technical aspects of the IBM PC at the August 26-28 Faire. Still being finalized at press time, the speakers in this program will be key engineering and software professionals and managers affiliated with the PC product line.

They will discuss details of the hardware, software, and interfaces for the PC. They will also detail the entrepreneurial opportunities and submissions program for the IBM-run PC Software Library.

This is a technical session for serious computer professionals and entrepreneurs who are knowledgable of the IBM PC and are interested in developing hardware and software for the PC market.

The 1st West Coast
IBM PC Faire

SAN FRANCISCO CIVIC CENTER • AUGUST 26-28, 1983

Friday, August 26, 9am-6pm
Saturday, August 27, 9am-6pm
Sunday, August 28, 10am-5pm

$18 Registration (No checks or charges at the site)

Pre-registration available at participating stores & clubs
Registration includes Conference Program & Exhibition for all 3 days

Computer Faire, Inc. **570 Price Avenue** **Redwood City CA 94063** **(415) 364-4294**

Take the next step.
If you can use a word processor,
you can do your own typesetting.

Announcing:

TYXTEX

TYXTEX is the 16-bit version of TEX, the revolutionary typesetting software developed at Stanford University by Don Knuth. TYXTEX is fully compatible with Stanford TEX and runs under the Xenix operating system.

Advantages:

You do the keyboarding and save on typesetting costs.

You save on paste-up costs, since you can typeset copy in final layout form.

You control the proofing and editing of your documents.

You preview the typesetting **on your screen**, as it will appear from the output device, thus eliminating expensive revises.

Your documents create a professional image.

You save on paper, printing and mailing costs, since typesetting reduces the bulk of documents by 50 percent or more.

Available for:

IBM PC, Victor 9000, DEC Rainbow

Package includes:

TEX program. Lets you choose typefaces, page format, do ruling. TEX is also superior for mathematical and technical typesetting.

Digitized fonts.

Macro sets–Use as is to create typeset documents, or modify for your special needs.

Soft proofer software–allows you to preview typesetting on your screen.

Drivers available for Canon LBP-10 Laser Printer, Epson MX80 and others.

Documentation includes "TEX for Beginners".

Best of all:

If you don't happen to have a $60K phototypesetter in the office, use our output service. For a small fee, we'll run your typeset files through high resolution professional phototypesetting equipment (Autologic APS Micro 5). Modem service available (Tyx Corp., Reston, VA or Unidot, Inc., Sunnyvale, CA), or bring us the floppies.

Call today for more information or an appointment to see the system in action.

UNIDOT

568 Weddell Drive, Suite 4, Sunnyvale, CA 94086, (408) 745-0505

Pepperdine University to Participate in $8-Million IBM Computer Literacy Program

Pepperdine University is one of only 12 institutions nationwide to be selected as teacher training centers in an $8-million computer literacy program sponsored by IBM.

Pepperdine has been designated by IBM to lead teacher training programs for educators at seven Los Angeles area high schools. Participating schools will send three to five teachers to Pepperdine University Plaza in Los Angeles, where the University has a fully equipped computer laboratory and electronic classroom.

Each participating training center and secondary school will receive 15 IBM Personal Computers as part of the computer literacy project. The Educational Testing Service of Princeton, New Jersey will assist Pepperdine faculty and staff with training and coordination.

The purpose of the program, announced IBM earlier this month, is to help participating secondary schools receive the maximum benefit from the introduction of computers into their school curricula.

For further information, contact: Patti L. Yomantas, Pepperdine University, Office of Public Information, 24255 Pacific Coast Highway, Malibu, CA 90265, (213) 456-4138.

Conference Session

Davong Multilink Local Area Network

"Davong Multilink is a state of the art microcomputer local area network. It allows up to 255 IBM PC's, IBM XT's, Apple IIs, and other plug compatible computers to be connected, communicate and share resources over a network," explains Tim Lundeen, Vice President of Software Engineering for Davong Systems, of Sunnyvale, California. Lundeen will speak at the First IBM PC Faire in San Francisco in August, on the topic "Davong Multilink Local Area Network."

Lundeen will describe the Davong Multilink network from the viewpoint of a network user and also in terms of applications program development. His talk will include a summary of network software implementation strategies and a discussion of network performance considerations.

Explains Lundeen, "Network hardware uses token passing to control access to the network, transmits data at 2.5 megabits per second, and allows up to 20,000 feet between any two work stations. Network software provides a sophisticated, high performance, yet easy to use environment for network users and application program developers."

"The network user environment provides shared hard disk resources, printer spooling and electronic mail facilities. Any microcomputer (except AppleIIs) connected to the network can be used as a combination workstation, network fileserver, and print spooler, all at the same time."

Lundeen's remarks will be included as part of the printed *Proceedings of the First IBM PC Faire*, to be available at the show.

Billion Dollar Market for Educational Software

Future Computing Incorporated has announced the availability of its most recent publication – *Personal Computer Educational Software Market Report*. The *Educational Software Market Report* offers insight into the market windows for the emerging educational software market. Future Computing forecasts that this market will reach $1 billion by 1987 which represents a compound annual growth rate of 71 percent from the 1982 market of $70 million. In units, the 1982 educational software market was 2.4 million; in 1987 this number will be approximately 34 million. At the present time, the school educational software market is the dominant market, but the rapid growth of computers at home will change this.

Future Computing forecasts that approximately 70 percent of this billion dollar educational software market will go to homes. This growth will be spearheaded by a new breed of games – games that will both entertain and instruct. In addition, these new games will appeal to wide bases of people. The school educational programs, on the other hand, will be 'vertical' with a narrower focus and audience. As a result, this market is more limited than the home educational software market.

Present market opportunities are abundant. Future Computing's publication provides the data and trend analysis necessary to take advantage of this market.

Within the market analysis, the report profiles present activities of educational software publishers, pacesetting school systems, and hardware manufacturers. Examples of schools profiled include, among others, Bellflower, California, Minnesota Educational Computer Consortium, and District 22, New York. Over 35 trendsetting software publishers are profiled including Control Data's Plato; textbook publishers such as Scott, Foresman and Company, Addison-Wesley, and McGraw-Hill Inc; and software companies that publish educational software exclusively such as Conduit, Educational Software, and Micro-Ed. Major hardware manufacturers' activities specific to the educational software market are also reviewed and analyzed.

Moreover, the *Educational Software Market Report* analyzes the dramatically growing market for educational software used with computers in the home. Dr. Juliussen, Chairman of Future Computing Incorporated states, "The acceptance of home computers by American consumers is spawning a large demand for educational software. Parents see the home computer as an excellent tool for their children. This trend will increase as more families purchase computers for home use."

Dr. Portia Isaacson, President of Future Computing Incorporated adds, "The demand for educational software is growing and will continue to grow for some time. For software authors and publishers, opportunities are excellent today because the market is relatively new. And there are opportunities in all segments of the market – from science to logic to basic arithmetic."

Personal Computer Software Educational Market Report includes a VisiCalc model of Future Computing's forecasts for the educational software on a 5 1/4" diskette. The model requires 256K with an IBM PC or PC compatible VisiCalc and operates on the IBM PC, Compaq, and Columbia Data Products MPC.

The report is available from Future Computing Incorporated for $1195.

Future Computing Incorporated, founded in 1980 by Dr. Portia Isaacson and Dr. Egil Juliussen, is a Dallas based market research firm dedicated exclusively to the personal computer industry.

For further information, contact: Future Computing, Inc., 900 Canyon Creek Center, Richardson, TX 75080, (214) 783-9375.

Diskette Conversion Utility Links IBM PC Mainframes

MicroTech Exports, Inc. has produced a version of its Reformatter Conversion Software that allows the IBM Personal Computer configured with an 8" add-on drive to read and write diskettes in the various IBM mainframe formats.

Using Reformatter, data can be transferred between the PC and larger systems by simply exchanging diskettes.

Other versions of Reformatter Conversion Software are available to run under CP/M and MP/M-80, CP/M and MP/M-86, TRSDOS, CROMIX, and MS-DOS.

For further information, contact: MicroTech Exports, Inc., 467 Hamilton Ave., Palo Alto, CA 94301, (415) 324-9114.

The Silicon Gulch Gazette
produced by Wireless Digital, Inc.
345 Swett Road
Woodside, California 94062-9990

Distributed compliments of Computer Faire, Inc., 570 Price Avenue, Redwood City, CA 94063, (415) 364-4294.

circulation:
3-7 issues per Computer Faire event
300,000-500,000 copies per Faire

editor:	Jim Warren
production:	Jeannie Ditter
	Julie Clements
typesetting:	Unidot
	Nancy Bentley
	Vicki Rupe
operations:	Bruce Quinn-Briggs
	Judy Smith
	Mike McDermott
facilities:	Lee West
	Larry Dean
Video Initiative:	David Carlson
	Dave Ratto

For free subscription or extra copies:
Silicon Gulch Gazette
345 Swett Road
Woodside, CA 94062-9990

The IBM PC Faire

550 Exhibits by 300 Companies
Hardware Services
Software Instruction

Full 3-day Conference Program
Tutorials for Novices
Technical Talks for New Users
Product Discussions & Presentations

10 In-Depth Seminars
How to Select a Computer
Detailed Applications Tutorials
Valuable Reference Materials
(extra fee for seminars & hands-on seminars)

and

Plan to attend *PC World's* "Micro-Ease" Hands-on Seminars

Conference & Exhibits: $18 for all 3-days
door prizes including an IBM PC
San Francisco Civic Auditorium & Brooks Hall
August 26-28, 1983
9am-6pm (Fri & Sat) 10am-5pm (Sun)

an independent event by Computer Faire, Inc., 570 Price Avenue, Redwood City, CA 94063, (415) 364-4294

Computer Faire Becomes Prentice-Hall Company

Computer Faire of Woodside, California, has recently been acquired from Jim Warren by Prentice-Hall, Inc., one of the nations' leading publishers of computer books and software, educational text books, and business information services.

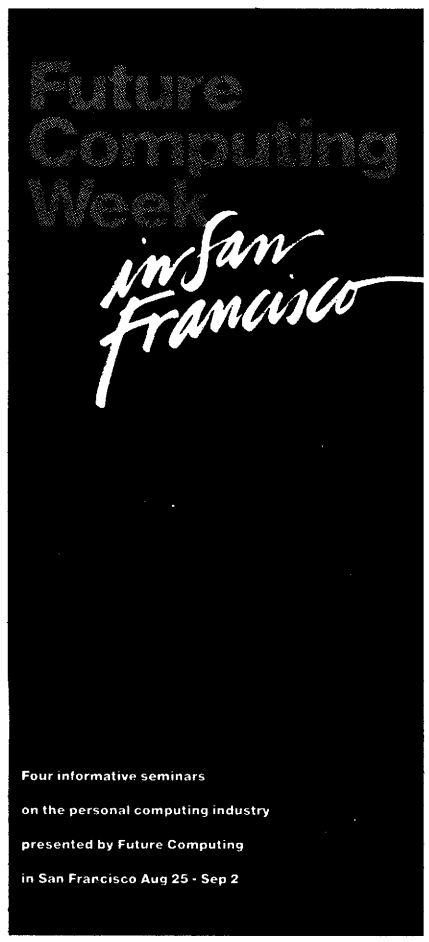
Computer Faire is the sponsor of the annual West Coast Computer Faire and currently the 1st IBM PC Faire taking place August 26 - 28, 1983, in San Francisco.

Founded in 1976, Computer Faire expositions have become the nation's largest microcomputer trade shows for end users. The expositions, regularly held in California, will be expanded by Computer Faire, Inc., a subsidiary of Prentice-Hall, to other United States locations to offer seminars and exhibits to a greater number of microcomputer users.

Jim Warren will serve as Conference Chair for the 1st IBM PC Faire, and also continue with Computer Faire, Inc. as a key consultant.

David Sudkin has joined Computer Faire, Inc. and is the General Manager of the 1st IBM PC Faire. Mr. Sudkin, with over 20 years experience in the computer industry, has been active in BOSCOM, AFIPS, and with the Interface Group, as well as holding key marketing positions with several companies within the industry.

Computer Faire, Inc. has announced that over 70% of the exhibit space for the 9th West Coast Computer Faire in March, 1984, has already been taken by about 250 companies.



This brochure gives you one of the best reasons yet to go to San Francisco. It's Future Computing Week, August 25 through September 2.

Four of the most informative seminars on the personal computer industry you'll find anywhere will address critical issues and forecast future trends in this volatile marketplace:

- □ IBM PC Market and PC Technology Day
- □ Second Annual Home Computer Market Forum
- □ The Software Store Business
- □ The Computer Store Business

And we've made San Francisco even better. A special package price is available to those who attend all four seminars. Call us at 214 783-9375 for a brochure of your own with complete information.

Of course, there are other good reasons to go to San Francisco. But this one is good for business.

FUTURE COMPUTING INCORPORATED
900 Canyon Creek Center
Richardson, Texas 75080
Telephone 214 783-9375
TELEX Number 80-4294

Micro Movers Movin' On

by Jim Warren

In the past two weeks, I have been interviewed by no less than three writers, doin' articles or books on the "history" of our micro madness and Sillycon Valley. Gasp! In this racket, apparently one can become an ol' timer in less'n nine years.

Since so many writers think there is an interest in such micro mush, I tho't I'd print some of the observations I offered to them. Who knows – it might even enhance the possibility of being quoted accurately – an unusual event in my experience. (To give earned praise: The few articles I recall that accurately reflected my comments were in the *Wall Street Journal*, *Forbes* – which even phoned for verification prior to going to press, and David Tebbutt's article in England's *Personal Computerworld*.)

There are a number of other industry elders – some even over 30 years of age – who are also changing ventures. Like a sudden swarm of starlings, a whole flock of us seem to be movin' on to new adventures at the same time. I suppose that shouldn't really be surprising – after all, we go through entire generations of hardware every coupla years, so why should mindware be any different?

To paraphrase animal writer Earnest Thompson Seaton, I'm going to discuss some wild entrepreneurs I have known, who are making major changes. (I shall, however, attempt to avoid waxing eloquent on the subject; anyway, I'm never sure whether to first polish the tusks, or the trunk.)

FEDERICO'S FOLLIES

It is appropriate to start with Federico Faggin. Federico is one of the three individuals named on the patent for the first microprocessor – Intel's 4004. (The other two are Stan Mazor and Ted Hoff.) Faggin did all of the logic and implementation for three of the 4004 "family" chips. (Ted and Stan did the architecture.)

Next, DataPoint came to Intel asking for a 16-bit stackchip. Mazor suggested that Intel do the full CPU for DataPoint (such utter folly – thinking one could put an entire CPU on a single silicon wafer). They settled on doing so calling it the 8008, using about 85% of the DataPoint-specified instruction set (now we know who to blame). For this, Faggin was the Project Manager (Hal Feeny did the design and implementation.)

Federico then became project head

(continued on page 9)

Homebrew Computer Club Meets August 17th at Stanford

The Homebrew Computer Club is the first microcomputer group to be organized in the U.S. It is still meeting, monthly. Its next meeting will be in Stanford Medical Center's Fairchild Auditorium, August 17th, 7:30-10:30pm. For further information, write HCC, P.O. Box 626, Mountain View, CA 94042.

Meetings are open to all interested parties without cost or obligation.

Conference Session

Tactics for the Computer Widow(er)

"It is ten o'clock. Do you know where your computer junkie is? Of course. You can hear typing and mumbling coming from the 'computer room'. In fact, you can hear typing and mumbling most of the night. What is it he/she is working on? You were told in detail at one time but remember only fragments of the one-sided conversation."

That is the setting for Diana Randle's talk at the IBM PC Faire, titled "Tactics for the Computer Widow(er)." In her talk she will also review the symptoms of computer junkies.

"The outward symptoms include general confusion ('What day is it?'; 'Where did I leave the checkbook/sandwich/car/baby?'; 'You mean to say that the recital/graduation/wedding/birth was last week?'), single-mindedness ('I don't have time to worry about your labor pains/arrest right now; I've just got this thing working!'), and over-rated successes (Eureka, an anthill!).

Her paper will be included in *The Proceedings of the First IBM PC Faire*, available at the show in August.

Conference Session

Microcomputers – Teaching the Teachers

"The first step in computer literacy must be with the teacher," say Alan C Elliott and H.L. Gray, of Southern Methodist University, in Dallas, Texas. Elliott and Gray will speak at the First West Coast IBM PC Faire. Their talk will be titled "The Future of Learning by Computer in School and Industry."

They will be discussing the use of computers as learning tools, and will specifically examine the role of the CALL Language, a tutorial language and authoring system for instructors, as implemented on the IBM Personal Computer.

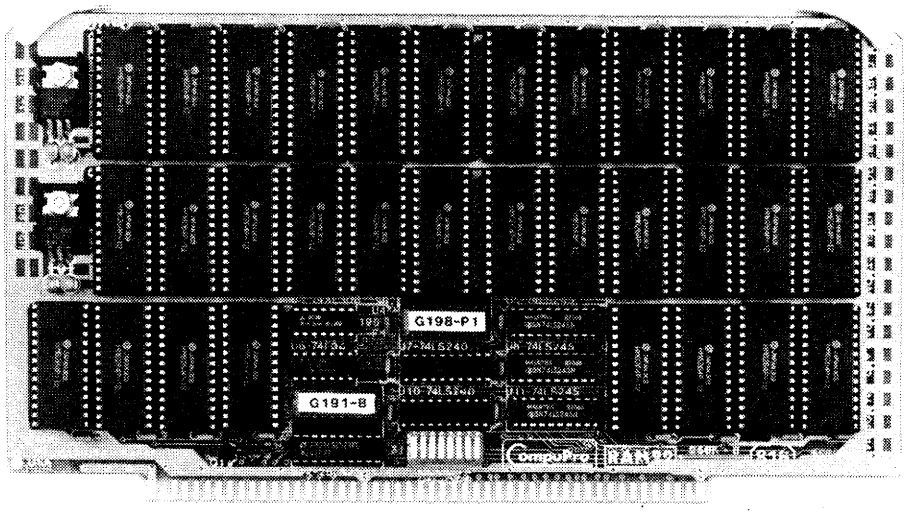
Conference Session

Using Computers to Help Teach Computer Science

"Using Computers to Help Teach Computer Science" will be the topic of Barry Kurtz at the First West Coast IBM PC Faire. Kurtz is a faculty member in the Computer Science Department of San Francisco State University. He received funding from the National Science Foundation to develop computer based simulations to help teach some of the more difficult subjects in lower division computer science.

All work was done on IBM Personal Computers using the UCSD P-system. Kurtz will describe the actual design and implementation of the project, some problems encountered, and plans for future developments.

High Speed RAM Board



A high-speed, low-power static RAM board compatible with both 8- and 16-bit computer systems has been introduced by CompuPro.

The RAM 22 provides up to 256 Kbytes of non-volatile storage addressable as either one 256K x 8 or one 128K x 16 block. Operating at 12-MHz with 8086- and 8088-type CPUs, the board requires approximately half the power of dynamic RAM equivalents – less than four watts is typical at nominal 8 bus voltage.

Meeting all IEEE 696/S-100 bus specifications for compatibility in both 8- and 16-bit computers, the RAM 22 performs both 8-bit byte and 16-bit word transfers. Also, the fully static design of the RAM 22 eliminates the timing problems in DMA transfers normally associated with dynamic memories.

The RAM 22 has a suggested list price of $2,495 and is covered under CompuPro's 18-month end-user limited warranty. A 36-month warranty plan is available on the Certified System version that is priced at $2,695.

For further information, contact: Jeff Swartz, vice president, corporate communications, CompuPro, 3506 Breakwater Court, Hayward, CA 94545, (415) 786-0909.

CP/M 86 to PC DOS and Back

Now users of 16-bit microcomputers can run software written for both the most popular operating systems on a single microcomputer with the new "OS Converter," introduced by Dynamic Microprocessor Associates (DMA).

The "OS Converter" permits PC-DOS (MS-DOS) object code to run on CP/M-86 microcomputers and enables CP/M-86 object code to run on MS-DOS systems. Use of the "OS Converter" involves no loss of speed.

"With the concurrent popularity of both MS-DOS and CP/M-86, many programs are available for only one operating system," noted Howard Radin, president of DMA. "The 'OS Converter' will enable users of either operating system to run most software designed to run on the rival system."

The "OS Converter" will permit users to run such programs as MicroSoft Basic and Fortran, Digital Research Pascal and other language compilers, as well as utilities like MicroSoft Assembler and Linker.

The new program operates by loading a target program into memory and creating the environment that the program expects. There is no interpretation of instructions; the program itself remains in control of operations. The "OS Converter" is 4K bytes in size. When in use, it resides just above the operating system in RAM and enables the program being run to take full advantage of available memory. The "OS Converter" for the IBM PC is supplied with a companion program that enables PC-DOS systems to read CP/M-86 files.

The "OS Converter" for use with either PC-DOS (MS-DOS) or CP/M-86 is available now for $95.00.

For further information, contact: Dynamic Microprocessor Association, Inc., 545 5th Ave., New York, NY 10017, (212)687-7115.

Real-Time Spectrum Analyzer For IBM PC

Ariel has introduced the first in a list of advanced peripherals for the IBM Personal Computer. The Ariel RTA 331 is a 1/3 octave real-time audio frequency spectrum analyzer that plugs into a single expansion slot inside the PC. The Analyzer divides the audio spectrum into 31 third-octave bands from 20 Hertz to 20 kHertz, and interactively displays the relative amplitude of each frequency band. In addition to RTA functions, the unit can convert the incoming audio signal to 8 bit samples and store it in the PC's main memory. With 512 kilobytes of main memory, more that 20 seconds of audio can be stored.Any block of memory can similarly be read out using its 8 bit DAC.

Assembly language subroutines handle all high speed operations. All subroutines are accessed from BASIC so the user can easily create new and specialized applications such as digital signal processing and speech synthesis or recognition.

The RTA 331 costs $650.

For further information, contact: Ariel Corp., 600 West 11th St., Suite 84, New York City, NY 10027, (212) 662-7324.

Software Lets MS/DOS and PC/DOS Users Run CP/M-86 Programs

A new software program for business microcomputers will allow the user of computer equipment, which presently runs on the MS/DOS or PC/DOS operating system, to insert a software disk written for CP/M-86 into the computer and run it.

The new software is called MatchPoint/86. It requires no hardware alteration or conversion equipment whatsoever, and it takes up only 8K bytes of memory space in the computer's random access memory.

MatchPoint/86 was created especially to enable users of MS/DOS and PC/DOS equipment to take advantage of the many business application software programs that are available in the popular CP/M-86 format.

One of the main features of MatchPoint/86 is "FileComingle". It allows the computer user to call for information stored in CP/M-86 format and use it while operating in PC/DOS or MS/DOS style, and vice versa. This data sharing capability makes it possible to run two different operating systems simutaneously.

The MatchPoint/86 software, which works equally well on floppy disks or hard disks, is easy to use. It is not necessary to learn a different operating system. One simply enters MP86 ahead of the program name, and proceeds to run the program in the PC/DOS or MS/DOS environment. When the program is finished the computer automatically returns to its original PC/DOS or MS/DOS operating system.

The publishers of MatchPoint/86 have stated that the new software is also available, under licensing agreements, to software publishers and computer manufacturers. A software publisher could insert it at the beginning of each CP/M-86 program, for example. A computer manufacturer could include it, either in the ROM circuit, or as software furnished with an MS/DOS computer.

For further information, contact: American CompuSoft, 23113 Plaza Pointe Drive, Laguna Hills, CA 92-653, (714) 472-8186.

Conference Session

Microcomputers, McLuhan, and the Mainframe Mafia

Phillips B. Bailey will share some thoughts about "Microcomputers, McLuhan, and the Mainframe Mafia" during the IBM PC Faire in August.

About the microcomputer, Bailey says, " What makes it a threat is its accessibility. Virtually anyone in our society can get their hands on one and learn its secrets if they really want to, whereas very few could learn the secrets of the mainframe. And to get really good at using them will be easier by orders of magnitude. To paraphrase McLuhan, the microcomputer spells the end of the priestly monopolies of knowledge and power in the hands of the Mainframe Mafia."

Educators Found Group for Users of Corvus

The Corvus National Educational End-Users Group, Inc. (CNEEUG), has been formed as a non-profit organization "to collect and disseminate information relative to the efficient use of Corvus computer systems by its members and the educational community," according to Professor Morton S. Lord, president and co-founder of the group.

Aims of the group are: To find, generate, verify and test Corvus compatible software; to publish the quarterly *CNEEUG Educational Journal*; to provide a forum for the exchange of members' ideas and experiences; to provide information on new Corvus products and updates on existing products; to establish an electronic bulletin board.

The organization, which has been incorporated in New Mexico, and qualifies under Section 501(c)(3) of the Internal Revenue Code, is currently conducting an initial membership drive.

According to Lord, membership is open to all public and private educational institutions and organizations associated with education. Institutions with more than one Corvus network or disk system may choose to have single or multiple memberships. Membership fee is $35.

Potential members may get in touch with CNEEUG by writing to the group at 4601 College Blvd., Farmington, New Mexico 87401, (505) 326-3311.

Meeting Someone at the Faire?

Suggestion: Ask friends and associates to meet you in the balcony area of the Civic Auditorium. Specify the left, right, or center section. It has ample seating and overlooks the Civic Auditorium exhibition area.

Note: The public address system is NOT available for paging individuals, except for medical emergencies.

Lost Children & Lost Parents

The Faire is intended for mature individuals. If you take young children to the Faire (which we do *not* encourage), please instruct them to go to the IBM PC Faire office if they get lost.

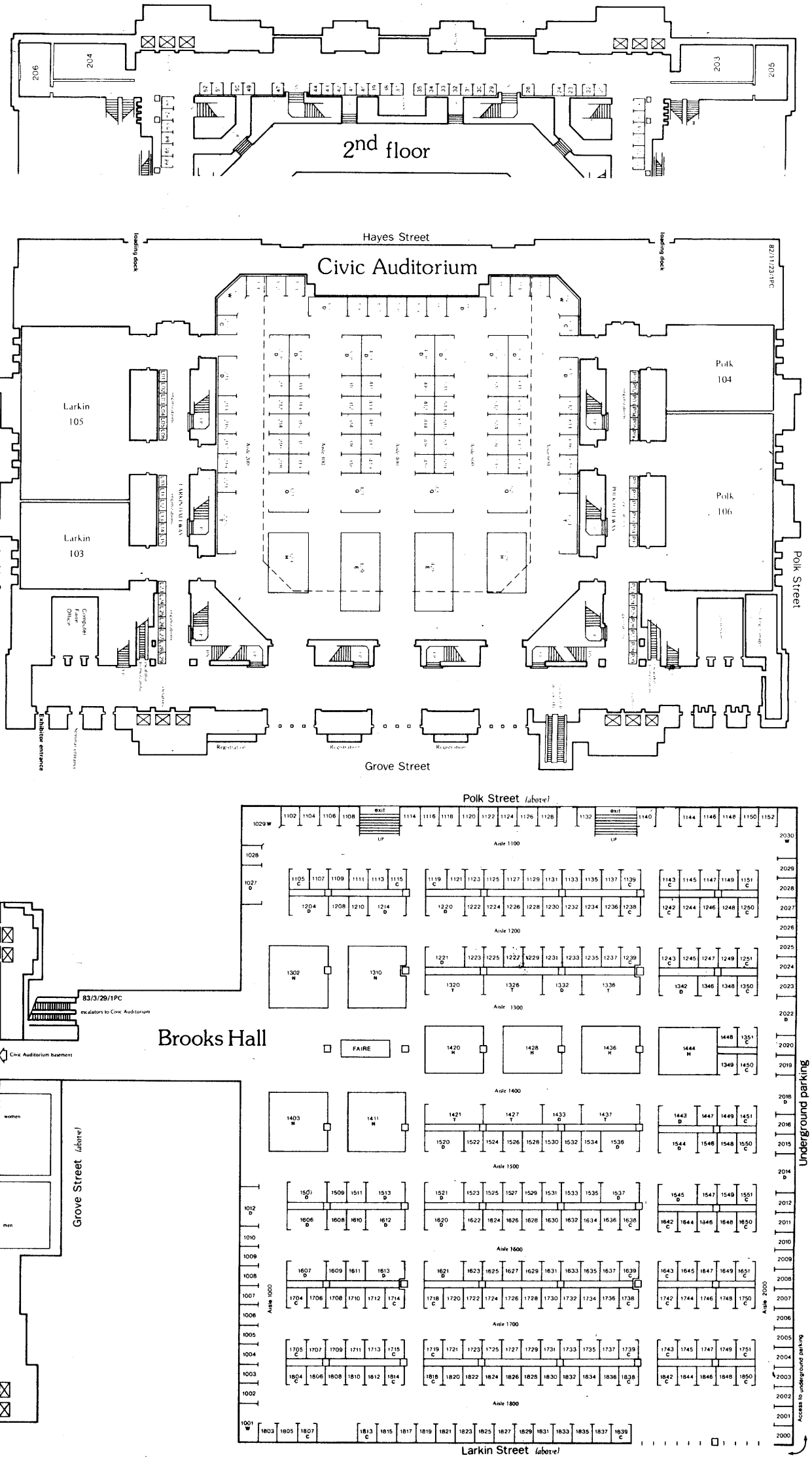
Older children, family, friends & business associates might be asked to meet you in the balcony (left, right or center; seating available overlooking the main arena.)

The Faire will *not* use the public address system to page for lost children or adults.

Regarding Food Concessions

Facilities Management, Inc., under contract to and with the city of San Francisco, exercises exclusive control over the food concessions at the Computer Faire. They control what is offered, when it is offered and what is charged for it. The Faire does not receive any part of the fees paid for concession food and has no say-so regarding food or pricing.

The 1st IBM PC Faire



IBM PC Faire Exhibitors

As of July 7, 1983:

3Com, *1349,1351C,1448,1450C*
3Design, *1639C*
800-Software Inc, *418*
A.I.D.S. Computer Centers, *107*
Abacus Associates, *1028*
Add Mem, *82*
Affordable Software Inc, *109*
Alexander Grant & Co, *1104,1106*
Almanac Computer Supply, *1143C*
American Ink Products Co, *76*
American Training Intl/ATI, *1632*
Anadex Inc, *1513D*
Analytical Engines Inc, *1625,1627*
Anchor Pad of No.Calif, *1733*
Androbot Inc, *1537D,1636,1638C*
Apatov, *1815*
Apparat Inc, *116W*
Applied i, *1208*
Ashton-Tate, *408D*
AST Research Inc, *1436H*
Automated Business Machines Inc, *1251C*
Avalon Hill Microcomputer Games, *1239C*
Axel Johnson Corp, *1633*
BASC, *38*
Bay Area Computer Classifieds, *41*
BDS Corp, *1613D*
Bemis Co Inc, *1231*
Berkeley Microcomputer, *50*
Best Programs, *315*
Bickle Enterprises Inc, *1722*
Bit Software Inc, *1637*
Blaise Computing Inc, *1002*
Bourbaki Inc, *1705C*
Business Comp Sys/Cahners Publ, *317,319*
Businessland Inc, *421Q*
c-systems, *413*
Call Manager Inc, *1609,1611*
Capro Inc, *514,516*
Carousel MicroTools Inc, *115*
Casemaker, The, *39*
Cases Inc, *1814C*
CBS Educational & Prof Publ, *312*
Cdex Corp, *2018D*
Central Point Software, *214*
Chen Information Systems Inc, *414*
Cody's Books, *1427T*
Colby Computers, *1320T*
Columbus Books Inc, *1204D*
Communication Pkg/COMPROMGT, *512*
Communications Packaging Corp, *1612D*
Compaq Computer Corp, *428E*
Comprehensive Software, *103*
Computer Biz Inc, *2022D*
Computer Connection, *1403N*
Computer Discount Products, *1643C,1742C*
Computer Greetings, *94*
Computer-Age, *1803*
Computerland of San Francisco, *609D,508D*
Computing!, *100W*
Comsis, *316*
Concurrent Sciences Inc, *310*
Condor Computer Corp, *517,519*
Connexions, *1743C*
Conographic Corp, *311,313*
Corona Data Systems, *1444H*
Corvus Systems, *329H*
Courseware Inc, *1547*
CPSR, *L29*
Creative Research Systems, *62*
CTS Services Inc, *79*
Cuesta Systems Inc, *1115C*
Custom Computer Furniture, *23*
CXI Inc, *1649,1651C*
Cybernetic Micro Systems, *1535*
Cygnet Technologies Inc, *1544D*
Cypress Software, *1009*
Data Base Decisions, *52*
Data Consulting Grp(Data*Easy), *44*
Datamac, *1027D*
Davong Systems Inc, *1520D*
Desktop Computer Software, *1531*
Diablo Valley PC Users Group, *L25*
Diamond Software Supply, *1530*
Digital Deli Computer Store, *1635*
Digital Marketing Corp, *509D*
Disc Tech One, *1714C*
DisCopyLabs, *1245*
Discortex Corp, *112D*
Durango Systems Inc, *1310N*
Durant Software, *1238C*
Dysan Corp, *1220D*
E/Z Cad Inc, *35*
Eagle Computer Inc, *1411N*
Edick-Gee Computer Covers, *1247*
Emerging Technology, *1210*
Encyclopaedia Britannica Inc, *1642C*
Europro Inc, *89*
Execuware, *1005,1006*
FMJ Inc, *71*
Formaster Corp, *615,617*
Forth Technology, *515*
FRA Inc, *1233*
Guadalupe Associates Inc, *86*
Hayden Book Co, *1533*
Heigen Corp, *64*
Hercules Computer Technology, *1634*
Home Base Supply, *1623*
Houston Inst/Casey-Johnston, *1437T*
I.B.Magazette, *108*
IBM Corp, *429E*
ICCA/Indep Computer Cnslt Assc, *P28*
Individual Software Inc, *1522*
INET Corp, *1350C*
Information Unltd Software Inc, *213,215,217,219*
InfoWorld, *511,513*
Insoft Inc, *611*
Intel Corp, *1528*
Intelligent Technologies Intl, *1147,1149,1151C,1246, 1248,1250C*
Interactive Research Corp, *1608*
Interactive Sciences Inc, *P29*
Interphase Corp, *1242C*
ITM, *420Q*
Jobline, *30*
John Bell Engineering Inc, *419*
John Wiley & Sons, *1527*
JWK Engineering, *77*
Kalki Associates, *42*
Kawa Systems Intl, *210*
Kennen Publishing, *1807C*
Key Solutions, *22*
Lassen Software Inc, *2019*
Lexisoft, *1521D*
Lifetree Software, *610D*
Lightning Software Inc, *1626*
LNW Computers, *612,614*
Logical Systems, *85*
Logitech Inc, *1629*
LPKF Pacific, *21*
MAI Sorbus Service, *211D*
Management Training Systems Inc, *1228,1230*
Marc Software Intl Inc, *1724*
Marina Business Systems, *1606D*
Mark Williams Co, *1536D*
Max Software Publishing, *1336T*
Maxell Corp of America, *1235*
Media Systems Technology Inc, *1012D*
MediSoft, *1525*
Memory Technologies Inc, *518*
MetroSoft Inc, *1725*
Micro Courseware Corp, *1348*
Micro Data Tek, *1838C*
Micro Discovery Magazine, *1545D*
Micro Flash Computer Products, *1551C*
Micro Focus Inc, *624T*
Micro Information Publ Inc, *1706*
Micro Line, *78*
Micro-Tie Corp, *33*
Microcomputer Business Indus, *1332D*
MicroDisk Inc, *1421T*
MicroGraphics Technology, *314*
MicroPotentials, *92*
MicroPro, *221,225T*
Mitsuba Corp, *1534*
Monarchy Engineering Inc, *1243C*
Morgan Computing Co, *205C*
Mountain Computer Inc, *208D*
Mouse Systems Corp, *1620D*
MPA Insurance Services, *66*
Network Inc, *32*
Next Generation Systems, *90*
Novation Inc, *309D*
Number Cruncher Stat. Systems, *40*
Octagon Computer Systems, *616,618,620*
OH SO Softwear, *31*
Olive Branch Software, *29*
Omega Electronics, *43*
Oracle Telecomputing Inc, *16*
Orange Micro Inc, *1736,1738C*
Orion Software Inc, *1810*
Osborne/McGraw-Hill, *416*
Panamax Line Conditioning, *1511*
PC Magazine, *216,218*
PC Supply, *51*
PC World, *1302N*
Peachtree Software Inc, *1820H*
Pencept Inc, *106*
Personal CAD Systems Inc, *1737,1739C*
Personal Computer Age, *1224,1226*
Persyst-Personal System Tech, *1326T,1225,1227,1229*
Phase One Systems Inc, *105D*
Plantronics/Frederick Elect, *520D*
Presta Digital Inc, *1650C*
Price Waterhouse, *1107,1109*
Princeton Graphic Systems, *1342D*
Prism Computer Systems Inc, *410*
Professional Computer Graphics, *1610*
Professional Software Inc, *321Q*
Professional Systems Corp, *1223*
Promedics Data Corp, *1529*
Proper Software, *75*
Protools, *1139C*
Quadram Corp, *1420H*
Que Corp, *1105C*
Quest Computers, *1232,1234,1236*
RAC Computers, *1622,1624*
Raytronics, *1007,1008*
ReadiWare Systems Inc, *412*
Reference Magazine, *1715C*
Renaissance Technology Corp, *1102*
Reston Publishing Co Inc, *613*
Robert J. Brady Co, *1523*
Rogue River Software, *1707*
Roland Corp US, *1607D*
RTCS/Real Time Comp Science, *510*
S.V.C.S., *L23,L24*
Santa Clara Systems Inc, *1621D,1718C,1720*
Satellite Software Intl, *212*
SBT Corp, *1804C*
Screen Data Corp, *1842C*
Sensor-based Systems, *621D*
Sentinel Computer Products, *1628*
Sigma Designs Inc, *619,2006*
Simple Software Inc, *63*
Softalk Publishing Inc, *1704C*
SoftCraft Inc, *84*
Softsel, *1813C*
Software Connections Inc, *2014*
Software Galore, *1346*
Software Magic, *43*
Software Options Inc, *47*
Software Publishing Corp, *1507D*
Sorcim Corp, *528H*
Stacey's Books, *1524,1526*
Stanford Bookstore, *1221D*
Strategic Simulations Inc, *1010*
Sunol Systems, *102*
Sure-Wing Systems, *91*
Switalski Computer Supply, *87*
Symmetric Software Inc, *1447*
Synamyn Software, *80*
Tall Tree Systems, *1509*
Tallgrass Technologies Corp, *1428H*
TechArt Associates, *37*
Tecmar Inc, *409D,308D*
Televox, *26*
TexaSoft Inc, *411*
Time Arts Inc, *1630*
Transformation Technology, *24*
Tymes & Assoc, *34*
Type Source Inc, *49*
Ulka, *1631*
United Computer Corp, *110*
Urban Pacific Data Services, *95*
User's Guide to CP/M, *101*
USI Computer Products Div, *1433D*
USUS, *P23*
Uveon Computer Systems Inc, *318*
Vertex Systems, *1532*
VisiCorp, *1237*
Wadsworth Electronic Publishing, *415*
Wood & Clay Hi-Tech Gameware, *417*
Woodpecker Mfg, *1546*
Word Associates, *93*
Xor Corp, *1443D*
Xycor International Inc, *81*
Zencom Inc, *61*
Zenith Data Systems, *1108*

Optical Memory Could Make Today's Information Storage Obsolete

Reprinted with permission from Input, Mountain View, CA.

Imagine a plastic card, about the size of a standard credit card, containing the equivalent of 8,000 pages of typewritten text: 40 million bits of information.

Imagine the *Encyclopedia Brittanica*, complete with illustrations, encoded on something the size of a phonograph record.

Or imagine the entire contents of the National Archives stored in a 10'x23' room.

These and other marvels of information compression only hint at the potential optical memory systems have for changing present methods of information storage and retrieval. Input, a Mountain View, California-based research firm, explores the changes inherent in this new technology in a report on the "Impact of Upcoming Optical Memory Systems," just released.

Information storage costs are beginning to be recognized as a significant factor in many businesses. Information systems managers have responded by showing interest in such products as the IBM 3850 Mass Storage System and various other magnetic and micrographic devices. Yet, when the costs and information densities are compared, none of the present systems can compete with the potential of optical memories.

The cost of paper is rising, and is projected to continue rising in the foreseeable future, with evident consequences for paper-based office systems.

Magnetic disk memories are declining in cost at a rate of approximately 50% every five years.

Optical memory systems, however, are projected to undergo a sharp drop in price as the technology matures. Input predicts they will be one-tenth as expensive as conventional disk memories by 1986.

The primary influence on the costs of these various systems is the recording density. At present, paper is able to record something less than $1x10^4$ bits per square inch (bpsi), magnetic media can reach $1x10^7$ bpsi, optical disk has $1x10^8$ bpsi, and micrographics recorded on silver halide film has a limit of $1x10^9$ bpsi.

Whereas it is doubtful micrographics will ever achieve this density in usable form, the Input report says, "Rapid development projected during the 1980's will probably see optical technology approach the optical diffraction limit of $2.6x10^9$ bpsi in the early 1990's."

Optical memory systems, in other words, have the potential to be the clear winners in the race to increase recording densities and reduce costs. To quote from the report again, "It seems obvious that by 1986 it will be possible to use optical disks to record - and have available on-line - enormous quantities of data at a very low cost."

For the purposes of its study, Input divided the overall category of "optical memory systems" into seven subcategories.

The first is "Standalone Videodisk Systems," which include a commercially available player, a microprocessor-based keyboard, and a display. These would be used for computer-aided education, point-of-sale credit checking, and storage of published directories.

The second is "Standalone Optical Disk Systems," which include an optical disk drive, display/keyboard, camera/scanner input, and laser printer output. Such systems could be used for archival document storage and electronic filing and retrieval.

The third is "Optical Memory Based Electronic Filing and Retrieval Systems," which would have the same configuration as Category II, except it would support multiple terminals on a local network, and could be connected to other systems. In addition to the uses of Category II, such a system could also control intra-office and inter-office routing of documents and messages.

The fourth is "Integrated Image Processing Systems," which would include hard magnetic disk, optical disk, multipurpose displays and demand printers. Such systems could coordinate data base and image storage management, and integrate word processing, data processing, and electronic filing, in addition to performing the functions of Category III.

The fifth is "Mainframe Optical Disk Storage," which would be used in conjunction with magnetic storage under conventional mainframe operating systems. These systems would provide inexpensive backup for magnetic storage, integrated data and information storage, and storage of documents, images, and very large data bases.

The sixth is "Distributed Information Managers," which would be able to integrate data and information processing independent of the mainframe, provide for information interchange among images, encoded data, and various data bases, and provide an interface with optical systems able to store entire libraries online.

The seventh is "Network Store-and-Forward Reservoirs," which would be embedded in a communications network to facilitate the storage of encoded data, images, and digitized voice and video images.

What these various systems mean for the future can only be guessed at now. Some analysts have compared the advent of optical memory systems to Gutenberg's invention of movable type, or even to the inspiration of that long-lost Egyptian ancestor who first pasted strips of papyrus together. While that remains to be seen, certainly present information storage systems will be greatly affected.

One result of the switch to optical memories will be a more rapid decline in the resale value of nonoptical memory systems.

Others will include the gradual demise of computer-assisted micrographics systems, followed by paper-based filing systems and, ultimately, magnetic disk memories. As storage costs take up a larger share of systems costs, it will become increasingly difficult to justify less cost-effective storage systems. Input predicts that paper-based systems will, eventually, be used only for small personal files.

And the effects of this new technology will probably not stop at the office door. The demand for photocopies should be greatly reduced. The printing industry will feel the pinch of inexpensive non-paper-based information transfer. With the advent of network store-and-forward optical systems, and the possibility of sending large amounts of data over broadband communications networks at low cost, the overnight delivery services will also begin to feel the crunch.

If the potential of the technology can be realized, and some of the problems hampering its implementation solved, optical memory storage could mark a fundamental change in man's 5,000-year history of record keeping.

In the surveys Input conducted for the report on optical memories' impacts, the most frequently mentioned problem with the new technolgy was that optical disks cannot be erased. Of course, in the case of archival storage of documents, it can be argued that nonerasability is actually an advantage. Nonetheless, erasability remains a technological hurdle that must be cleared if optical memories are to be accepted in the marketplace.

Error rates in the recording of information remain, at present, unacceptably high for some applications. For some encoded data, an error rate of 10^{-12} (one error per trillion bits written) is necessary. The best error rates achieved so far are between 10^{-5} and 10^{-7}, acceptable for some kinds of image storage. For this problem, the information storage market must compete with the entertainment market. Much of the research and development effort to date has been directed toward entertainment videodisk, where high error rates are acceptable.

Another concern of information systems managers interviewed is the archival life of the disks. An archival life of 10 to 100 years has been claimed for optical media, although many are taking a wait-and-see attitude toward even the lower figure. Ten years compares favorably to the two-year life of magnetic tape, but poorly to the life of microfiche and paper. How optical disks will hold up over time remains an open question.

Input's new study on the "Impact of Upcoming Optical Memory Systems" is designed to help IS professionals get the information they need to grasp the full scope of the problem and begin to come up with answers for their own companies. Other Input reports dealing with related questions are "Residual Value Forecasts for IBM Disk, Tape, and Printer Systems", and "Business Graphics: Boon or Boondoggle?"

For further information, contact: David B. McDougal, Input, 1943 Landings Dr., Mountain View, CA 94043, (415) 960-3990.

Conference Session

Personal Computers Used for Production Testing

For many electronics manufacturers, a personal computer with personal instrumentation can be a cost-effective approach to production testing. Plug-in instrument peripherals, the use of operator-directed test probes, and the programmability of the personal computer provide a flexible, semi-automated test system, capable of being reconfigured quickly and easily. Low equipment cost allows field testing as efficient as that performed at the factory.

At the First West Coast IBM PC Faire, Dave Biggs and Kurt Christner, of Nevada Personal Instrumentation, will discuss "Personal Computers and Personal Instrumentation for Semi-Automated Test Equipment."

Conference Session

PALASM: Doorway to the Silicon Revolution

The PAL family of integrated circuits are chips which can be programmed for special functions quickly and economically, and a new language is being developed to use in the design of PAL systems.

At the First West Coast IBM PC Faire, Vincent Coli and Earle Jennings will discuss the PALASM computer language. Coli and Jennings are applications engineers at Monolithic Memories in Santa Clara, California, where PALASM was developed. Their talk will be titled, "PALASM: Doorway to the Silicon Revolution."

Conference Session

Writing Tutorial for Assembly Language Programs

A tutorial to be given at the First IBM PC Faire will focus on "Writing Maintainable Assembly Language Programs." It will be conducted by Steve Newberry of Protools, Los Altos, California.

Newberry assesed his orientation this way, "My fundamental supposition is that the most promising approach to the reduction of maintenance costs lies in the improvement of both program design *and* documentation, and that this is best achieved by integrating the design and documentation process."

Hazards of CRT's

"Health Hazards of CRT's," a comprehensive bibliography on the issue of workplace health and safety, has just published an enlarged second edition. Data on the effects of computer terminals includes research reports, union demands, medical facts, legislative action, and ergonomic requirements.

The cost is $7.95 prepaid, or $8.95 billed.

It is available from: Ryan Research International, Publications Department, 1593 Filbert Avenue, Chico, CA 95926, (916)-343-2373.

Selling Seven Sickly Soroc's
(IQ - 120's)
Cheap!
Jim (415)851-7075

Conference Session

Typesetting from Disk

At the First West Coast IBM PC Faire Kevin Dwan will discuss the production of computer manuals, and will review common problem areas in documentation preparation. His talk will be titled "Typesetting from Disk."

Dwan will stress the importance of choosing a typesetting vendor carefully. He says,"Documentation itself may be the most important element in making a software sale. In a very real way, your documentation *is* your product.

Dwan's paper will be included in *The Proceedings of the First West Coast IBM PC Faire* which will be available at the show.

Conference Session

Getting Personal With TEX

Now that most users know a word processing program, the next link in the chain is for a user to produce typeset files from text files via typesetting software. At the IBM PC Faire, Robert McClure, president of Unidot Inc., in Sunnyvale, California, will discuss TEX, the typesetting system created by Don Knuth of Stanford University, and Tyxtex, its implementation on the IBM PC.

"Getting Personal With TEX" is the title of McClure's presentation. It will also be included in the *Proceedings of the First IBM PC Faire*, available at the show.

CompuServe Offers Wine Newsletter

Bacchus Data Services' *The Informed Enophile*, a wine advisory newsletter, is now available on the CompuServe Information Service, a nationwide computer time-sharing network. *The Informed Enophile*'s editor, J.D. Kronman, believes his publication to be the first wine periodical to be made available to computer terminals, personal computers and communicating word processors "on line."

The Informed Enophile, now in its fourth year of publication, provides subscribers with detailed tasting notes on recently released wines. The editorial objective is to describe the taste of the wines so that the subscriber can determine whether or not he or she will enjoy trying each wine. Older wines are also reviewed from time to time and there is a "Cellar Alert" section which answers subscribers' inquiries on when to drink specific wines.

The CompuServe Information Service charges its subscribers for "connect time" which is only pennies a minute during the evenings and weekends. There is no additional charge to CompuServe customers when they access the *Informed Enophile* or other wine related information provided by Bacchus Data Services. CompuServe is available through the use of a personal computer or computer terminal, a telephone and modem.

For further information, contact: Bacchus Data Services, 6085 Venice Blvd., Los Angeles, CA 90034. A self-addressed stamped envelope will assure a sample issue by return mail.

Conference Session

Using the PC for 35mm Slide Production

A method to produce professional quality 35mm slides on the IBM PC will be explained at the IBM PC Faire by Chet Sandberg, President of Professional Computer Graphics, Inc., of Palo Alto, California.

Sandberg will discuss some of the basic objectives and considerations for making 35mm slides, the software available, and the hardware necessary for the copying of the slides from the computer to the 35mm media.

"One of the real advantages of using the PC to do the graphic generation is the rapid turnaround and revision capability that is possible," says Sandberg. "In the past, literally weeks could pass while the revisions of artwork took place."

His paper will be included in the *Proceedings of the IBM PC Faire*, to be available at the show.

MICRO MOVERS...
(continued from page 4)

for the creation of the 8080. "Masa" Shima – whom Faggin hired away from a Japanese calculator manufacturer – did the silicon implementation. (Even as late as this, Intel still thought it was selling semiconductors [chortle]. It was a bit later, that they came to realize that they were really selling Essence of Computer.)

Following the Silicon Gulch tradition, Federico and Masa spun off from Intel and created Zilog. With Faggin as potentate, Masa did the design for the Z-80 and Z8000 (though Masa left prior to the debugging of the Z8000; he's now with Intel-Japan) and created one of Intel's strongest rivals.

Now, Federico's at it, again. As Prexy of his new Cygnet Technologies (Sunnyvale, California), he has created an office workstation that tightly integrates computing and communications – for voice, as well as data, text and graphics! Sadly, a nondisclosure agreement prohibits telling any of the important stuff (but, Famous Faggin will tell all at the IBM PC Faire in August). Suffice it to say – Faggin Flies Again!

[The historical notes, preceeding, are compliments of Stan Mazor.]

GREEN INK

Quiet, retiring Wayne Green is movin' on, also. Wayne, who was a submariner in WWII (that's not a chip designation), worked as an editor for the Amateur Radio Relay League in the Dark Ages (b.c. – before [micro]computers), then moved to beautiful downtown Peterborough, New Hampshire, and created *73*, a competing hamagazine.

When computer hobbery came along, he (or ex-wife Virginia, and Carl Helmers – it depends on whose acrimonious mythology you believe) created microcomputing's first magazine – *Byte* – with its

(continued on page 11)

PC WORLD Presents:

Micro Ease

August 25-27, 1983

If you thought learning about personal computers was difficult, you'll like ME. ME makes computers simple. Let ME show you how easy computers can be.

If you want to harness the power of a personal computer but don't care to learn the technical jargon it takes to operate most computers, we have good news for you. ME.

PC World, National Training Systems, Inc., and Businessland have joined forces to offer Micro Ease™, a unique familiarization session that introduces business people to personal computers. By the end of one very full day you'll understand why those who know how to use a PC have a distinct advantage over those who don't. Micro Ease's simple directions help people who have never touched a computer start producing results the same day.

ME is based on National Training Systems' extensive experience teaching professionals how to use personal computers. ME features plain-speaking instructors who will give you the personal attention you need.

During the course of the day you and other novices will use the powerful electronic spreadsheet, Lotus *1-2-3*, to ask "what if" questions, produce graphs showing the answers, and rapidly sort massive amounts of information to find items that match your criteria.

If you discover that a personal computer can increase your productivity, you can buy your computer on the spot and take it with you or you can arrange for additional training for yourself and others in your organization.

Micro Ease sessions will be held August 25–27, 1983, at the San Franciscan Hotel in conjunction with the IBM PC Faire. The seminar will be offered again August 29, 30 and 31 at the Hyatt Regency Embarcadero if we cannot meet all pre-registration requests.

ME space is limited and is available on a first-come, first-served basis.

Register now to guarantee your place at the computer

Send $195 check or money order to:
ME-PC WORLD, 555 De Haro St., San Francisco, CA 94107
Deadline: August 15. Registration on-site after deadline.

Name _____

Address _____ City _____

State _____ Zip _____ Phone _____

Please indicate your first, second and third choices of days to attend:

August 25___ 26___ 27___ at the IBM PC Faire
August 29___ 30___ 31___ at the Hyatt Regency Embarcadero

Faire Preregistration

Although Computer Faire, Inc., itself, is not staffed to handle individual preregistration, it has arranged for a number of sources for preregistration.

The stores prefer that you drop by to pick up your prereg – they'd like to see you and have you see what they have to offer. However, should you be unable to do so, several of them – marked by an asterisk – are accepting mail orders, IF you do the following:

1. Phone the store for their reg fee. By FTC regulations, the Faire cannot tell them what to charge. Send full payment, and a stamped, self-addressed, legal-size envelope.

2. Send your mail order in time to reach the store by August 8. This is to allow sufficient turnaround time for your order to be processed.

Opamp Technical Books*
1033 N.Sycamore
Los Angeles CA 90038
(213)464-4322

Zackit Electronics
1193 10th St
Monterey CA 93940
(408)375-3144

Computerland
1625 El Camino #A
Belmont CA 94002
(415)595-4232

Computerland
264 Lorton
Burlingame CA 94010
(415)348-7731

Lotus Century*
287 Lake Merced Blvd
Daly City CA 94015
(415)992-5230

Keplers Books
821 El Camino Real
Menlo Park CA 94025
(415)324-4062

Heathkit Electronics Ctr
2001 Middlefield
Redwood City CA 94063
(415)365-8155

Computer Literacy
520 Lawrence Expwy #310
Sunnyvale CA 94086
(408)730-9955

Micro Plus Business Systems
1020 E.El Camino Real
Sunnyvale CA 94087
(408)737-2525

Softwaire Ctr
730 E.El Camino Real
Sunnyvale CA 94087
(408)737-1555

AIDS Computer Ctr
271 Sutter St
San Francisco CA 94108
(415)434-2980

Computer Connection
214 California St
San Francisco CA 94111
(415)781-0200

Sunset Electronics
2254 Taraval St
San Francisco CA 94116
(415)665-8330

Software Ctr
4720 Geary Blvd
San Francisco CA 94118
(415)751-2231

Bay Area Small Systems
11 Lakeshore Plaza
San Francisco CA 94132
(415)681-0888

Softwaire Ctr Intl
477 University Ave
Palo Alto CA 94301
(415)327-0520

Rent-A-Computer
2471 E.Bayshore Rd #515
Palo Alto CA 94303
(415)493-2310

Computerland
2791 N.Texas St #E
Fairfield CA 94533
(707)426-4003

Data Bank of Fremont
3820 Peralta Blvd
Fremont CA 94536
(415)790-1060

3-E Software*
22408 Mission Blvd
Hayward CA 94541
(415)537-3637

Computerland*
22634 Foothill Blvd
Hayward CA 94541
(415)538-8080

Ken's Electronics*
605 Montgomery St
Napa CA 94559
(707)224-2493

Softwaire Ctr Intl*
5269 Broadway
Oakland CA 94618
(415)428-9333

Affordable Computers
3331 El Camino
Santa Clara CA 95051
(408)249-4221

Alltronics
15460 Union Ave
San Jose CA 95124
(408)371-3053

Software Connection
2843 S.White Rd
San Jose CA 95148
(408)270-0450

WCJ Computer Central
1458 Myrtle Ave
Eureka CA 95501
(707)445-9239

Fanning's Bookstore
1348 9th Ave
San Francisco CA 94122
(415)564-7094

Stanford Bookstore*
135 University Ave
Palo Alto CA 94301
(415)327-3680

Save on Faire Registration

By gathering your friends and associates together, you can all save $4 on IBM PC Faire registration fees – paying $14 each, instead of the $18 "at the door" fee. (Or, you can "deal" registrations and earn a few extra dollars for yourself or your group.) Here's how:

Purchase IBM PC Faire registrations in blocks of ten or more, no later than August 15, advancing $140 for a minimum order of ten (prepaid). (There is a small shipping and collection charge on COD orders.)

You can return up to half the number of registrations ordered, by August 25 (the day before the IBM PC Faire), for a refund of $14 per returned/unused registration.

To take advantage of this offer send your check or COD order for ten or more registrations (advancing $140 on prepaid orders) to:

Pre-registration Desk
Computer Faire, Inc.
570 Price Ave.
Redwood City CA 94063

Include your street address for certified UPS delivery. We pay shipping on prepaid orders. You pay shipping and collection charges on COD's.

Conference Session

Venture Capital and the IBM PC

"Venture Capital and the IBM PC," will be the title of Frank Kline's talk at the First IBM PC Faire, in Civic Auditorium and Brooks Hall, San Francisco, August 26-28, 1983. Kline is the president of Pacific Technology Venture Fund, Inc., of San Francisco.

Kline will outline the role of young high technology companies in stimulating the national economy, and describe what kind of a return on investment potential venture capitalists look for when deciding to invest.

"Young companies developing application software, local networking and hard disk storage for the PC have got a lot of recognition," says Kline. "Significant venture capital resources will be placed in these and related fields dedicated to PC products."

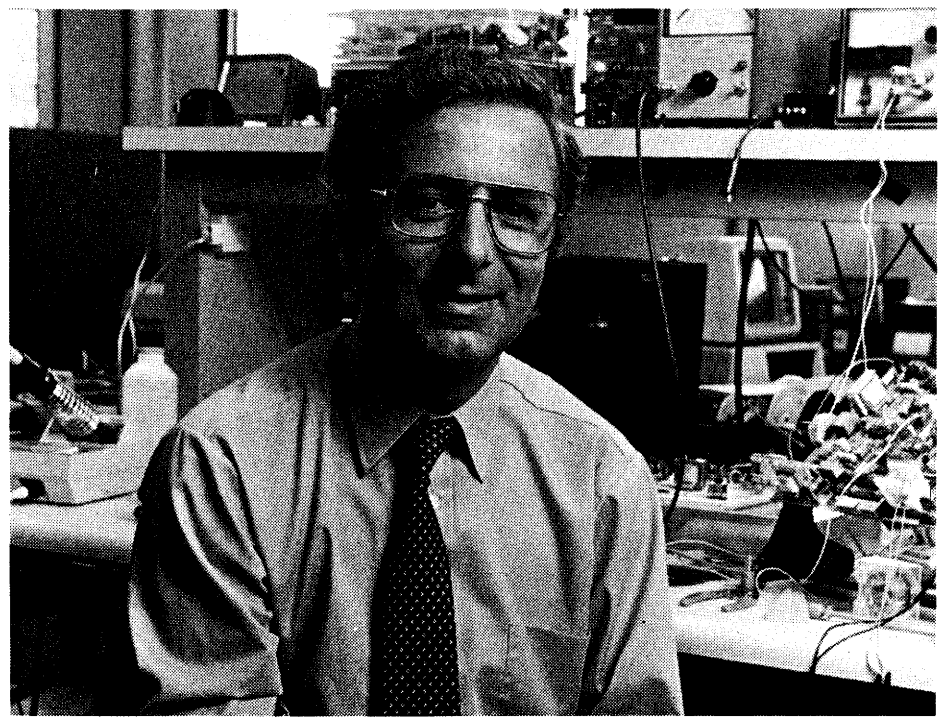
Conference Session

Proposal for Microcomputer Managers' Association

"If you are a manager whose responsibilities include the planning, application, development and support of personal computers, you are invited to join the Microcomputer Managers' Association – the first professional association in this rapidly expanding field," says James Haner, of Dynamic Computer Services from Palmdale, California. Haner will use the First IBM PC Faire as a forum for soliciting charter members into the group.

"We need to provide a clearinghouse for the exchange of ideas on what works and doesn't work in successfully integrating microcomputers into the corporate environment," says Haner.

Inventor of the Microprocessor to Speak at PC Faire



Dr. Federico Faggin, one of the three people whose names appear on the patent for the first microprocessor, and later the cofounder of Zilog, will speak at the First IBM PC Faire in San Francisco, August 26-28.

Now President of Cygnet Technologies, he will discuss an innovative solution to the problem of optimizing the hardware and software architecture of an integrated work station. The "CoSystem" that he will describe may be used with an IBM PC to significantly enhance productivity by combining computing with communication capabilities for voice, as well as data, text and graphics.

Micro Ease – PC World to Offer Hands-On PC Training

The world of personal computers is most easily understood when sitting in front of one–which is precisely what PC World has in store for participants at Micro Ease.

PC World, National Training Systems, Inc., and Businessland have joined forces to offer Micro Ease, a unique familiarization session to introduce business people to personal computers. By the end of one very full day, you'll understand why those who know how to use a PC have a distinct advantage over those who don't. Micro Ease's (ME) simple directions help people who have never touched a computer before start producing results the same day.

ME is based on National Training System's extensive experience teaching professionals how to use personal computers. ME features plain-speaking instructors who will give you the personal attention you need.

To offer seminar participants an extensive resource base, PC World has invited experts from PC World staff, Businessland, and IBM PC User Groups to be on hand to answer questions and offer information from their own experience to seminar participants. Their expertise involves extensive use of the computer in business and at home.

During the course of the day, you and other novices will use the powerful electronic spreadsheet, Lotus' 1-2-3 to ask "what if" questions, produce graphs showing the answers, and rapidly sort massive amounts of information to find specific items that match your criteria.

If you discover that a personal computer can really increase your productivity, you can buy your computer on the spot and take it with you, or you can arrange for additional training for yourself and others in your organization.

Micro Ease will be held from 9 a.m. to 6 p.m. in the Crystal Ballroom of the San Franciscan Hotel, 1231 Market Street, in conjunction with the IBM PC Faire, August 25, 26, and 27, 1983. Since attendance in each seminar is limited, the seminar has been extended and will be offered August 29, 30, and 31 at the Hyatt Regency Embarcadero.

The total cost of Micro Ease, including hands-on use of the Compaq Portable Computer, software, training materials, and lunch is $195. To reserve your place at the computer write or call Micro Ease, PC World, 555 DeHaro, San Francisco, CA 94107, (415)861-3861, or visit the PC World exhibit booth during the Faire.

ME space is limited and is available on a first-come, first-served basis.

FREE!

A Subscription to the*
Silicon Gulch Gazette

Published in the center of the microcomputer industry, the San Francisco Peninsula

Hot News & Techno-Gossip **News of Events**
Rambling Rumor & Fascinating Features **New Product Information**

and, of course, all the details of the IBM PC Faire

*(*worth at least every penny you pay for it!)*

Just Write or Call

345 Swett Road *Woodside CA 94062-9990* *(415)851-8437*

MICRO MOVERS...
(continued from page 9)

first issue in September, 1975. Some months later, he benevolently donated *Byte* to Virginia Londner - Green - Peschke - Londner - Londoner (who has been its Publisher for eight years, even though she sold it to McGraw-Hill in the late '70's; she has reportedly finally escaped and is on a year-long world tour/recuperation).

Being a prolific pen pal and noting that Peterborough needed more computer rags, Wayne created a second micro magazine, initially announced as *Kilobyte* but renamed to *Kilobaud* before its first issue (a change rumored to have been ever-so-politely requested by the state's Superior Court). *Kilobaud* became *Kilobaud Microcomputing*, which became simply *Microcomputing*. Wayne also created a passle of other computer mags, notably including *80 Microcomputing* focusing on the Tress-80. Also, when software became a potential profit center, Wayne instantly created Instant Software.

Now, Wayne has sold his publishing empirate to magazine magnate Pat McGovern, the delightful dude who created *ComputerWorld*, and is the owner of *InfoWorld*, *PC World*, and a world of other computer rags (a real rags to riches story). The story's not yet clear at this end, however apparently Wayne is staying on to shepherd the new venture, but will also be involved in a local college – always the academician.

OS-BORNE AGAIN

Then there's Adam Osborne – one of the more delightful and flamboyant entrepreneurs, leaders, and Sayers of Sooth in this industry.

Yes sir, sonny, I mus' be a real ol' timer. Why, I can even 'member when Adam was a mere human, with three-piece sleeves rolled up, selling his micro manuals out of a box at the Homebrew Computer Club meetings.

He got a Ph.D. in chemical engineering, and stumbled into writing a semi-promo micro booklet for a computer company. It went over well; he wrote a real micro book . . . and was on his way to glorious/notorious leadership in this chaotic microworld. He founded a publishing company; made it the leading source of micro manuals; then sold it to McGraw-Hill, and stayed on for a while as its Glorious Leader.

Not content to retire and somnambulate on his McGraw-Hill donation, he created a whole new branch of the industry – portable computers (well, they were portable if you were a pro linebacker and had magnifying eyeballs, but nobody should expect origination and perfection to occur at the same time).

When he was first starting up Osborne Computer Corp., he called up to secretly reserve exhibit space for a premier introduction at the 6th West Coast Computer Faire (1981). He originally planned on calling his company Brandywine, Inc., but some sensible soul pointed out that his Name was Fame, and he should use it – thus booze begat OCC. He also originally planned on pricing the Osborne I at under $1K, but his fellow entrepreneurs persuaded him to take a more traditional approach to pricing – i.e., whatever the market will bear while undercutting the [un-] competition.

Now, even Adam's movin' on, again. He has given over the guidance and control of OCC to Bob Jaunich who used to be Prexy of Consolidated Foods – a little $7 billion (not a typo) company. A foods magnate in micros? What with food processing what it is today, perhaps Adam is simply harking back to his chem.e. days.

Oh, Adam's still around OCC, but he's busy turning his pet-kitten--turned-tiger over to Jaunich. He's also writing a socio / sci fi novel called *Neworld* in his spare time. It should be ready for off-the-shelf deliveries about 2Q'84.

REQUIEM

On a serious and sad note, I must mention the demise of two of the good guys of microcomputing.

Dennis "Barney" Barnhart, who was honchoing Eagle Computers to success and glory recently moved from Silicon Valley to Silicon Sky in an auto accident. Barney had been a major figure in micro marketing for some time. Long ago, he created a company and made his millions. Then, he joined Commodore to be one of their most competent Marketing V.P.s. He left there; wandered a bit – including taking over the reins of the Microcomputer Industry Trade Association (MITA) from me around 1981; and ended up as the President of Eagle. Even more melancholy – he was on the eve of his next success; Eagle was only days into its first public offering and stock sales were going great.

Bill Honeyman preceeded Barney

(continued on page 15)

New Basic Arrives

A Real 16-Bit Language That Can Use All the Memory of the IBM PC!

Now it is possible to have a language for the IBM PC™ that will access all the memory that you can put in it. You can put a 100K program in memory that uses a 300x300 matrix. Then perform calculations with the ultra-fast 8087 math coprocessor. This is a powerful combination of size and speed that is new for the PC!

PROFESSIONAL BASIC™ is a new implementation of the popular BASIC language. It is compatible with the PC's BASIC so you can run your current programs. But there are many, many new and exciting features to look at.

Structured Programming Support

One nice thing programmers will like is being able to label lines, using alpha names, and call subroutines (or perform GOTO's) using a label instead of a line number (although you could use a line number if you wanted to). BASIC, by nature, does not support modular structured programming. But with this labeling feature, however, better programming practices can be encouraged with BASIC. PROFESSIONAL BASIC™ also allows a visual restructuring of programs, by automatically breaking up lines with multiple statements and showing the program in a structured, indented format.

Dynamic Analysis

Dynamically view the execution of a program! After coding in a program and beginning execution, you can then press a key and switch to a screen (one of about a dozen) that displays a listing of the running program on the left, with lines highlighted as they are executed, and on the right, a listing of the variables. You can see the values of each variable at every point during the execution of the program — as it is running at slow speed! Suppose you want to single step your way through some portion of the program. Just press the space bar. Every press of the space bar executes the next instruction and you can see what changes are made to the variables and the flow of execution.

List or print out each line of code that is executed, with the value of each variable automatically listed for you. Also, get a listing of the program and see each statement that has been executed during a succession of runs through the code. In a very visual way, see which parts of the program have been executed at least once and which have not.

Syntax Checking

Have you ever written a program with an obscure typo (a colon can look an awful lot like a semicolon sometimes) and spend an hour or more trying to figure out what went wrong? PROFESSIONAL BASIC™ has a system of checking syntax as you enter each character. You just can't make a syntax error! The system tells you instantly that an error has been made. After two attempts to type an acceptable character, you are presented with a list of what keystrokes are permissible.

Error Analysis

After you enter a program there can still be errors in things like mismatched FOR/NEXT loops and bad GOTO's. With this language your entire program is analyzed from top to bottom in a fraction of a second, to find a number of mistakes that might have been made. The lines associated with the errors are presented to you with the portion of the line relating to the error highlighted.

Have you ever had an error like "divide by zero" and wonder exactly what went wrong? You can get an "instant replay", with the evaluation of an expression displayed after each substitution or arithmetic operation performed, and see how the error occurred. Moreover, if you want you can see any expression in the program analyzed as it is executed. You have control and insight into the operations of your program that has not been previously possible. If only it would go ahead and fix the problems too, you say. Well there are limits.

Cross References and Breakpoints

One of the things a programmer wants to know about is what variables are being used in a program and where. PROFESSIONAL BASIC™ provides a variety of ways to cross reference variables. Also, you are able to pick a set of variables you particularly want to watch and then run the program, seeing how the value of each changes as the program executes (at the speed you pick). You can even set conditional breakpoints, like: "Execute until the value of 'X' is equal to 200 and then stop." Or: "Stop as soon as line 130 is encountered." This is the kind of environment that is going to help in the speedy production of error free programs!

Semi-Compilation

Semi what? This language executes like an interpreter in many ways, but is really very different. Just consider how much faster a program would run if it didn't have to check everything in a line of code, each time it is executed. Why not check the program once and be done with it? It only takes a fraction of a second to do that in PROFESSIONAL BASIC™. Imagine how much faster this makes execution of a program — two, three times faster. (Also, this is why all the problems mentioned above about FOR/NEXT loops, etc. can be resolved for the entire program before it is actually run.)

Compatibility

PROFESSIONAL BASIC™ is compatible with the BASIC that comes with the IBM PC. While there are enhancements, you don't have to unlearn anything you know now about BASIC on the PC. Use the programs you have already created and run them with this new system. But see how fast and friendly programming can now be.

Where to See This New System

At the PC Faire, see PROFESSIONAL BASIC™ at booth 205 in the Civic Auditorium, MORGAN COMPUTING COMPANY, INC. Also see many other fine products available exclusively from MORGAN, such as an 8088 disassembler that traces like the BASIC. See how Linear Programming can be done with Lotus 1-2-3™ or VisiCalc™.

There are over ten unusual, powerful products to see. Demo disks and literature will be available.

MORGAN COMPUTING CO., INC.
10400 N. Central Expwy.
Suite 210
Dallas, Texas 75231
(214)739-5895

IBM PC Faire Speake

(Trends in Personal Computing)
Don Estridge, Vice President
IBM Systems Products Division
&
General Manager,
IBM PC group
Boca Raton, FL

Trends in Microcomputer Software
Bill Gates, Executive V.P. & Chairman of the Board
Microsoft Corporation
Bellevue, WA

Using Technology to Learn Technology
Allen Lee Adkins,
Interactive Research Corp.,
Los Altos CA

Marketing Software Effectively and Inexpensively: PC-Demo
Rick Alber,
San Francisco CA

Microcomputers and Job Satisfaction
Peter A. Andres,
Hackettstown NJ

Starting a Business With Your Computer
Daniel Ashby
Sector Software
San Mateo CA

Microcomputers, McLuhan, and the Mainframe Mafia
Phillips B. Baily,
Temecula CA

SCSI Complements the IBM PC
Richard Barrett
Adaptive Data & Energy Systems
Pomona CA

Personal Computers in Large Organizations: Implementation and Support
Alvin S. Begun,
UC Berkeley,
Oakland CA

Personal Computers and Personal Instrumentation for Semi-Automated Test Equipment
Dave Biggs, Kurt Christner,
Nevada Personal Instrumentation,
Minden NV

Personal Computing From Ground Zero
Dave Bunnell
PC World Magazine
San Francisco CA

PANEL: Bio-Medical Computing
Chuck Clanton, Hank Landau, Bill Feaster, M.D.
Phil Harris, Frank Stitt

PALASM: Doorway to the Silicon Revolution on the PC
Vincent J. Coli, Earle Jennings,
Monolithic Memories,
Santa Clara CA

Implementing Distributed Local Area Networks for IBM Personal Computers
John F. Costello
San Diego CA

PC's in the Corporate Environment
Steve Cook
PC World Magazine
San Francisco CA

Truely Interactive Batch Files With DOS 2.0
Warren Craycroft
Oakland CA

Using Computers to Plan for Profits
Michael J. Cummins,
Petrinovich, Pugh, & Jones,
San Jose CA

Using the IBM PC to Teach Speed Reading
Janice G. Davidson,
Upward Bound,
Palos Verdes Est. CA

Typesetting from Disk
Kevin Dwan,
Dwan Typography,
Nevada City CA

People Literacy: The New Direction in Software
Jim Edlin
Bruce & James
San Francisco CA

The Future of Learning by Computer in School and Industry
Alan C. Elliott, Henry L. Gray,
Southern Methodist University,
Dallas TX

Children, Computers & Education
Tony Fabbri
Dunlap CA

Computers in Management
Tony Fabbri
Dunlap CA

The Communication CoSystem: An Innovative Architecture for the Integrated Work Station Market
Federico Faggin,
Cygnet Technologies, Inc.,
Sunnyvale CA

Vertical-Market Software
Gene A. Finkler,
Silicon Valley Micro,
San Jose CA

Communications With the IBM PC
Andrew Fluegelman
PC World Magazine
San Francisco CA

Scientific or Exotic Word Processing for the IBM PC
Dr. Larry Goldstein
Robert J. Brady Publishing
Silver Springs MD

The Microcomputer Managers Association
James L. Haner
Dynamic Computer Services
Palmdale CA

Tips On Writing On Your PC
Jeremy Joan Hewes
PC World Magazine
San Francisco CA

Evolution of IBM PC Use at McGraw-Hill
Kenneth A. Hough,
McGraw-Hill, Inc.,
Hightstown NJ

Software Integration
Gilbert Hoxie
Context Management Systems
Torrance CA

Investment Software for the IBM PC
Andy Hyde
I.T.M.
Lafayette, CA

Venture Capital and the IBM PC
Frank R. Kline, Jr.,
Pacific Technology Venture Fund,
San Francisco CA

Inventory Management
W. Robert Knapp, Jr.
Retail Solutions, Inc.,
Sunnyvale CA

Accounting Software for the IBM PC/XT...What to Look For
Sherry D. Knight,
Knight & Company,
Oakland CA

Using Computers to Help Teach Computer Science
Barry L. Kurtz,
San Francisco State University,
San Francisco CA

Small Business Automation: What It Takes
Joe Landau
Applied Software Technologies, Inc.
Los Gatos, CA

Teaching Data Processing
Joe Landau
Applied Software Technologies, Inc.
Los Gatos, CA

Microcomputers in the Federal Government
Bill Leary
Department of Defense
McLean VA

Publishing Opportunities in Personal Computing
Lance A. Leventhal
Emulative Systems, Co.
San Diego CA

Davong Multilink Local Area Network
Tim Lundeen,
Davong Systems, Inc.
Sunnyvale CA

Getting Personal With TEX
Robert M. McClure
Unidot
Sunnyvale CA

Modula-2: A Worthy Successor to Pascal
Joel McCormack,
Volition Systems,
Del Mar CA

A Technological Marriage Made in Heaven
David McElhatten
D'Video and Associates
Laguna Beach CA

Integrating PC's in a Mainframe Environment
Harry Miller
PC World Magazine
San Francisco CA

Personalize Your IBM PC: Integrating Application Software
Terry Myers
Quarterdeck Systems
Santa Monica CA

Writing Maintainable Assembly Language Programs
Steve Newberry,
Protools,
Los Altos CA

Current and Future Directions of the IBM PC
Peter Norton
Norton Utilities
Santa Monica CA

Problems of a One-Man Software House
Peter Norton
Norton Utilities
Santa Monica CA

Overcoming Computer Phobia
Karen Orton
National Training Systems
Santa Monica CA

Laboratory Data Acquisition, Display & Reduction with the IBM PC: Chromatography Data Handling
Glenn I. Ouchi,
Nelson Analytical
Cupertino CA

Consult - I: Developing Artificial Intelligence Systems on the IBM PC
Edward Patrick
Patrick Consult, Inc.
Cincinnati OH

PC's in the Corporate Suite: Uses and Applications
Ron Posner
National Training Systems
Santa Monica CA

rs — A Partial Listing

IBM PC Compatibles: The Future
Dr. Portia Isaacson, President
&
Dr. Egil Juliussen, Chairman of the Board
Future Computing
Richardson, TX

(Microprocessors & Microcomputing)
David House, Vice President & General Mgr.,
Microcomputer Group
Intel Corp.
Santa Clara, CA

A New Approach to Integrated Software
Richard Rabins,
Alpha Software Corporation,
Burlington MA

Tactics for the Computer Widow(er)
Diana M. Randle,
Harbinger Consultants,
San Mateo CA

Spellbinder — More than Just a Word Processor
Mary Lynne Robinson,
Mark I Consultants & UC Davis Computer Center,
Davis CA

Introduction to APL
Allen J. Rose
STSC Inc.
Rockville MD

Using the IBM PC for 35mm Slide Production
Chet Sandberg,
Professional Computer Graphics,
Palo Alto CA

Videodisc Technology: Where It Is & Where It's Going
Wan Seegmiller, James Devires
LaserVideo, Inc.
Anaheim CA

Income Tax Aspects of Hardware and Software
T. Andrew Stokes, Theresa Baudier
Tucson AZ

PANEL: Word Processing
Richard Verna
Silicon Valley Computer Society
Milpitas CA

Conography: Is to Curves What Vectors are to Straight Lines
Luis Villalobos,
Conographic Corporation,
Los Angeles CA

PANEL: Effective Documentation
Fred Waters, Elna Tymes, John Pruyn
Tymes & Associates
San Jose CA

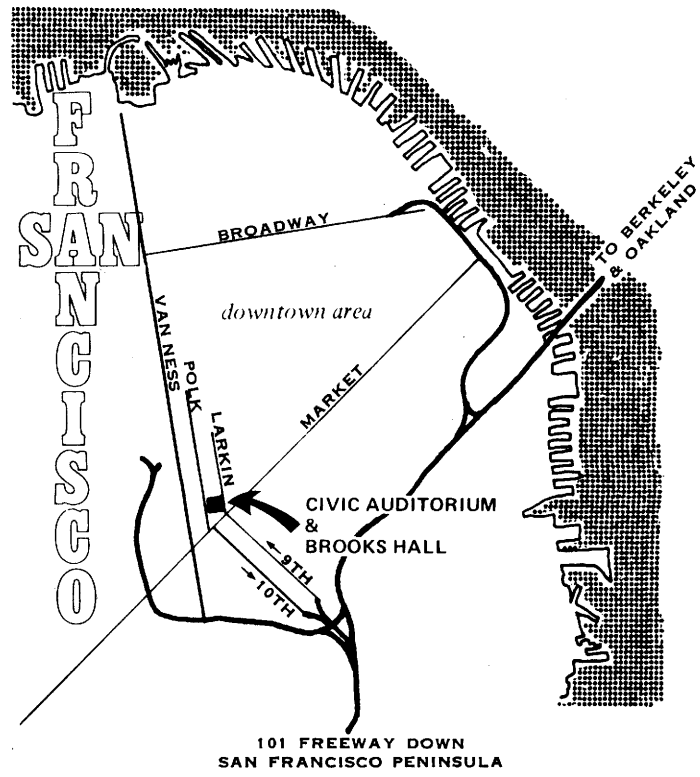
Writing for Computer Magazines
Kearney Weitman
PC World Magazine
San Francisco CA

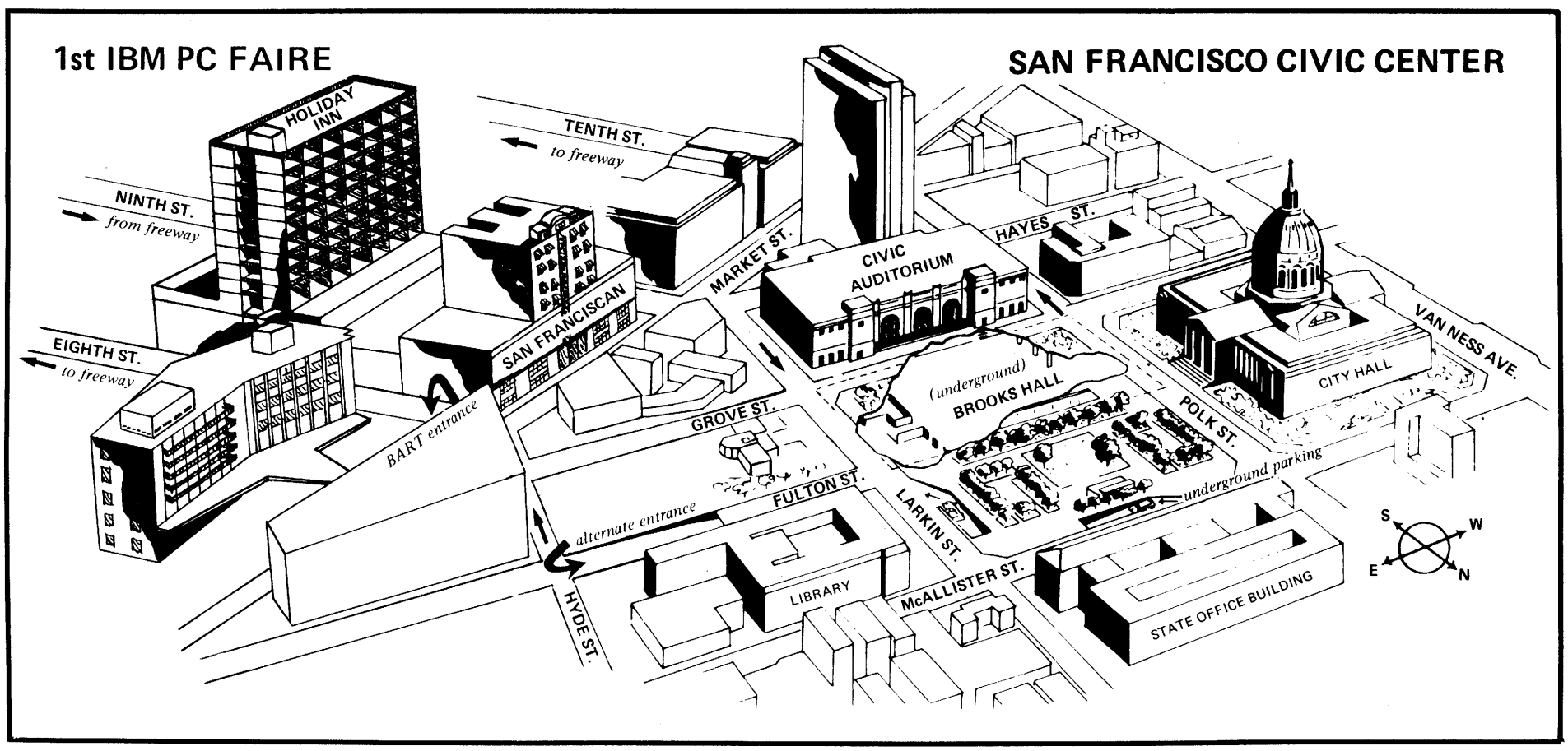
Packaging and the Microcomputer Products Market
David Wetzel
COMPROMT
San Francisco CA

The Impact of Electronic Spreadsheets in Business
Bob Williams
Business Software Magazine
Portland OR

What Role Do Computers Play in Today's Education?
Leigh Zeitz
Personal Computer Age Magazine
Los Angeles CA

PANEL: Personal Computers in Large Organizations - Issues & Answers
with representatives of:
University of California, Systemwide Administration
Standard Oil of California
Bechtel
Federal Reserve Bank of San Francisco
Fireman's Fund
Bank of America





Computer Faire Moves to New Offices

After seven years in the coastside redwoods of the San Francisco Peninsula, the Computer Faire has finally moved into more proper office facilities.

The Computer Faire is now located at 570 Price Avenue, Redwood City, CA 94063; (415)364-4294.

New DEC Magazine

The publishers of *The DEC* Professional and RSTS Professional* magazines have introduced *Personal and Professional*, an independent magazine for DEC personal computer users. *Personal and Professional* is available through subscription and in many computer stores throughout the country.

For further information, contact: *Personal and Professional*, Box 114, Springhouse, PA 19477, (215) 542-7008.

Conference Session

Laboratory Data Acquisition, Display & Reduction with the IBM PC

Use of the IBM PC in a chemical laboratory to acquire, analyze and report experimental data will be a conference topic at the First IBM PC Faire. Glenn I. Ouchi, Ph.D., of Nelson Analytical, Cupertino, California, will speak on "Laboratory Data Acquisition, Display & Reduction with the IBM PC: Chromatography Data Handling."

Chromatography chemical analysis uses instruments called chromatographs to separate a mixture into pure compounds which can then be quantified and identified. Ouchi will describe a lab data handling system which was created by combining software and instrument interfaces developed by Nelson Analytical with an IBM PC. The system requires an IBM PC with 128K RAM memory, two 320K disk drives or hard disk, IEEE488 or RS232 interface, graphics display (color preferred) and printer/plotter.

The system can acquire data from up to 10 chromatographs simultaneously while allowing the user to interactively review and process stored data or run other applications programs. Quantitative reports include area per cent, normalized area per cent, and reports using internal and external standards. Raw data from two or more runs can also be replotted side-by-side, superimposed, subtracted or ratioed. Experimental results can be used by other application programs for facile report generation or data management. Other laboratory instruments can be added to the system with the additon of more application software and interfaces.

Explains Ouchi, "Real-time experiment data acquisition and control is performed by our intelligent interface, which allows the IBM PC to perform other tasks. The same interface can easily be used for data acquisition from any analog signal source. By taking advantage of application software from other software houses, a powerful integrated system can be produced to handle analytical data."

Advance Announcement . . .

Tutorial Week WEST 83

OCTOBER 17–21, 1983

Chairman: Sidney Fernbach

Chairman, Tutorial Week West Standing Committee: Joseph P. Fernandez

Treasurer: Terry Contreras

Registration: Robert Long

Publicity: Christina Taylor

A solid week of tutorials in 4 tracks

Attendance limited to 100 per tutorial. Advance registration discount deadline: October 7, 1983

	TRACK 1	TRACK 2	TRACK 3	TRACK 4
MONDAY OCTOBER 17	1 **Software Configuration Management, Part I** William Bryan, Stan Siegel	6 **Software Testing** Edward F. Miller	11 **Ada** Sabina Saib, Robert Fritz	16 **Small Computer Local Area Networks** J. Scott Haugdahl
TUESDAY OCTOBER 18	2 **Software Configuration Management, Part II** William Bryan, Stan Siegel	7 **Automated Tools for Software Engineering** Edward F. Miller	12 **Introduction to C** William Rieken, Jr.	17 **Small Computer Databases** Roger Sippl
WEDNESDAY OCTOBER 19	3 **The Art of Software Scheduling and Cost Estimating** Randall W. Jensen	8 **Software Management Part I** Donald J. Riefer	13 **Lisp** Larry Masinter, Steve Gadol	18 **Small Computer Unix** Douglas Michels
THURSDAY OCTOBER 20	4 **Advances in System Design** Anthony Wasserman, Peter Freeman	9 **Software Management Part II** Donald J. Riefer	14 **Prolog** David Warren, Lawrence Byrd, D. Stott Parker	19 **Small Computer Graphics** Michael K. Collins
FRIDAY OCTOBER 21	5 **Interactive Development Environments** Anthony Wasserman	10 **Distributed Systems: Control and Applications** John G. O'Reilly, Paul L. McEntire, Robert E. Larson	15 **Expert Systems (Knowledge Engineering)** John Burge, Kamran Parsaye, Henry Sowizral	20 **Small Computer Algebraic Computation** Anthony C. Hearn

Register NOW!
Select up to one tutorial per individual per day.

FEES	Members	Non-Members
All Week	$575	$675
All Week (postmarked after 10/7/83)	$675	$775
Per Tutorial	$125	$150
Late	$145	$170

Includes tutorial notes and luncheon.

HOTEL ACCOMMODATIONS
Reserve your room now. Write to:
Cathedral Hill Hotel
Van Ness at Geary
San Francisco, CA 94101
Attn.: IEEE Tutorial Week

RATES
Single: $70 Twins: $80

THE INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS, INC.

IEEE COMPUTER SOCIETY

Mail to: Tutorial Week West 83, c/o Robert Long (L 72), Lawrence Livermore Laboratory, PO Box 808, Livermore, CA 94550; (415) 422-4339.

☐ I am interested in the following tutorials (please circle numbers):
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20
Please mail me the complete program announcement as soon as available.

☐ I want to register right now. Enclosed is $_____ to reserve space at the following tutorials (circle numbers as appropriate):
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20

☐ Check enclosed ☐ VISA/BankAmericard ☐ MasterCard

Card No. _____ Exp. Date _____ Signature _____

Name _____ IEEE or IEEE-CS Membership No. _____

Company _____

Mailing Address _____

City/State/Zip _____ Phone No. _____

Conference Session

Microcomputers and Videodiscs

"Training is a bottleneck to increased sales of microcomputers," says Allen Lee Adkins, Founder/Director of Interactive Research Corporation of San Mateo, California. The solution which Adkins has developed is a series of interactive videodiscs. The first in the series will teach novice users how to use the IBM PC and popular software programs.

"The use of microcomputers and videodiscs is a powerful combination of technology which increases efficiency in learning and presenting information," says Adkins. "The process of making a videodisc is intricate and involved, but can provide interaction which is unparallelled in other forms of media. The IBM PC has a bright future as a component in computer aided instruction systems."

Adkins will be speaking in the Conference Program of the First West Coast IBM PC Faire. His talk will be titled, "Using Technology to Learn Technology."

Computer Bookstore Opens in Silicon Valley

Now Computer Literacy is more than just a slogan - it's a bookstore, too. In March, the Computer Literacy Bookshop opened in Sunnyvale, California, in the heart of Silicon Valley.

The Computer Literacy Bookshop is owner Dan Doernberg's response to the growing need for easy access to information about computers.

"There have been two places to shop for information about computers - - computer stores and general bookstores," said Doernberg. "The commissioned salespeople in a computer store are far more interested in selling computers than recommending books. The atmosphere of a bookstore is more conducive to comfortable browsing, but few of the clerks are at all familiar with computers or the books written about them. Computer Literacy bridges the gap by combining the comfortable, low-pressure bookstore atmosphere with the technical knowledge and expertise of a computer store staff."

With a stock of over 1500 different computer book titles and 40 computer magazines, Computer Literacy may be the most complete computer information resource in the Valley.

Doernberg believes that, "Bookstores exist to stimulate the exchange of ideas, not merely to warehouse books," and so his bookshop has an ongoing speaker series, with local computer experts providing informal talks on a variety of topics.

Speakers scheduled for July and August include: Glen Krasner on "Smalltalk-80," John Newkirk on "VLSI Design," William Mohr on "Quality Circles," Jean Yates on "Business Applications of Unix," Frederick Hayes-Roth on "Building Expert Systems," David Morein with "An Intoduction to Programming in C," and John Burkner, from Monolithic Memories, on "Designing with Programmable Array Logic (PAL)." All talks are free and open to the public.

For more information, contact: Computer Literacy Bookshop, 520 North Lawrence Expressway, Suite 310, Sunnyvale CA 94086, (408)-730-9955 or (408)-749-8807.

MICRO MOVERS...
(continued from page 11)

by only a month or two. Bill was a Colorado computer consultant who was doing great things in applying microcomputers to movie special effects. He was also one of the founding members of MITA and had actively served on its first Board of Directors.

THE WIZARD OF WOZ

On a much happier note, there's Steve Wozniak's wonderful wanderings. Having done all of the design and implementation of the hardware and software for a hobby computer for his personal entertainment, Woz teamed up with high school buddy Steve Jobs and created a computer company to manufacture his toy – a company with the patently unmarketable name of Apple.

Several years later, Woz, who – in spite of having much loot – has managed to retain a strong inclination to share freely and joyfully with his friends, had a huge wedding party that included a great rock band. This gave him the idea. Having missed Woodstock, he decided to create his own. Thus, US.

Sadly, punks, bucks, and 15 years made the US Festivals somewhat less than the utopian sharing that Woodstock wuz. However, thanks to Woz's efforts and generosity, the '82 US Festival was still probably the flashyist pop music event of this decade. More importantly, Woz seems to have retained much of his humane character and joyful hedonism, even after dealing with big bux music managers. (Anyone remember the days when Quicksilver, the Dead, Janice, and the Airplane played for free in San Francisco's '60's Be Ins – just for the joy of sharing good vibrations with the community? Hmmm, today seems to be a day for nostalgia noshing.)

Partner Steve Jobs, however, has become a true eccentric among the microworld's early leaders. Believe it or not, he is still working on the same company he was six years ago! It must be his arch-conservative character.

Oh – I gotta tell ya an Apple story: Woz and Jobs had just incorporated Apple, shortly before the First West Coast Computer Faire (1977). They wanted to do a very flashy intro of their product at the Faire, so they really splurged and rented 20' (wow!) of booth space centering on the front entrance.

They then they took their pony-tailed, bearded selves and Levied up

(continued on page 16)

Prentice-Hall's

Aisle of Paradise

at the PC Faire

BRADY Publishing Company

Games (just try Laser Cycle!) and business software plus dozens of PC books for users at all levels, including the new bestseller for advanced users, INSIDE THE IBM-PC by Peter Norton, plus the revised classic, IBM PERSONAL COMPUTER: An Introduction to Programming and Applications by Larry and Martin Goldstein. Booth #1728.

Business and Professional Books.

The name of this Prentice-Hall division just became an anachronym with the debut of EXECUVISION, which is not a book at all but a software program that turns the IBM-PC into a one-stop source for the preparation of presentation materials (slides, printed matter, or CRT) for meetings, conventions, and the like. A breakthrough tool for corporate culture and a must in the electronic office place. Booth #1729.

DELTAK Microsystems.

Your source for tutorial software that enables you to teach yourself VisiCalc, Wordstar, d-Base II, 1-2-3, TK! Solver, Multiplan, PC DOS (1.1 or 2.0), Pascal, BASIC, and more. Each interactive program has you user-competent in as little as an hour's time. Booth #1726.

General Publishing Division.

Stop here to see the next generation of business applications software. If you haven't bought accounting and word processing software yet, you'll be glad you waited. Also books for scientists and engineers, beginners and business users. Booth #1727.

Prentice-Hall's College Division.

The nation's leading textbook publisher brings its educational and editorial savvy to the computer-using public with a library of IBM-PC specific BOOKWARE. Booth #1731.

RESTON Publishing Company.

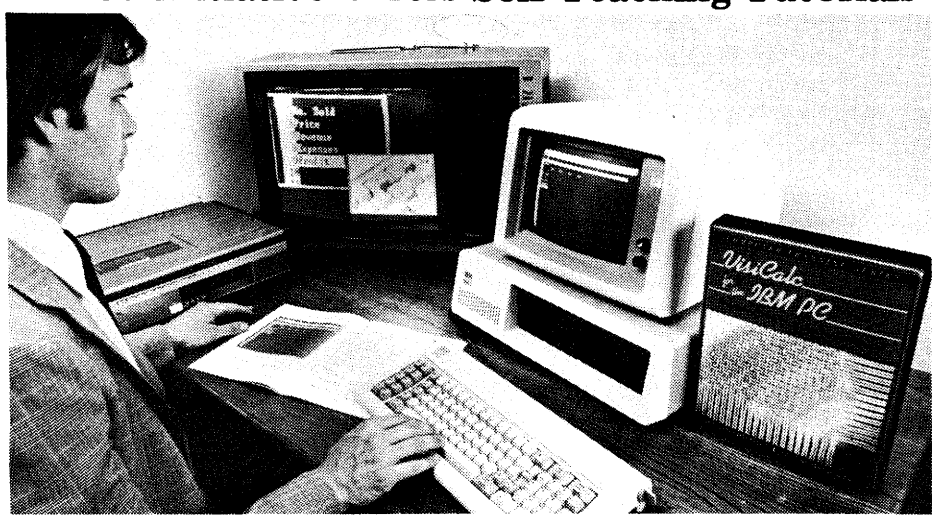
A jackpot booth with executive level software, tutorials for beginners, game software (play Triple Brain Trust), and instructional guides on Pascal, BASIC, Data Files, and more. Ask for a demonstration of PROworks software for use with 1-2-3. Booth #1730.

BOOTHS #1726-1731

August 26, 27, 28

Civic Auditorium/Brooks Hall

Video Initiative Offers Self-Teaching Tutorials



Most people wishing to become microcomputer users must overcome an entry-level learning barrier. The barrier is sometimes emotional, and often due to documentation that is simply not adequate for a true computer novice.

Recognizing that one or two entire generations are more accustomed to getting information from the television screen than from the written word, Jim Warren has created a video production company – Video Initiative – specializing in high-quality, professionally produced videotape tutorials.

Many videotape products available for micro instruction are little more than a camera aimed at a lecturer giving a chalk-talk. In contrast, the tutorials from VI make extensive use of video technology and graphics and tightly scripted presentations by professional talent. They are comparable in quality to the best educational offerings on commercial and educational television.

The scripts are prepared by training professionals with extensive experience in computer and technical instruction and training. These include a writing team with teaching experience, who spent over half a decade in training and documentation with Hewlett-Packard, plus Warren's input as a 15-year computer professional who has taught at Stanford, San Jose State, San Francisco State, as well as over commercial, educational, and closed-circuit television.

Workbooks accompany the videotapes, keyed to the video presentations. They make extensive use of color for optimal communication of concepts.

Initial packages include introductory tutorials on VisiCalc, the IBM PC, 1-2-3, dBase II, and other major topics in microcomputing. Marketing and distribution arrangements are now being completed with a major book publisher. The packages are expected to be available by September, for sale or rent, in many computer and software stores, as well as by direct mail.

The first package to be completed is "VisiCalc for the IBM PC". This is available under an introductory offer, prior to completing distribution arrangements. In VHS or Beta formats, it is $110 prepaid; $115 COD, including handling and UPS shipping in the U.S. U-matic, industrial-format versions are $135 prepaid; $145 COD. Video Initiative, 345 Swett Road, Woodside CA 94062 (415) 851-8437.

JOIN US!

The 1st West Coast
IBM PC Faire

SAN FRANCISCO CIVIC CENTER • AUGUST 26-28, 1983

REQUEST FOR HOTEL RESERVATIONS

San Franciscan Hotel – Please Reserve Accommodations For:

Name _____

Company _____ Phone No. (___) _____

Address _____

City _____ State _____ Zip _____

Arrival Date _____ Time _____ Departure Date _____

CHECK DESIRED ROOM

Single	Double	Suite
$60-$75	$70-$85	$150-$170
☐	☐	☐

PLEASE READ THE FOLLOWING!

CHECK OUT–Our check out time is twelve noon. CHECK IN TIME–Our check in time is 2 p.m. We will room guests earlier, whenever space is available. To guarantee your reservation: A one-night advance deposit is required. Cancellation Policy: We require a 48 hour notice to insure a refund of "advance deposit." No charge for children under 12 years of age when occupying same room as parents. No charge for cribs. Additional charge for 3 or more persons per room. Rollaways available. Room tax is 9¾%.

Please mail this form & deposit to the San Franciscan Hotel, 1231 Market & 8th at Civic Center, San Francisco CA 94103. For questions call: (415)626-8000.

MICRO MOVERS...
(continued from page 15)

to the white-haired show decorator who set up the booths, asking for some of his nicer prefab booth decorations and exhibit stands. Since they were short of loot, they naively asked if he would maybe, please, trade some stock in their new company – Apple Computer – for the rental fees. Being a sensible, experienced businessman who had seen decades of flakey promoters, he of course, demanded cash-only, refusing such a clearly foolish trade.

WARREN WANDERS, TOO

In fairness, I should malign myself as I have my compatriots (change person):

Jim Warren went from math professor, to employed hippie (a contradiction of terms), to Free University Secretary, to medical programmer, to computer consultant, to Stanford Ab.D. ("All but Dissertation," the unawarded booby prize for not completing one's Ph.D.). After leaving Stanford several weeks ahead of his thesis advisor (who escaped the fantasy Farm via Hewlett-Packard), he became editor of the Weird-Herald known as *Dr. Dobb's Journal of Computer Calisthenics & Orthodontia*, created by Dennis Allison and Bob Albrecht for People's Computer Company. (Dennis and Bob had the good sense to avoid editing it, themselves.) *DDJ* became the first software-oriented publication for the micro world.

After editorially salivating over the exciting information exchanges occuring at several hobbyist conventions in New Jersey "on the wrong coast" (in his provincial view), Jim suckered Bob Reiling (one of the founders of the Homebrew Computer Club and still its President) and Eric Bakalinsky (the word-bender who invented the name of *Dr. Dobb's Journal*, and has noted that you can lead a horse to therapy but you can't make him stable [huh?]) into joining him in creating the West Coast Computer Faires. Given his (obvious) long-winded nature, Jim created the *Silicon Gulch Gazette* to endlessly flail Faire fantasies, then became the rare-time publisher of the *Intelligent Machines Journal* – later sold to Pat McGovern and renamed *InfoWorld*.

He also announced and hasn't yet done electronic *DataCast*, a paperless electronic newspaper distributed to its nonreaders by FM subcarrier broadcast, and founded paper *DataCast*, a short-lived magazine devoted to in-depth tutorials on significant software. It died from being long on tutorials and (too) short on advertising.

Warren also hosted the first weakly (sic) teevee talkshow on microcomputing, the "Computer Chronicles" carried for two seasons on about 40 PBS affiliates, nationally. He has created Video Initiative, a video production company specializing in videotape tutorials about microcomputing, contract video work for computer companies, and is planning a weekly half-hour show for national television sindication (sic sic).

After being the Faire Chaire for eight Computer Faires, Warren passed Faire ownership/management on to others who maintain the delusion that the micro world is sane. As another story in this issue reports (more politely), Prentice-Hall has become the proud owner of the Computer Faire.

(Back to first person, singular) To put it mildly, I am gleeful at the prospect of giving up management and administration of the Faire business! I was trained as an educator, a technologist, and an academician – but never as a business person. The Faires were exciting, but the management effort that they have come to require as this industry has matured, and as they have grown from 100 exhibits to more than a 1000, has far exceeded my training or inclinations.

WATT NOW?

It is a JOY to be able to return to my several professions – and leave the driving to them. And to think, I didn't even have to pay Prentice-Hall to take on this gargantuan management load.

I remember, b.c.f. (Before Computer Faires) having time to design, and program, and write, and organize meetings, and consult, and do all those things that are fun for technonuts. I vaguely recall having

(continued on page 18)

Conference Session

Modula-2: A Worthy Successor to Pascal?

A tutorial on the Modula-2 language, titled "Modula-2: A Worthy Successor to Pascal," will be presented during the August IBM PC Faire, by Joel McCormack, of Volition Systems, of Del Mar, California.

All features of Modula-2 will be covered, including the Module and how it differs from a procedure, separate compilation with object code version control, and low-level machine access of facilities lacking in Pascal. Discussion topics will include physical address manipulation, type subversion, multi-processing, and interrupts.

McCormack says of the tutorial, "It will be especially valuable to those who have some acquaintance with Pascal, but should be of interest to anyone with high level language experience."

Conference Session

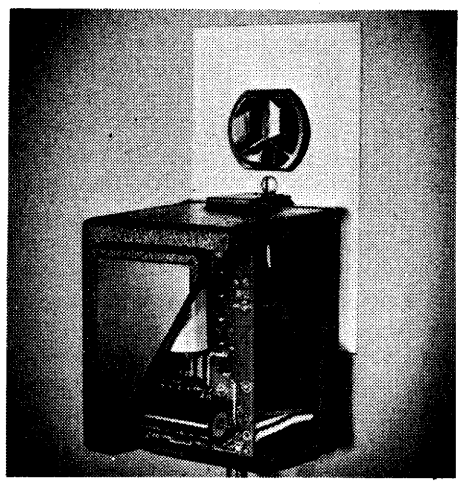
Using the IBM PC to Teach Speed Reading

"As a reading teacher, I have found the IBM PC to be a highly effective training tool," says Janice Davison, Ph.D. "I wanted a situation where the student competed with himself and not with others. It became apparent that the computer could help provide the kind of individual training the students needed, and so I directed my energies to developing a speed reading course using computers."

Davison will discuss details of her work at the First IBM PC Faire in August. Her talk will be titled "Using the IBM PC to Teach Speed Reading."

Her paper will be included in the *Proceedings of the IBM PC Faires*, available at the show.

Outboard Power Supply Eliminates U.L. Listing Problems



Transformation Electronics Corporation's new MP line of outboard power supplies for microprocessor based products frees the engineer from many concerns normally associated with internal power supplies, particularly regarding Underwriter Laboratory listing, high temperature, space and weight.

By building both the line and load regulation circuits within the external supply, both heat and EMI are removed from the customer's products. Because the high voltage is totally isolated within the power supply, only the supply requires Underwriter Laboratory listing and not the end product. This represents a significant savings in unit cost and UL approval time.

One of four units in the series is the UL listed Model MPPS-512, providing simultaneous outputs of +5 volts DC at .75 amps and +12 volts DC at .15 amps over an input range of 103 V AC to 129 V AC. Load regulation is held within 2% over the entire input voltage range in the +5 volt DC output side with +12 volt DC held at 0.1%.

Other units within the series are the MPPS-512-1, providing simultaneous outputs of +5V DC at .60 amps and +12 V DC at .20 amps, Model MPPS-5 with an output of +5 V DC at 1 amp and Model MPPS-24 within a +24 amps output.

Each model in the MP line features operation from an input voltage range of 103 - 129 volts AC with 0.2% line regulations. Ripple is held to 10 millivolts rms maximum. All models are available in both direct wall plug-in as well as desk top configurations.

With the availablity of this new generation of closely regulated outboard power supplies, specifically designed for use with microprocessor based equipment, design engineers can look forward to greater flexibility, faster safety agency approvals, and lower unit cost.

For further information, contact: Ken Isabelle, Program Manager Microprocessor Products, Transformation Electronics Corp., 170 Wilbur Place, Bohemia, NY 11716, (516) 563-1117.

Conference Session

Vertical-Market Software

"Up to now, microcomputer software has been horizontal, cutting across all industry groups," says Gene Finkler, of Silicon Valley Micro, in San Jose, California. "Three well-known packages of the horizontal type are VisiCalc, WordStar, and Lotus 1-2-3. All of these run on the popular IBM PC, and vertical-market software can also be designed to run on the IBM PC."

Finkler will be speaking at the First IBM PC Faire in San Francisco this August. His talk will be titled "Vertical Market Software," and in it he will stress the necessity of developing expertise in a particular industry before attempting to write or to market specific software tailored to the needs of that industry.

Asked to outline a plan of action for the software entrepreneur, Finkler began, "Write a brief description of your idea for vertical-market software; outline its major features and functions. Identify who you see as the probable end-user; give some examples of how they would use it. It would be wise to create sample data files, a user manual, and brochures to help conceptualize the product. Describe the installation and user-interface features that you are planning; make it easy for the average computer user to get up and running quickly."

He continued, "Point out what makes your vertical-market software different from other products of a similar type; explain why potential customers would buy it. Make a list of competitive products that are currently available; itemize the features that are comparable with your vertical-market software."

Finkler's paper will also be included in *The Proceedings of the First IBM PC Faire*, which will be available at the show.

SPEAK!

at the

9th West Coast Computer Faire

San Francisco *Civic Auditorium & Brooks Hall & Trade Show Center* *March 23-25, 1984*

- Tutorially Talk About Your Tantalizing Thinkertoys
- Comprehensively Comment on Your Complex Computer Calisthentics
- Describe Your Daring Digital Deeds!
- Create & Chair Your Very Own Conference Session

CHOOSE YOUR OWN TOPIC(S)

Some of the topics presented at previous Faires:

Tutorials for the Computer Novice
Visions of the Near Future
Computer & Video Art Systems
Electronic Music
Computers and Law
Speech Synthesis & Speech Recognition by Machines
Exotic Computer Games
Computer Assistance for the Physically Impaired
Designing Systems for Humans
Low-cost Educational Computing
Computer Esoterica
The History of Computers & Computing
Intelligent Mass Communications
Electronic Mail
Residential Energy Conservation Systems
Tutorials on Software Design
Hardware Design & Implementation
High Level Languages for Micros
Multi-Tasking on Microcomputers
Business Aspects for Computer Craftspeople
Peripherals: Plain & Fancy
Public-Access Computer Centers
Computing in Amateur Radio Systems
Heretical Proposals

YOUR TALK WILL BE PUBLISHED

All accepted papers will appear in the
Conference Proceedings of the 9th West Coast Computer Faire
which will be available at the Faire.

the *DEADLINE* for
abstracts & camera-ready papers is

NOVEMBER 30th, 1983

Call or Write NOW!

† Tell us your topic
† Propose a conference session you would like to organize (we'll be glad to help)
†Request a Speaker's Kit, *soon.*

Computer Faire, Inc. **570 Price Avenue** **Redwood City CA 94063** **(415) 364-4294**

FULL C

PCDOS – CP/M-86 – MPM-86 – CCP/M-86

$100

- OUTSTANDING PRICE/PERFORMANCE
  "SIEVE" Benchmark
  135 bytes compiled – 6144 bytes linked
  65 sec. compile (disk) – 11.5 sec. run (10 iterations)
- FULL DEVELOPMENT PACKAGE
  C Compiler, Assembler, Linker, Librarian and Full Screen Editor
- COMPLETE IMPLEMENTATION
  FULL K & R – plus – **STDIO** LIBRARY
  8087 or Software Floating Point

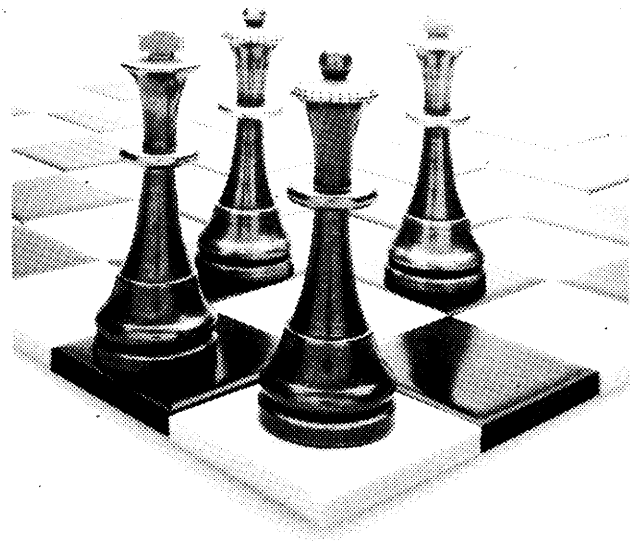
To order specify OS & DISK SIZE/FORMAT.
Calif. residents add 6½% sales tax.

C WARE

1607 NEW BRUNSWICK SUNNYVALE, CA 94087
(408) 736-6905

PCDOS Trademark IBM – CP/M Trademark Digital Research

Perfect Mates
ProWorks™ & Lotus 1-2-3™
the winning strategy



ProWorks™ means new solutions to old problems. ProWorks and Lotus' 1-2-3™ combine for the winning strategy—a strategy that marries the raw power of 1-2-3 with the consistency, speed, and flexibility of ProWorks. They're the perfect mates, saving you valuable time that can be focused on analyses and solutions—today, not next week. Instead of spending time setting up and building models, use the strategy that wins—ProWorks, business and personal applications for today's professional.

ProWorks includes:
Executive Assistant, Key Business Measures, and Business Forecasting.

Reston Computer Group
Reston Publishing Company, Inc.
11480 Sunset Hills Road Reston, Virginia 22090
For more information call us at: **(800) 336-0338**

ProWorks is a trademark of Reston Publishing Company.
1-2-3 is a trademark of Lotus Development Corporation.

Radio-Electronics Should Have Received the Credit

O Blush! O Cringe! In my column in an earlier edition, I incorrectly stated that *Popular Electronics* "can be said to be the rag that created personal computing. Back in 1974, it ran articles on the design of the old "Micro-8" – a build-it-youself nonkit based on the Intel 8008."

Several readers, including Ken McGinnis and Jonathan Titus pointed out that this was incorrect– in fact, those first articles on the Micro-8 were carried in *Radio-Electronics.*

(It was all a test to see if anyone remembered?) Herewith, we place the credit where it is due. –JCW

New IBM BOOKWARE™ From

BRADY BOOKWARE™

8087 Applications and Programming for the IBM PC and Other PCs

by Richard Startz

The clearly stated and comprehensive explanation of the number crunching 8087 microprocessor is here! From a non-technical introduction, the book evolves into a detailed technical explanation of the 8087 microprocessor. With sections for both the technical and non-technical user, this guide gives a thorough insight to the full potential of the 8087. If you're involved in number crunching, this is one book you can't afford to be without!
1983/250pp/paper/D4207-9/$19.95

Communications and Networking for the IBM PC

by Larry E. Jordan, Bruce W. Churchill

This comprehensive summary of the data communications for the IBM PC covers a wide variety of existing and projected data communications applications, including character codes. Provides you with a thorough background in IBM PC data communications. Covers both asynchronous and synchronous communications and an extensive treatment of local area networking. A must for communications for and on the IBM PC!
1983/225pp/paper/D3855-6/$18.95

Stop by and see these and other IBM PC titles at BOOTH No. 1523, IBM PC Faire, San Francisco

BRADY

Robert J. Brady Co. A PRENTICE–HALL COMPANY
Bowie, Maryland 20715 (301) 262-6300

MICRO MOVERS...
(continued from page 16)

friends and a social life, and time to get groceries, and everythin'. I more vaguely remember even havin' dates! (Wonder if there are still girl/women in the world who are not grinding after management megabucks?) Seven years of tuna sandwiches between phone calls is enough!

I did, however, keep the fun stuff – the things I am trained to do (if I only had the time). I am still Chairing the Technical Conferences. And, I have kept the *Silicon Gulch Gazette* – this news(?)paper that's worth at least what you paid for it. Since the new Faire folks are planning more Computer Faires, nationally, and are inclined to underwrite its publication for your and their benefit, it seems likely to continue. Since I now have time to work on it, it might even become useful (chortle).

Other semi-fantasies for the foreseeable future include finally doing electronic *Datacast*, working on the video tutorials and the television series, some digital videodisk ventures, and some fancy computerized typesetting and publication layout – all things that the consumptive time demands of Faire management prohibited my pursuing.

Unrelated to computing, there are a coupla projects in alcohol fuels, and a notion for a smoke-free restaurant named "We Also Serve Dinner" with family-style service, offering evenings of congenial non-inebriated socializing – an alternative to bars, for folks out of school who wish to reach beyond their workplace and their neighborhood. Wanna share a pleasant evening?

Also, many of us living in the redwooded mountains of the San Francisco Peninsula are working together to persuade county building and planning policy makers to adopt policies appropriate for this rural area, rather than applying requirements designed for tract home development.

WORTHWHILE VENTURES

This column has been discussing innovators moving to new ventures. It is appropriate to close with some notions about the character of worthwhile ventures – activities that are worthy of your spending the time of your life.

Surely, adventures we choose to pursue should include those that allow us to support ourselves – rather than being on the dole to Big Daddy or Big Brother. But, simply making loot just doesn't cut it as being the goal of Living.

If we are to spend half of our conscious, adult lives on something, it should be fun and enjoyable – fulfilling.

And, if we're really lucky, what we choose to do – or stumble into doing (as has been the case for more than a few of us in microcomputing) – can make a positive contribution to the community or the society of which we are a part and to which we have a responsibility.

A venture that is truly worthwhile allows us to leave the world in a better condition than we entered it.

SPEAK

at the

Second PC Faire

San Francisco Civic Auditorium & Brooks Hall Oct. 26-28 1984

Give a Talk on **IBM PC** (or Compatible) Topics

Create and Lead a Conference Session

Possible Topics

- Corporate Applications
- Small Business Applications
- Professional Applications
- Networking
- Communications
- Education
- Systems Design/ Implementation
- Graphics
- Portability

Request a Speaker's Kit Early

Talks Will Be Published in the
Second PC Faire Conference Proceedings

Deadline For Abstracts & Camera Ready Art is:

JULY 1, 1984

Call or Write:

Computer Faire Inc. 570 Price Ave., Redwood City, CA 94063 (415) 364-4294

BEST of the COMPUTER FAIRES

Conference Proceedings of the West Coast Computer Faires

Listed below are the section titles for each volume.

5.

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

Tutorials for the Novice
Artificial Intelligence & Micros
Computer Games & Computers in Education
Low-Cost Computing in Education
Teaching About Computers & Programming
Computer Assistance for the Physically Impaired
Medical Computing
Business & Low Cost Computing
Computer Music
Personal Communications & Microcomputers
Unusual Microcomputer Applications
Legal Aspects of Software Protection
Micro Software Engineering
Significant Software for Inexpensive Machines
Pascal & Pascal Machines
Micro Hardware & Interfacing
Potpourri

6.

THE BEST OF THE COMPUTER FAIRES, VOLUME VI
Conference Proceedings of the 6th West Coast Computer Faire

For the Novice: Introduction to Computing
Microcomputing: Very Unusual Applications
Computer Graphics: Input
Computer Graphics: Processing
Computer Output in Two & Three Dimensions
Speech & Music Synthesis by Computers
Mass Digital Telecommunications
Computers for Document Production
Biomedical Computing
Computers for the Physician's Office
Computing in Law & Law in Computing
Computer Assisted Instruction: Plain & Fancy
Computing & Education
Financial & Economic Applications
Computing for Business Applications
About the Computer Business
About Computer Personnel
About Computing: Some Observations
Engineering Applications of Microcomputers
Languages: LISP
Languages: UCSD Pascal Systems
Languages: FORTH
Languages: BASIC
Systems: Operating Systems
Systems: Database Management on Micros
Homebrew & Commercial Software
On the Design of Hardware & Software
Homebrew Hardware
Quasi-Commercial & Very Commercial Hardware
A Report from Japan
The Last One

7.

THE BEST OF THE COMPUTER FAIRES, VOLUME VII
Conference Proceedings of the 7th West Coast Computer Faire

For Novices
Applications
Educational Computing
Music
Graphics
Medicine
Business Computing
CP/M Data Management
Software
Software Protection
Computer Business
APPLEs & 6502's
Standards
Keyboards
Hardware
Design Automation
International Developments
The Future
Philosophical Considerations
Employment
Writing & Documentation
Potpourri

8.

THE BEST OF THE COMPUTER FAIRES, VOLUME VIII
Conference Proceedings of the 8th West Coast Computer Faire

Image Processing & Computer Vision
Animation & Graphics
Esoteric Issues in Computer Games
Music & Computers
Networking
Packet Radio
Life Sciences
Word Processing Issues
Simulation, Forecasting & Statistics
Micros Making Money
Unusual Applications
Educational Computing
Evaluating Educational Software & Curricula
Educators' Authoring Systems
Approaches to Computer Literacy
Special Education Computing
Computers for the Physically Impaired
For Business: Practical Issues in Business Computing
For Business: Management Software Development
Issues for Business Management
Computer Languages
Forth
Programming Techniques
Computer Peripherals: Plain & Fancy
Hardware
For the Industry: Venture Planning & Financing
For the Industry: Legal & Regulatory Issues
For the Industry: Issues & Opportunities

new!

The Best of the IBM PC Faires, Volume I, will be available at the 1st IBM PC Faire, August 26 - 28, in San Francisco.

Bulk Orders:
Computer Faire Proceedings may be ordered in bulk quantities at a discount.

For complete details:
Write or phone Computer Faire, Inc., 570 Price Ave., Redwood City, CA 94063, (415) 364-4294.

ORDER FORM

Conference proceedings: The Best of the Computer Faires

Quantity			Price	Total
_____	Volume V	Fifth Computer Faire (1980)	$ 15.00	_____
_____	Volume VI	Sixth Computer Faire (1981)	$ 15.00	_____
_____	Volume VII	Seventh Computer Faire (1982)	$ 15.00	_____
_____	Volume VIII	Eighth Computer Faire (1983)	$ 15.00	_____

☐ PLEASE GIVE ME YOUR BEST DEAL: all 4 volumes for $55.00
(all prices include tax and UPS shipping charges)

Enclosed is my check for $ _____ in full payment of my order.

Please charge to my ☐ Mastercharge ☐ Visa Card Number _____ Exp. date _____

Signature _____ MC Bank Code _____

Name _____
(please type or print)

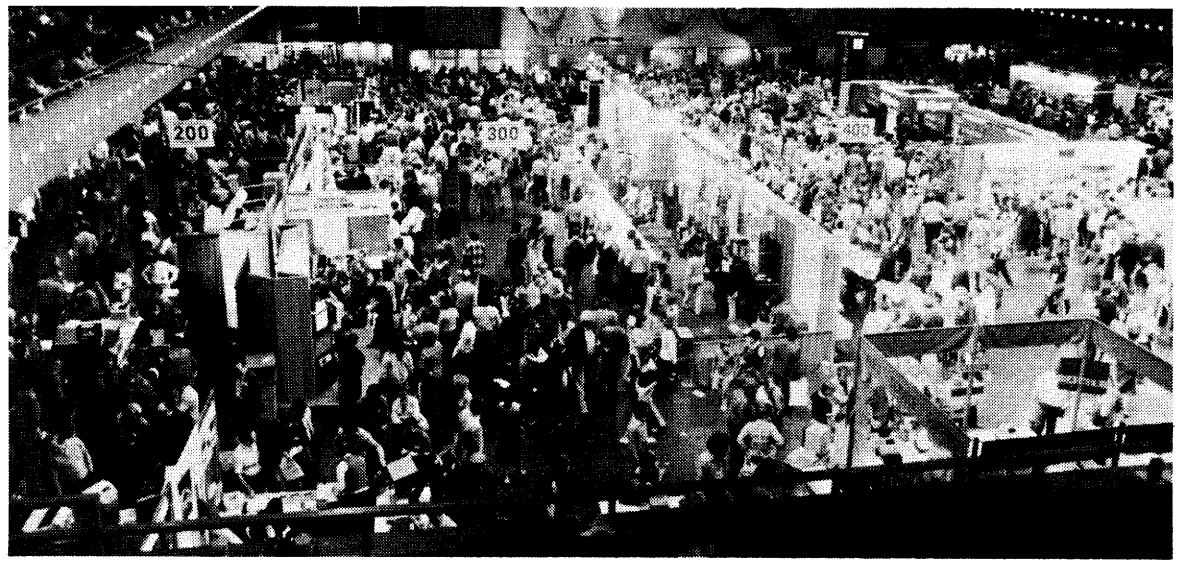
Address _____ City _____
(UPS cannot deliver to USPO box address. Add $1.00 each for Parcel Post.)

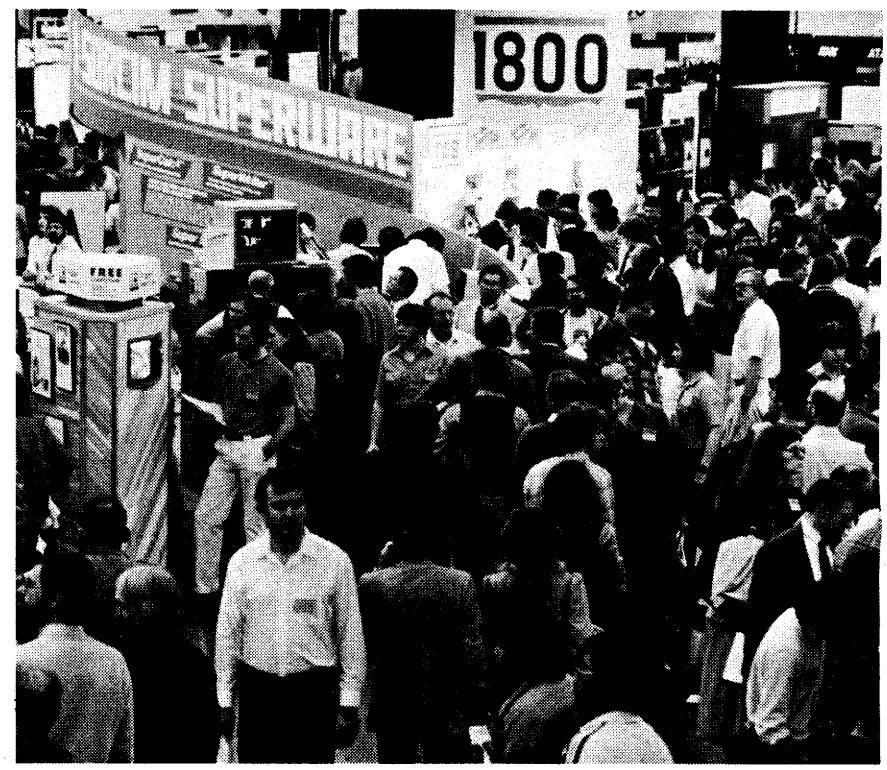
State _____ Zip _____ Phone Number _____

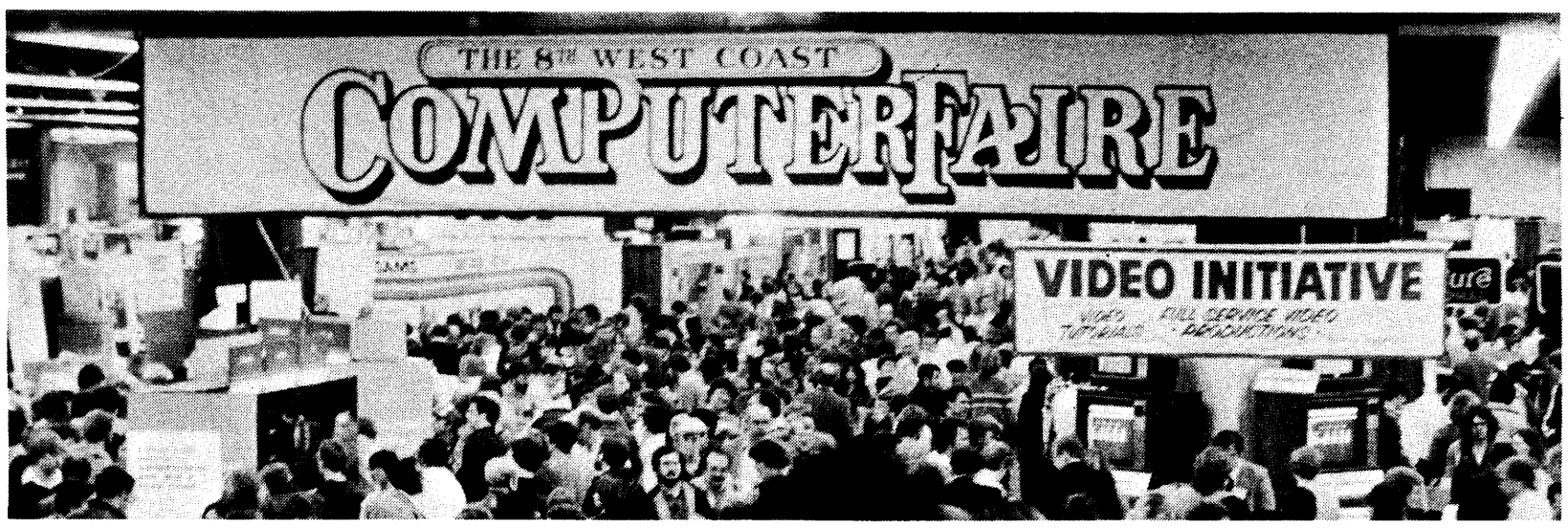
Computer Faire, Inc.
570 Price Avenue **Redwood City, CA 94063** **(415) 364-4294**

SGG37

8th Faire in March Drew 47,000







San Francisco Events Hotline

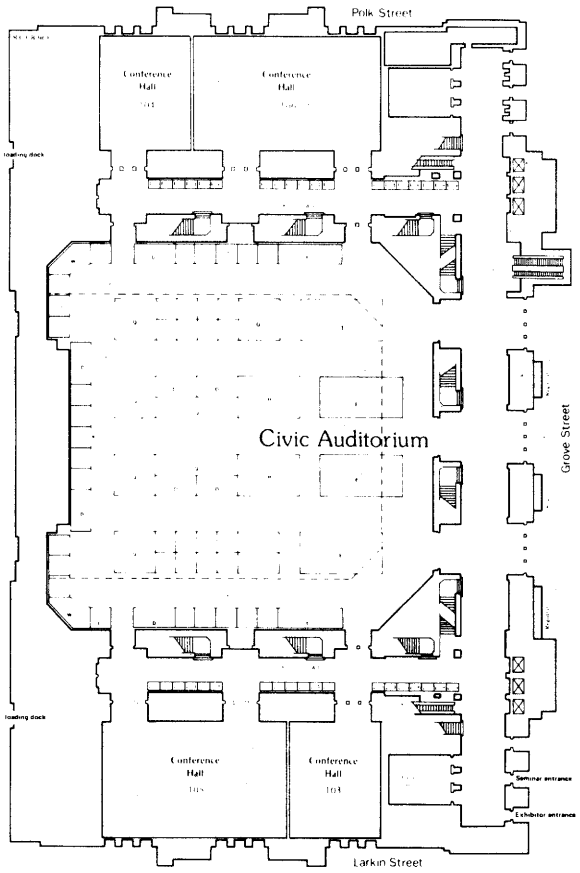
Looking for some night life while you're in San Francisco for the Faire? Call the San Francisco Convention and Visitors Bureau Hotline at (415) 391-2000. The taped message will tell you about dance, comedy, music, theater, opera, and sports events in the city.

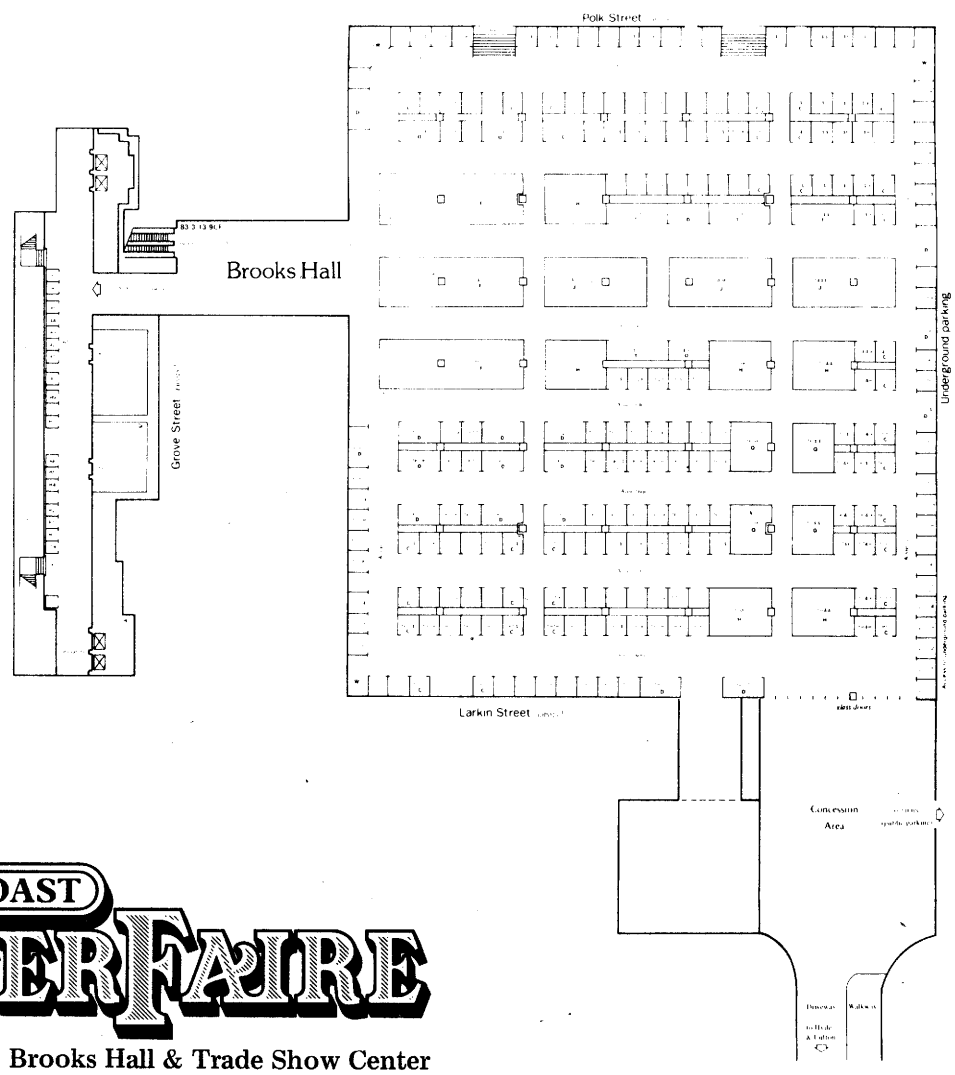
Free Future Copies of the *Silicon Gulch Gazette*

Just send your name and mailing address to *The Silicon Gulch Gazette*, 345 Swett Road, Woodside, CA 94062-9990.

For Rapid Transit Use BART

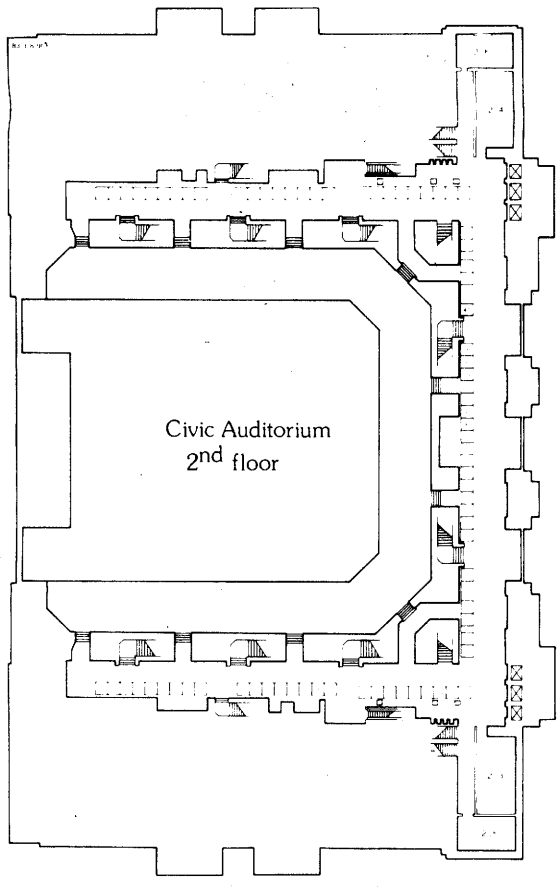
Need rapid transit while you're visiting in the Bay area? Use the Bay Area Rapid Transit System (BART). Trains run seven days a week, 365 days a year, Mon–Sat, from 6am–12 midnite, and Sunday from 9am–12 midnite. For more information and a system map, contact BART, 800 Madison, Oakland, CA 94607, (415)-788-2278.

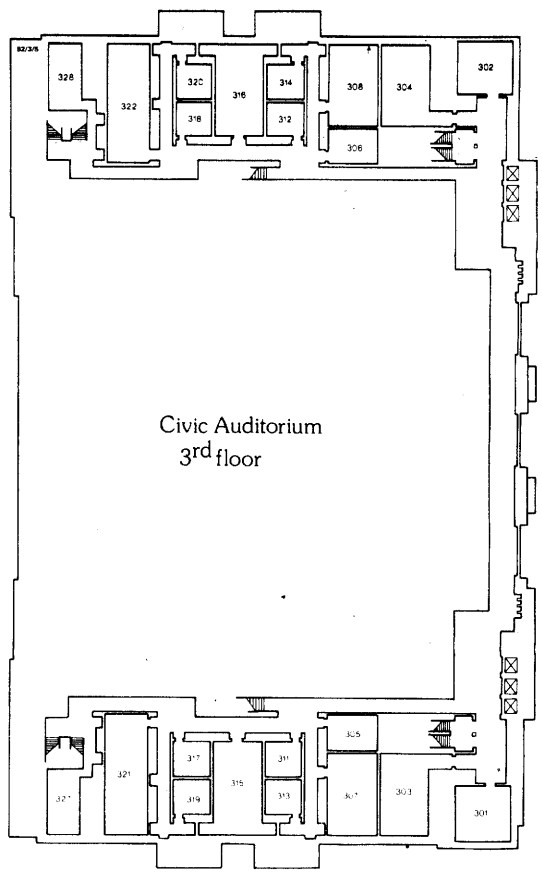


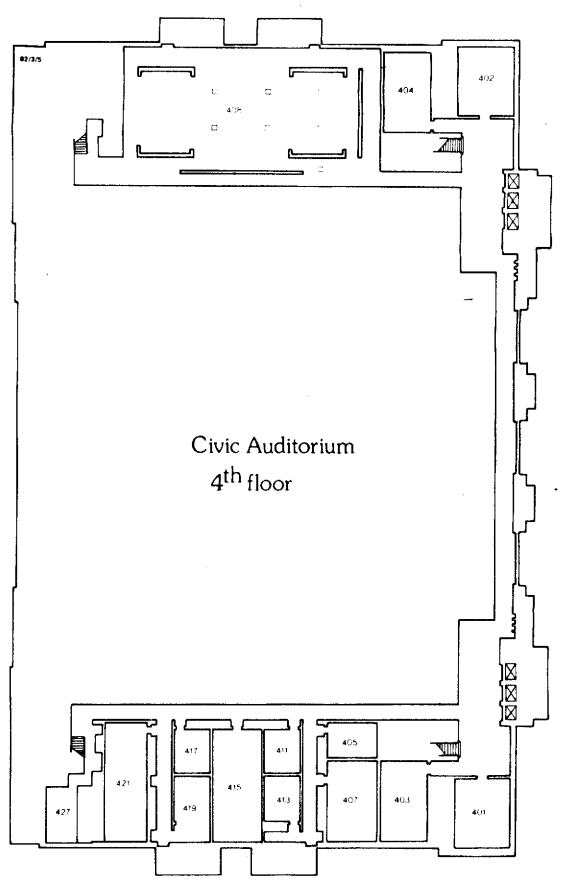


THE 9TH WEST COAST COMPUTER FAIRE

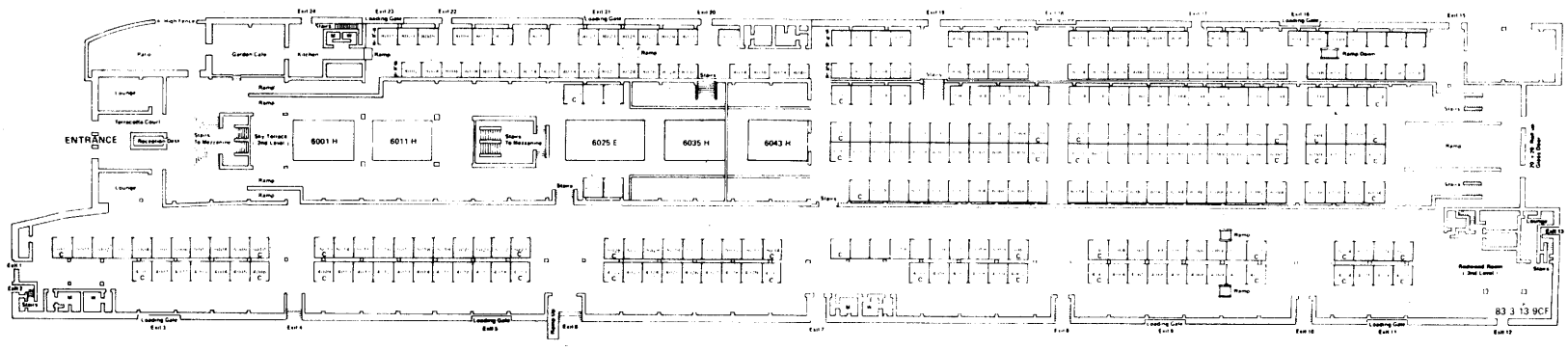
San Francisco • Civic Auditorium & Brooks Hall & Trade Show Center
March 23 - 25, 1984







Trade Show Center



9th WEST COAST COMPUTER FAIRE EXHIBITORS

as of July 5, 1983

San Francisco Civic Auditorium, Brooks Hall & Trade Show Center • March 23—25, 1984

3M/Data Recording Prod Div
800 Software
A.I.D.S. Computer Centers
A.P.P.L.E.
A.S.T. Research Inc
Abacus Associates
Abacus Software
Access Matrix Corp
Addison-Wesley Publishing Co
Addmaster Corp
Advanced Computer Controls
Adventure Intl
Algoram Computer Products Inc
Allen Gelder Software
Allenbach Industries Inc
Almaden Systems Inc
Amdek Corp
American Ink Products Co
American Training Intl
Anaheim Publishing Co
Analog Computing Magazine
Anchor Pad of Northern Calif
Anvil Cases Inc
Apple Computer
Applied i
Applied Innovations
Artec Electronics Inc
Artra Inc
Artworx Software Co Inc
Atari Inc
Ault Associates
Autodesk Inc
Bausch & Lomb
Berkeley Microcomputer
Berkeley Schl for Comp Graphics
Berzurk Systems
Broderbund Software Inc
Buss/Sextant
Byte Industries
Byte Publications
c-systems
Call Manager
Calsoft
Carousel MicroTools Inc
CBS Educ & Prof Publishing
Center Productions
Checks-To-Go
Cody's Books
Colby Computer Corp
Commercial Mailing Accessories
Commodore Business Machines Inc
Compac Microelectronics Inc
Component Sales Inc
CompuPro
Compute! Publications
Computech Systems
Computer Case Co
Computer Connection
Computer Discount of America
Computer Discount Products
Computer Distribution Assoc
Computer Furniture & Access
Computer Gaming World
Computer Greetings
Computer Insights
Computer Science Press
Computer Shack Inc
Computer Shopper
Computer Station
Computer Technology Innovations
Computing!
Concord Computer Products
Condor Computer Corp
Continental Software
Contractors Software
Corona Data Systems
Creative Computer Peripherals
Creative Computing
Creative Software
Data Base Computer Camp
Datamation
Datamost Inc
Datasoft Inc
Dialog Information Services Inc
Diamond Computer Systems Inc
Digit Magazine
Digital Eguipment Corp
dilithium Press
Discovery Games
Diskus Products
Don't Ask Software Inc
Doss Industries
DPR Personnel Services Corp
Eagle Computer Inc
East Side Software
Edu-Ware Services Inc
Elcom Systems Peripherals Inc
Electro Mavin
Elsevier: The Software Catalog
Exersoft Corp
Floppy Disk Service Inc
FMJ Inc
Forth Interest Group
Gallaway Enterprises Inc
Gold Software(Douthett Entpr)
H&E Computronics Inc
H&R Enterprises
Hayden Software Co
Heath Co/Zenith Data Systems
Howard W. Sams & Co Inc
IBM
Image Resource Corp
Individual Software Inc
INET Corp
InfoWorld
Insoft Inc
Interactive Structures
Interface Age Magazine
Interfirm Systems Corp
International Apple Core
Intl North Star Users Assoc
Island Graphics Inc
J2S Computers
Jade Computer Products
Jandel Corp
JDR Microdevices Inc
JMM Enterprises
John Bell Engineering Inc
John Wiley & Sons
Kaypro
Kern Publications
Kopp Systems
Kraft Systems Co
Krell Software
Leading Edge Products
Lifetree Software Inc
Lightning Software Inc
Little Brown & Co
Look Twice/Inversions
Magnolia Microsystems
Management Information Source
Maxell Corp of America
McGraw-Hill Book Co
Micro Cornucopia
Micro Data Tek
Micro Discovery Magazine
Micro Flash Computer Products
Micro Lab
Micro-Sci
Microbits Peripheral Products
Microcomputer Accessories Inc
MicroPro
Microware Exceltek
Microwest Distributing Inc
Minnesota Western
Mission Computer Corp
Mitsuba Corp
Monarchy Engineering
Moore Business Center
Morrow Designs
Mountain View Press Inc
Mouse Systems Corp
Mouser Electronics
Nexa Corp
Nuts & Volts Magazine
Optimized Systems Software Inc
Orange Micro
Osborne Computer Corp
Osborne/McGraw-Hill
Panamax
Parsec Research
Passport Designs
Patrick & Co
PC Age
PC World Communications Inc
Penguin Software Inc
Personal Micro Computers
Plansky Public Relations
Portable Computer Magazine
Practical Peripherals Inc
Priority One Electronics
Program Design Inc
Pterodactyl Software
Quadram Corp
Quiet Designs Inc
R.H. Electronics Inc
R.R. Software
Radio Shack
RCA Solid State/Data Comm Prod
Reston Publishing Co Inc
Robert J. Brady/Prentice Hall
Robotics Age Magazine
Rocky Mountain Software Systems
Rothenberg Information Systems
Sam Clar Office Furniture
San Francisco Apple Core Inc
Select Information Systems Inc
Sierra On-Line Inc
Sigma Designs
Silicon Valley Systems
Sir-Tech Software Inc
Sirius
So Calif Research Group
Softalk Publishing
Softsel Computer Products Inc
Software Magazine
Software Options
Software Productions
Sorcim Corp
SSM
Staceys Books
Stanford Bookstore
Strategic Simulations Inc
Strawberry Tree Computers
Structured Design Inc
Sybex
Synapse Software
Syntauri
Tab Books Inc
Tall Tree Systems
Technicom/Bay Area Home Comp
Texas Instruments
TG Products
Time Arts Inc
Time Craft Industries Inc
TNW Corp
Totl Software Inc
Tronix Publishing
User Guides Inc
User's Guide to CP/M
USI International
Vector Electronic Co Inc
Venture Micro Inc
Videx Inc
Wayne Green
Wesper Microsystems
West Coast Business Prod
Whole Earth Software Catalog
Wico Corp
Wood & Clay Hi-Tech Gameware
Workman & Associates
Worldwide Software Publisher
Xcomp
Xebec

SEMINARS

to be held at the

IBM PC Faire

Personal Computer Networks: Getting Down to Business

Session: F1 (Fri-8/26/83, 1:30 to 5:00, $55)

This seminar deals with the problems and solutions facing an organization with the task of tying together the various micro's on the market. Topics include: Hardware/Software Considerations; The Communication Mode; Software; Resource Sharing; Security & Data Sharing.

dBASE™ II Fundamentals

Session: F2 (Fri-8/26/83, 10:00 to 1:30, $55)

An introduction to the most widely used data base system available for the IBM PC. This seminar will present an overview to dBASE II functions and capabilities along with specific examples of how to establish & use dBASE II. Topics include: Create and Modify a Data Base; Enter Information; Ad-Hoc Inquiries; Report Generation; Indexing & Sorting; Developing a procedure.

dBASE™ II Programming

Session: S1 (Sat-8/27/83, 10:00 to 5:00, $95)

This seminar will prepare you to develop application systems on the IBM PC utilizing the dBASE II programming language. Subject matter covers: Data Base Design and Creation; a presentation of the dBASE II language syntax; Procedure Calls; Creating Screen Formats; Indexing; performance considerations and utilities.

Advanced dBASE™ II Techniques

Session: N2 (Sun-8/28/83, 10:00 to 1:30, $55)

This seminar will cover advanced topics and will benefit the attendee with prior dBASE II experience. Specific areas include: Combining dBASE II commands; Advanced dBASE II Programming; Linking Multiple Files; and other "Gerson's dSECRETS" as published in The Data Base Advisor Magazine.

Integrating Personal Computers In The Corporate Environment

Session: F3 (Fri-8/26/83, 10:00 to 5:00, $95)

At this seminar you will learn how to put the personal computer to work for the individual and the corporation and plan for it's integration. Office automation is happening now; whether one by one, department by department or through centralized purchasing. Integrating existing micros into the corporate system or adding new ones, requires an approach based on proven techniques. Without a systematic plan for managing the information of both personal computers and established corporate data bases, the "information management" equilibrium is lost and problems result. This seminar is recommended for any manager, administrator or decision maker responsible for implementing Office Automation or the proliferation of Data Processing resources in their organization.

Problem Solving with MultiPlan™

Session: F4 (Fri-8/26/83, 1:30 to 5:00, $55)

This seminar will cover the fundamental and advanced features of the most powerful spreadsheet available. Topics covered include: editing, sorting, iteration techniques, linking multiple spreadsheets and other features.

How To Select A Personal or Business Computer

Session: S2 (Sat-8/27/83, 10:00 to 5:00, $95)

At this seminar you will learn how to select the features you need... What to look for --and look out for-- in your hardware and software...How to determine what to spend...Determine what size computer you really need...How to select the right software package...How to simply define your computer system requirements...How to select the best system and suppliers... and much much more. This seminar is recommended for any individual responsible for the selection of a Personal or Business Computer.

Lotus™ 1-2-3 Advanced Techniques

Session: N1 (Sun-8/28/83, 10:00 to 5:00, $95)

1-2-3 is the new software sensation that integrates spreadsheet, data base and graphics features. This seminar goes beyond the typical introductory class, showing you many different advanced techniques that put 1-2-3's remarkable features to work. Topics covered include: optimum spreadsheet design, data base query, graphics, macro programming & testing, menu generation, input data validation and sharing data with other programs and computers.

Project Management Survival Course

Session: N3 (Sun-8/28/83, 10:00 to 5:00, $95)

This seminar offers a "no-nonsense" approach to the successful application of Project Management Skills, which is rapidly becoming one of the most critical tools of today's computer professional. All participants will learn a practical approach on how to develop a Project Plan; Estimate, Schedule, Control and Manage their Project. This Course is Intended For, Any: - DP Manager; Project Manager/Leader/Participant; Lead Programmer/Analyst; Software Engineer; Corporate Project Manager (DP and non-DP).

How To Become A Computer Consultant

Session: N4 (Sun-8/28/83, 10:00 to 5:00, $95)

This seminar is designed to show you that while consulting is not for everyone, for those it appeals to, success can be virtually unlimited...as long as you know the ropes. The need for experienced programmers and computer professionals has never been greater. This day long session will show you How to: begin...tools of the trade...sell yourself...find markets...evaluate your skills and the client's...set fees...expand your business...handle money and legal matters...close the sale...and much much more.

INSTRUCTORS

Instructor For Sessions: F1, F2, S1

Jeff Cassel is with Slavin Associates, a management consulting firm specializing in helping business to manage and control the computer through Project Management and Executive Education. Mr Cassel specializes in the use of small computers in the business environment. His 16 year career in data processing includes technical support and systems management.

Instructor For Session: F1

Bill Slavin is the President of Slavin Associates a Management Consulting firm specializing in assisting client companies, to develop strategic systems planning. He is a Certified Management Consultant (CMC) who has been consulting for the past 15 years. A past president of ASM and a frequent speaker before professional groups. He is a member of the National Speakers Association and is the west coast seminar leader for the American Management Association's course on, "The Fundamentals of Data Processing for the non-EDP Executive".

Instructor For Session: F4

Chris Doner a member of Alex Systems has 5 years experience in the computer industry. He received his BS from Syracuse University and his MS from Michigan State University. The focus of his graduate work was applied Mathematics and Computer Simulation. He is familiar with a wide variety of hardware and software. He is active as a consultant for MicroPro International and Voice Recognition Systems.

Instructor For Session: N2

Alex Gerson, President & CEO, Alex Systems. Has 8 years experience in Data Processing. He received his BS in Mathematics from the University of Mexico and his Masters degree in Operation Research from Stanford University. He has proven his capabilities with a wide range of computer software. Mr Gerson has developed software for several firms in the San Francisco Bay Area, including Arthur Andersen & Co, Stanford University and Lehman Bros.

Instructor For Session: N4

Dick Kent has spent 23 years in the data processing profession; the last fifteen as a consultant. He is the president of DLM Consultants, Inc. He is a member of ACM and the ICCA, he has taught DP courses at New York University and DeAnza College. With Alan Canton, he co-authored the book "ComputerMoney, How to Make it in Data Processing Consulting".

Instructor For Session: N4

Alan Canton has been a consultant in Data Processing for over ten years. He is the President of Computer Programming Associates, a programming and educational consulting firm in the Sacramento Area. He has taught data processing at the College of Marin. He is the co-author of "ComputerMoney", he is a founding member of the Independent Computer Consultants Association.

Instructor For Session: N1

Dick Anderson is the Director of Advanced Micro/Mainframe Solutions, a consulting firm specializing in developing software for the IBM PC. He has been in the data processing field for 17 years, has taught at John F. Kennedy University, and has given seminars and workshops for the last 8 years. He is in the process of writing a book on advanced spreadsheet programs.

Instructor For Sessions: F3, S2, N3

Arnold Roberts has spoken before groups of the Data Processing Management Association (DPMA), Association for Systems Management (ASM), and the Association for Computing Machinery (ACM). He was selected to speak at the 1983 Rocky Mountain Data Processing Expo & Conference and at the 1983 National Computer Conference (NCC'83). He has over twelve years experience in the field of Business Data Processing, with a strong background in systems analysis and design, technical support, in-house training and project management. He formed ADC Associates in 1980 which provides in-house training as well as assisting corporations in the selection and integration of Personal Computers.

How To Register

All seminars will meet in San Francisco's Civic Auditorium, in the Civic Center. The seminar registration fees noted above do not include the IBM PC Faire registration/admission, which is $18 additional. If you register for more than one seminar you only pay the Faire admission once.

These seminars are expected to be heavily subscribed. Since enrollment is limited, pre-registration is highly recommended. You can register for the Faire and these seminars by phone or mail, to the address below.

At any time during the IBM PC Faire you may register for these seminars on a first-come, first-served basis at the Seminar Registration Desk located at the east (Larkin Street) end of the Civic Auditorium Front Lobby.

For Registration & Information on These Seminars:

ADC/Seminar Registration Bureau
960 San Antonio Rd, Palo Alto, CA 94303
(415) 493-5500

Make checks payable to ADC Associates.