

INEXPENSIVE COMPUTING for BUSINESS

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Volume 5, Number 3 Computer Faire, 333 Swett Road, Woodside CA 94062 (415) 851-7075

Electronic Mail Will Leave Its Stamp On the 1980s

By the end of the 1980s, users will be spending more than \$4 billion per year on electronic mail services and equipment. Although the field will probably be dominated by firms such as AT&T, IBM, and GTE, at least fifty other suppliers are expected to be active in more than a dozen specialty niches, according to a recent report from International Resource Development, Inc., a management consulting firm. The report, entitled *Electronic Mail in the 1980's*, predicts that the U.S. Postal Service will participate in the future electronic mail market through new and ambitious service offerings; however, the IRD consultants believe that the USPS will end up with only about one quarter of the market.

NEW, "INTELLIGENT" TYPEWRITERS, TELEPHONES, & COPIERS

Discussed in the report is the expected emergence of several new types of devices for sending and receiving electronic mail, including high-speed printers to be used in conjunction with the Satellite Business Systems wideband satellite communications service. But the most important elements in future electronic mail networks will be "intelligent" communicating versions of the familiar office copier, telephone and typewriter, says IRD, which points to the availability already of intelligent copiers from IBM, Wang and Sharp, and of electronic communicating typewriters from Exxon's Qyx division. Enhanced-function telephones, with scanners and perhaps small, calculator-type printers, will soon appear on the U.S. market, suggests IRD.

The emergence of these new communicating devices will spur the use of electronic mail, but to some extent this will be at the expense of the market for facsimile transceivers or telecopiers. Communicating, word processors, for example, are easier to use and many times faster than even the fastest business facsimile unit, points out the report. According to Linda J. Shine, of the IRD research staff, "Eventually, the facsimile transceiver will suffer the same fate as the collator — facsimile capability will become merely a feature or function of an office copier. Of course, the facsimile transceiver will not disappear completely, just as the collator has not disappeared, but the typical graphic transmission will take place from an intelligent telephone to an intelligent copier. The typical alphanumeric transmission will take place between communicating typewriters or word processors, and there will be multi-function networks (including AT&T's ACS) which will handle store-and-forward switching of both scanned and ASCII message data."

Although the IRD consultants expect some growth in the use of terminal-based electronic mail (TBEM), such

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Conference Session

The Computer is In

"We are at the beginning of a decade which will see computers enter most phases of our daily lives. Inexpensive and easy-to-program 'appliance' computers are now available for small business and home use. There are many possibilities for their application in the medical office."

Dr Mark Spohr of Medsoft relates several applications in his talk, "The Computer in the Practice of Medicine: an Overview," at the Computer Faire.

The computer's skills, says Mark, "lie in the areas of data collection, storage and manipulation. It performs repetitious and tedious tasks without tiring. Computers offer physicians increased organization, efficiency, and productivity. Better management improves the quality of patient care, and reduces medical costs.

"Estimates of physician time spent on maintaining medical records range from 25% to 35%. Administrative functions occupy yet more time. These tasks are necessary. By performing them more efficiently, they require less time. This allows more time for patient care. Quality of patient care increases, while record keeping, administration and management costs decrease.

"The large data storage and manipulation capabilities of the computer can be used to our advantage in making decisions. Differential diagnosis routines, treatment protocols and drug interactions are potential areas of use. In addition, the interactive capabilities of the computer can make programmed learning a reality for patient and physician."

"Good judgement comes from experience. Experience comes from bad judgement." —Jim Horning

Interactive Service Offerings

"Two-way CATV systems have been in existence in this country for at least fifteen years and yet, until recently, there have not been any strong, two-way, interactive service offerings. There have been satellites. First, government satellites, and then commercial satellites. Western Union, RCA, and AT&T operate satellite systems, but there are no two-way interactive programs. There are many new communication media, but they are generally inaccessible for general home or office use. Telephones, telex machines, acoustic couplers, and data access arrangements are most commonly used. What is missing is a universal, home/office terminal device — a low-cost terminal device that would be as prevalent as the telephone, and would have the following capabilities:

"Accept alphabetic input and display, accept numeric input and display, color graphic input and display, motion video input and display, audio input and output, soft-copy storage (i.e., erasable storage such as tape), hard copy output, access to computing power, two-way communication capability (providing audio/video and data communications), ability to translate between audio, video and data."

In summarizing his talk ("The Electronic Sandbox"), to be given at the Computer Faire, San Francisco State University Broadcast & Communication Arts professor Mark Cummings concludes:

"We are entering a period of dynamic change based on technological advances in micro-electronics and communications technologies. The magnitude of these advances has to a large degree unvested the interests that have maintained the status quo, thus creating a plastic environment, an "Electronic Sandbox." This period will be relatively short-lived.

Over-the-Counter Computer Market to Reach \$2 Billion Annually by 1985

A study of the market for "over-the-counter" computers that takes the 'software hurdle' into account, projects an eight-fold increase in shipments over the next five years — from \$250 million to \$2 billion by 1985.

The study, by Frost & Sullivan, Inc., predicts that the dedicated computer store is the outlet which will become the "main mode of distribution to final customers," be they consumers, small business owners, corporation managers, or hobbyists.

According to the 293-page study entitled "The Over-the-Counter Computer Market," the hobbyist market segment, although it currently continues to expand, is 'close to its peak.' The major growth over the next few years will come from purchases by small businesses, industry managers, professionals, and educational facilities, i.e., the so-called 'establishments' market.

At the same time, the consumer (or personal computer) marketplace will grow from 3% of the total market in 1977 to 40% in 1985. But, after that, computers sold to individuals will comprise the bulk of the market.

The study uses the term "over-the-counter" to describe all those computers that are variously called personal computers, home computers, hobby computers, small business computers, and microcomputers. The study predicts that market share distribution among such end user categories will shift as follows:

	Hobbyists	Consumer	Establishments
1977	45%	3%	52%
1978	22	12	66
1981	10	42	48
1985	5	40	55

Average sales volume by dedicated computer stores that sell to all such end users is running at \$255,000 annually, despite the embryonic status of the distribution channel. Indeed, 60% of the respondents to an F & S dealer survey had yet to celebrate their first anniversary.

Among other survey findings:

An increasing trend toward selling fully assembled systems.

A growing educational market.

70% of maintenance calls are performed in-store, 25% at the factory, and 5% by the customers themselves.

A boom market in the sale of peripherals to end users is also foreseen. Purchases beyond the initial processor system currently range from 1.5 to 2 times the initial investment, according to the study. Add-on sales expressed as a percentage of original system sales vary from a high of 71% for printers, to a low of 6% for terminals (which are typically bought with the original system), with floppy disk drives falling in between, at 44%.

The price of the study is \$800. For more information, contact Customer Service, Frost & Sullivan, Inc., 106 Fulton St., New York, NY 10038; (212) 233-1080. Please reference Report No. 600.

5TH WEST COAST COMPUTER FAIRE

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on

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

Telecommuting: Busing at Home

In 1973, an interdisciplinary research team at the University of Southern California began a study of the technological feasibility and societal impacts of a concept called "telecommuting." This coined word refers to the use of telecommunications and computer technologies to serve as a partial or total substitute for the daily trip to work. At the time the study was performed, personal computers did not exist. The technology that they were concerned with at the time was generally that of mini computers and larger systems. The subsequent introduction of the concept of distributed processing and of personal computer technology, as well as the appearance of several other trends, such as continued threats of major reductions in the availability of petroleum in the U.S., make it appropriate to reexamine the issue of telecommuting in the light of contemporary conditions.

Jack Nilles, University of Southern California Interdisciplinary Programs' Director, makes such a reexamination in his talk, "Telecommuting via the Personal Computer", at the Computer Faire.

"Several major factors and trends in contemporary society are acting to continually increase the desirability of telecommuting for several types of workers," says Jack. "The fundamental issue concerns the relative advantages to the employer and the employee of telecommuting instead of the traditional way of getting to work. Unless there are clear advantages to both employer and employee, the general concept will not be successful.

General Ledger Reports For Financial-Program Duty

Microcomputer Consultants recently introduced the MCC Business Software Series, a comprehensive group of programs developed for use on microcomputer systems in the business world.

This series has been developed to provide an efficient business environment by reducing the time-consuming and error-prone, manual processing of the basic accounting and billing functions with the accurate preparation of professional-quality, business documents.

All programs in the Business Software Series are designed for easy use by office personnel, and are accompanied by a detailed, step by step, operator's manual. All systems are menu driven and use a unique method of data entry that is highly interactive, easy to understand and checks for operator errors immediately. Unlike many other programs that are modified versions of programs that run on minicomputers, these programs are designed specifically for use in the microcomputer environment.

Systems available include general ledger, accounts receivable, accounts payable, invoicing, and inventory control, for use in retail and wholesale environments. The programs are designed for use under the CP/M operating system and require 48K RAM and a video display with an addressable cursor.

For further information, contact: Microcomputer Consultants, 231 E Street #9, Davis CA 95616; (916) 756-8104, and see their demonstration at booth 208 at the Computer Faire.

Conference Session

Giving Yourself The Business

Many people are looking at the microcomputer, and playing with the idea of quitting their secular jobs and going into business for themselves with their micro. Tony Severa dropped out of the 9-5 job market to go into business for himself in 1978. He opened Tony's Data Service in Vacaville, California, in March of that year. He has since started a new software company for the Apple computer for beginning owners, called Apple Orchard.

"Thoughts While Waiting for the Cavalry to Rescue Me," is the title of Tony's talk to be given at the Computer Faire, describing life in the wilderness, and survival tips.

By law in Denmark, each citizen has the right to see all government data about that individual.

Conference Session

Quick as a Flash

Motion illusions have fascinated the public at least since 1867 when Milton Bradley patented an animation toy called the Zoetrope of "Wheel of Life." One of the earliest motion picture machines was made by Plateau, a Belgian vision scientist, in 1833. His device, the stroboscope, consists of a sequence of still pictures printed on a disk which are viewed as they spin behind a series of slits. He gave a prototype to a countryman, Quetelet, the founder of statistics, who eventually gave it to Michael Faraday. Shortly thereafter the stroboscope and related animation devices were widely sold as parlor toys for the children of Victorian intellectuals. In the later half of the nineteenth century, the German scientists Helmholtz, Mach, Wundt, and Exner were among the first to make precise measurements of apparent motion. Exner's method was to present two separate successive electric sparks and ask observers to judge the order of presentation. His device is a forerunner of one of the most widely used instruments in vision research, the tachistoscope.

Speaking at the Computer Faire on "Seeing Motion with the Mind's Eye," Sam Hersh will talk of contemporary applications (a smart tachistoscope), demonstrate Phi Phenomena particularly, and more generally will demonstrate that "an extraordinary ability of the mind to see motion where none exists is the basis for animated visual displays. For example, if two neighboring figures are successively flashed, the figures appear to move smoothly from one position to the other when the time interval between flashes is between 30 and 200 msec. Many related phenomena can be demonstrated and investigated using an inexpensive video processor instead of standard electromechanical instruments which are less versatile."

A Computer Introduction For the Businessperson

Vertec has announced its latest instructional materials package, "Introduction to Computers."

The audio cassette and workbook package is designed to educate the businessperson who needs to evaluate the costs and benefits of computer systems, but has little prior knowledge of computer operations.

Too often, in a company whose expansion demands the use of a computer, the decision-maker has not had the previous experience necessary to understand what he is hearing in computer sales presentations. If a procurer of even a minimal system is not armed with basic facts to evaluate existing operations, basic, computer configuration selection will be impaired, as will an understanding of the benefits and features available as options to the system.

The Vertec package provides basic information on computers and how they work. Types of memory, storage media, and input/output devices are outlined in straightforward terminology. Applications are described to demonstrate typical tasks that a computer may perform. Guidelines are given to determine whether full-time staffing or consultant expertise is desirable; and, discusses making the choice to purchase a computer versus time-sharing or service bureau operations.

Available hardware, peripherals and software options are introduced to assist in defining a company's specific requirements when the actual computer selection is made.

"Introduction to Computers" comprises three audio cassettes and a 160-page workbook. For further information, contact: Vertec, 21250 Califa St, 107, Woodland Hills CA 91367; 213-999-5753 or 800-423-5205.

The Source of Hot News

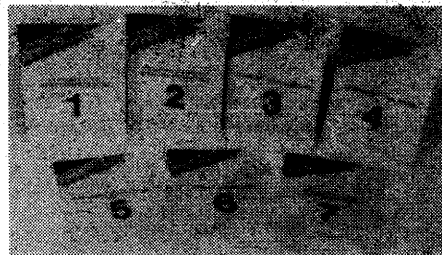
Most of the news articles in this issue that are not related to the West Coast Computer Faire have been reprinted with the kind permission of *InfoWorld* (formerly *Intelligent Machines Journal*).

IW is the only fast-turnaround, biweekly newspaper explicitly serving the microcomputer community and those interested in inexpensive computing capabilities. It is a valuable resource to those wishing to keep up with — rather than keeping behind in — what's happening in micros.

(Remember that all of the glossy monthly magazines are feature-oriented rather than news oriented, and have a 2-8 month or more delay in publication of articles... that's most of a generation of a microcomputer. Use the mags for in-depth coverage; use *IW* for the latest news.)

Subscriptions are only \$18/26 issues (one year) in the U.S. (Out-of-country rates available on request). *InfoWorld*, 530 Lytton Avenue, Palo Alto, CA 94301, (415)328-4602.

ARE YOU CONSIDERING A SMALL BUSINESS COMPUTER?



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Here are seven Special Reports that seek to take some of the mystery and problems out of SELECTING, INSTALLING, and USING small business computers. And YOU DON'T HAVE TO BE A COMPUTER EXPERT to understand these succinct reports.

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- * SR7 Word Processing: A Manager's Guide, 12 pages

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A New Slant For Tilting the Odds In the Investment Game

During the past several years, considerable effort has gone into researching methods of tilting the odds in the investment game. Out of this has come the discovery that not only can the odds be tilted, but that they can be tilted drastically, and in either direction. In particular, the strategy of hedging listed options against common stocks, when properly applied, can be proven to be more conservative and more consistently profitable than the simple buying and selling of stocks; so much so in fact that the Securities and Exchange Commission has recently ruled it a legal operation for trust and pension funds. The idea of an investment being more conservative and at the same time more profitable of course violates one of the widely 'known' tenets of Wall St. However, in recent times much that was widely 'known' has been found to be wrong.

The only disadvantage of this strategy is its complexity. Since certain tactics, by their very nature, tend to shift the odds in your favor, while other tactics, by their nature, make it almost impossible not to lose, there is really no viable alternative to a large initial investment in self-education plus a continuing expenditure of time and effort.

BEGETTING MONEY

Several years ago, Dr Alfred Adler (whose talk at the Computer Faire is "Four Programs for Use with Listed Option and Common Stock Investment Strategies"), asked himself the following question: How can money be used to make more money, without becoming involved in a product or a service? By this he meant consistent, long-term income, not sporadic profits interspersed with long periods of loss. The main thrust of his effort in attempting to answer this question has been directed toward the security markets.

The four programs to be presented are designed to be used in the real world, and include the effects of commissions, margin interest, and dividends, where applicable. The first presents the important indices for both opening and closing call-option transactions, including hedge ratios from zero to infinity, not inclusive. Another presents a graph or a table, as the user chooses, of profit from any combination of six basic positions: long or short a stock, long or short a call, and long or short a put. The third program enables the user to predict the future price of an option at user chosen future times based on user chosen future stock

Figure Solar Energy In a Calculated Manner

SUNSIM-1 (trademark) program calculates energy from the sun, and shows how it can be used in the home. Anyone interested in the amount and use of the solar energy available in his or her home will find this program useful. The program calculates the sun's energy in hourly intervals at any specified location on earth, and demonstrates its use for domestic space heating, cooling, and hot water heating.

The home energy distribution system is dynamically shown with graphics. Cumulative energy and temperature values are displayed, including solar energy collected and used, backup energy used, thermal and hot water storage temperatures, and more. Default values are built into the program, and users can also input their own requirements for size of home, volume of thermal storage, and area and angle of solar collector.

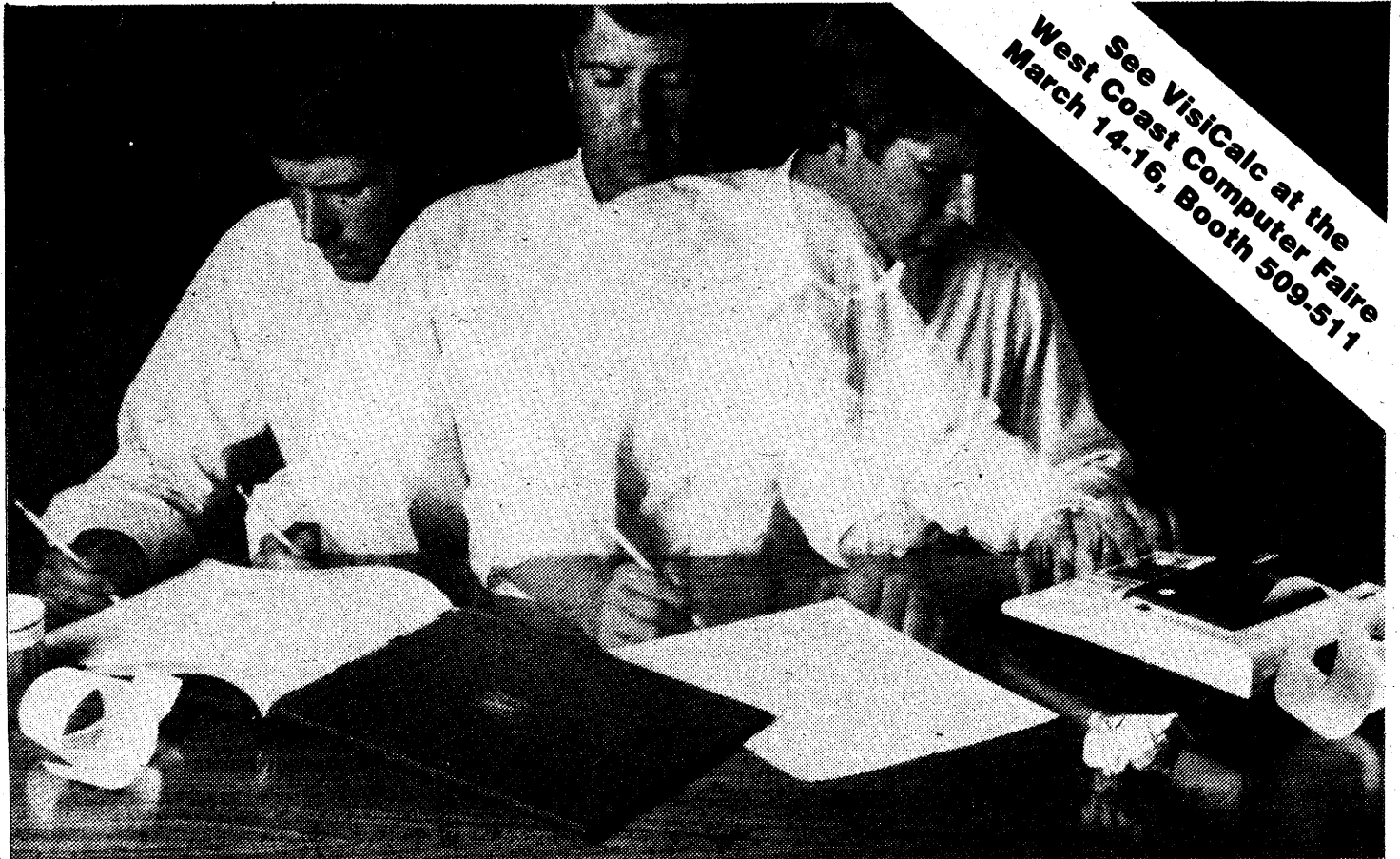
Written in TRS-80 Level II Basic, SUNSIM-1 requires 16K bytes of storage.

prices. The output may be displayed as either a chart giving future prices of options with three different exercise prices at three expiration dates, or a graph giving the future price of one option over a range of user chosen future stock prices. Finally, the fourth program enables the user to determine on an item by item basis the cost, current value per share, total current value, and capital gain of a portfolio consisting of long and short stock, and long and short option

positions.

The author's interest in stock market operations is primarily from the point of view of a mathematician. He firmly believes that the market is inherently unpredictable and that strategies based on hedging and the mathematics of probability are far more likely to be successful than those based on 'fundamentals,' 'technical factors,' or the reading of tea leaves. The ongoing study of investment strategies has

included a series of computer programs which were written primarily for study purposes. The more useful of those have evolved into production programs which are used in the everyday management of investments. The programs were originally developed in PolyMorphic Basic, and have recently been revised and converted to North Star Basic. These are available from the author and a TRS-80 16K Level II version is available from Creative Computing Software.



See VisiCalc at the
West Coast Computer Faire
March 14-16, Booth 509-511

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Say you're a business manager and want to project your annual sales. Using the calculator, pencil and paper method, you'd lay out 12 months across a sheet and fill in lines and columns of figures on products, outlets, salespeople, etc. You'd calculate by hand the subtotals and summary figures. Then you'd start revising, erasing and recalculating. With VisiCalc, you simply fill in the same figures on an electronic "sheet of paper" and let the computer do the work.

Once your first projection is complete, you're ready to use VisiCalc's unique, powerful recalculation feature. It lets you ask "What if?" examining new options and planning for contingencies. "What if" sales drop 20 percent in March? Just type in the sales figure. VisiCalc instantly updates all other figures affected by March sales.

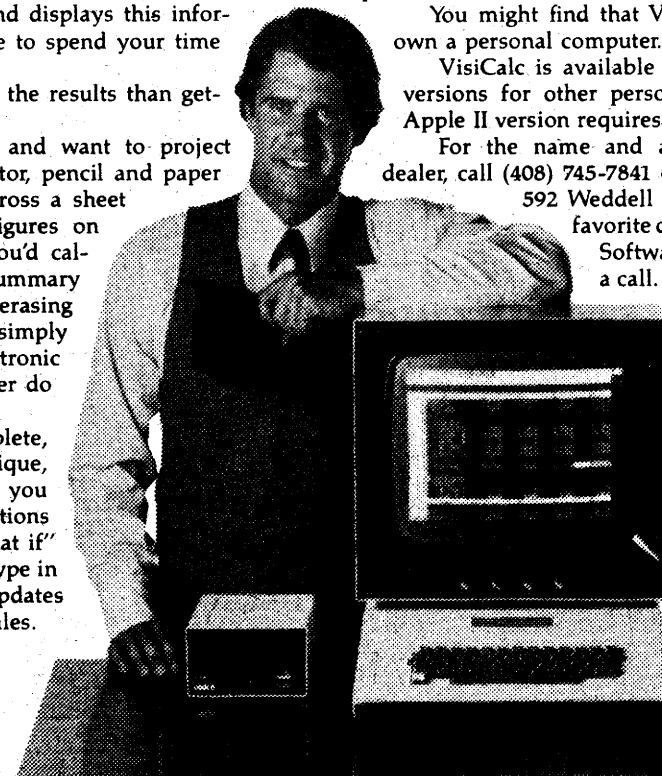
Or say you're an engineer working on a design problem and are wondering "What if that oscillation were damped by another 10 percent?" Or you're working on your family's expenses and wonder "What will happen to our entertainment budget if the heating bill goes up 15 percent this winter?" VisiCalc responds instantly to show you all the consequences of any change.

Once you see VisiCalc in action, you'll think of many more uses for its power. Ask your dealer for a demonstration and discover how VisiCalc can help you in your professional work and personal life.

You might find that VisiCalc alone is reason enough to own a personal computer.

VisiCalc is available now for Apple II computers with versions for other personal computers coming soon. The Apple II version requires a 32k disk system.

For the name and address of your nearest VisiCalc dealer, call (408) 745-7841 or write to Personal Software, Inc., 592 Weddell Dr., Sunnyvale, CA 94086. If your favorite dealer doesn't already carry Personal Software products, ask him to give us a call.



**PERSONAL
SOFTWARE**

VisiCalc was developed exclusively for Personal Software by Software Arts, Inc., Cambridge, Mass.

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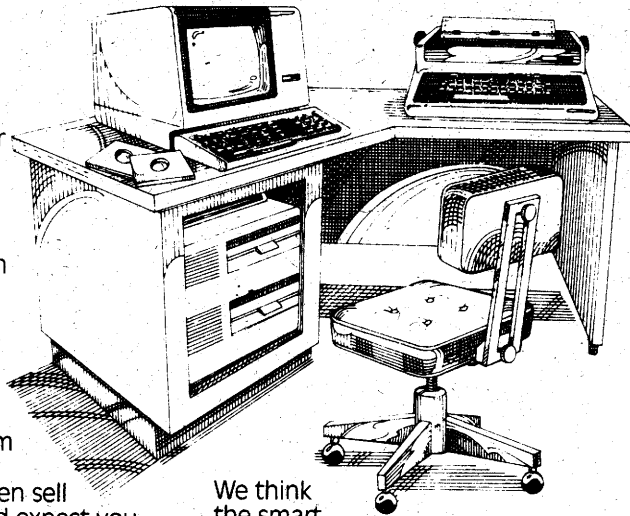
* Apple is a registered trademark of Apple Computer, Inc.

What type of company should you buy your first small business computer from?

Even a small business computer requires a large investment. So you'd better make sure the people you're dealing with are going to sell you the proper equipment. And stand behind it after the sale.

For instance, you could buy from a computer hobby store. But they often sell bits and pieces and expect you to assemble them as a do-it-yourself project. Their software may not work as well in your office as it does in their showroom. And their service after the sale is virtually non-existent.

You could also buy from a computer store owned by one of the giant computer conglomerates. But they only sell one brand of computers—theirs. And it's difficult to choose the right computer if you don't have a choice.

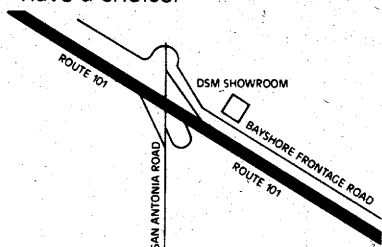


We think the smart place to buy your first small computer is from an independent computer distributor. One who carries a full line of products from a lot of big name computer companies. One who has a wide variety of software packages and is willing to work as a team with you and a software house to supply exactly what you need. And one who sells all the top brand terminals for use in time-sharing applications.

The company we just described, oddly enough, sounds a lot like us.

DATA SYSTEMS MARKETING

2680 Bayshore Frontage Rd., Suite 810
Mountain View, CA 94043
(415) 941-0240



Conference Session

The Starship Simulation Project

The Marin Computer Center has begun building a Starship.

"Unfortunately," say the Center co-directors, David and Annie Fox, "the ship we are building will never leave the ground, but its crew will never know the difference.

"Anyone who has ever seen a clear sky at night has desired to leave this planet (if only temporarily) and travel out into a sea of stars. People have been wondering about such an experience for thousands of years. Unfortunately, actual space technology has been hard pressed to keep pace with human dreams, and our imaginations have been further stimulated by science fiction books and films. And yet, partaking in these media creates a space experience that is a rather passive one.

"What would it really be like to be a part of the crew of a galactic cruiser? With the use of computers, within the context of a complete sensory environment, we are creating an opportunity for people to find out."

Through the auspices of a grant from the San Francisco Foundation, Marin Computer Center has, for the past 12 months, been putting together a full-scale, operational bridge of an interstellar vehicle. At the Computer Faire, David and Annie will talk about the why, what, who, and where of the Starship Simulation Project.

The underlying philosophy of this simulation, they say, "is that all life forms are intrinsically worthy of respect. It is unethical to destroy either these life forms or their creations. The ship has a wide range of technological devices, but no 'weapons'. There will always be at least one or two workable alternatives to the use of violence. For example, if the players viewed the 'enemy' as someone whose goals conflict with those of the Starship, then the conflict might be resolved by discovering a way to expand the Starship's goals to INCLUDE those of the 'enemy'."

TV or Not TV, That's Not the Question: The Consumer Electronics Industry Outlook for the 80s

by Kenneth Ingram, Senior Vice President, Sales & Marketing, Magnavox Consumer Electronics Company, and Chairman of the Board, Electronic Industries Association's Consumer Electronics Group

As the consumer electronics industry enters a new decade, it is somewhat more tempting, and less taxing, to look back to where we've been than ahead to where we are going. The astonishing achievements of the '70s are only a small sampling of things to come in the '80s as the industry continues to enhance its unique reputation for innovation and change.

There were significant milestones during the '70s that should be noted. The year 1978, for instance, when the industry broke the magic 10 million mark in color television set sales to dealers for the first time in history. And the less publicized achievement that same year when the number of color tv sets in use exceeded the number of black-and-white sets.

We continued to add to the lexicon of consumer choices with an expanding array of home entertainment products such as the video game, the video cassette recorder, the home computer, projection tv, and the videodisc. Color television marked its 25th anniversary and the age of the integrated circuit, the microprocessor and the "computer on a chip" emerged as we began to use terms like "micro" and "mini" in our product descriptions. The brief interval between lab and marketplace found more and more of us devoting an increasing amount of time to consumer education and, hopefully, consumer understanding of a leapfrogging technology.

As we enter 1980 and beyond, we find a market beset by uncertain economic conditions that will test our ingenuity and resourcefulness. Inadequate profit margins, coupled with rising operating costs in an era of increased inflationary pressures, will have a short term effect. But, long term indications are that we are also entering a period that holds great promise for exciting sales and profit potential.

I foresee another strong year in color tv which continues to be unrivaled as the value/price leader of any consumer products category. Coming off a good year in 1979, sales of color tv will benefit from an active replacement market and the increasing number of "second set" households. Some 80% of the 77 million tv households have color units, many of which are approaching the end of a life cycle that began in the late 1960s and early '70s. The energy situation is already causing consumers to reorder their priorities and I believe home entertainment products generally will benefit from this trend.

VIDEO SYSTEMS

The new catchword for 1980 and beyond will be "video systems," as the television receiver becomes more of a video terminal which will accommodate a vast array of accessories. The opportunity to sell video systems will obviously be a profitable one for retailers.

In audio, a product that is some 29 years older than television, the radio, is enjoying a resurgence. The proliferation of new and specialized types of radios, including auto sound products, holds great promise for the future. In audio components, breakthroughs in technology and styling are being attained at a rapid pace. Digital recording and playback systems, new packaging of component systems, metal particle tape and new cassette and eight-track tape cartridge systems are providing added consumer convenience.

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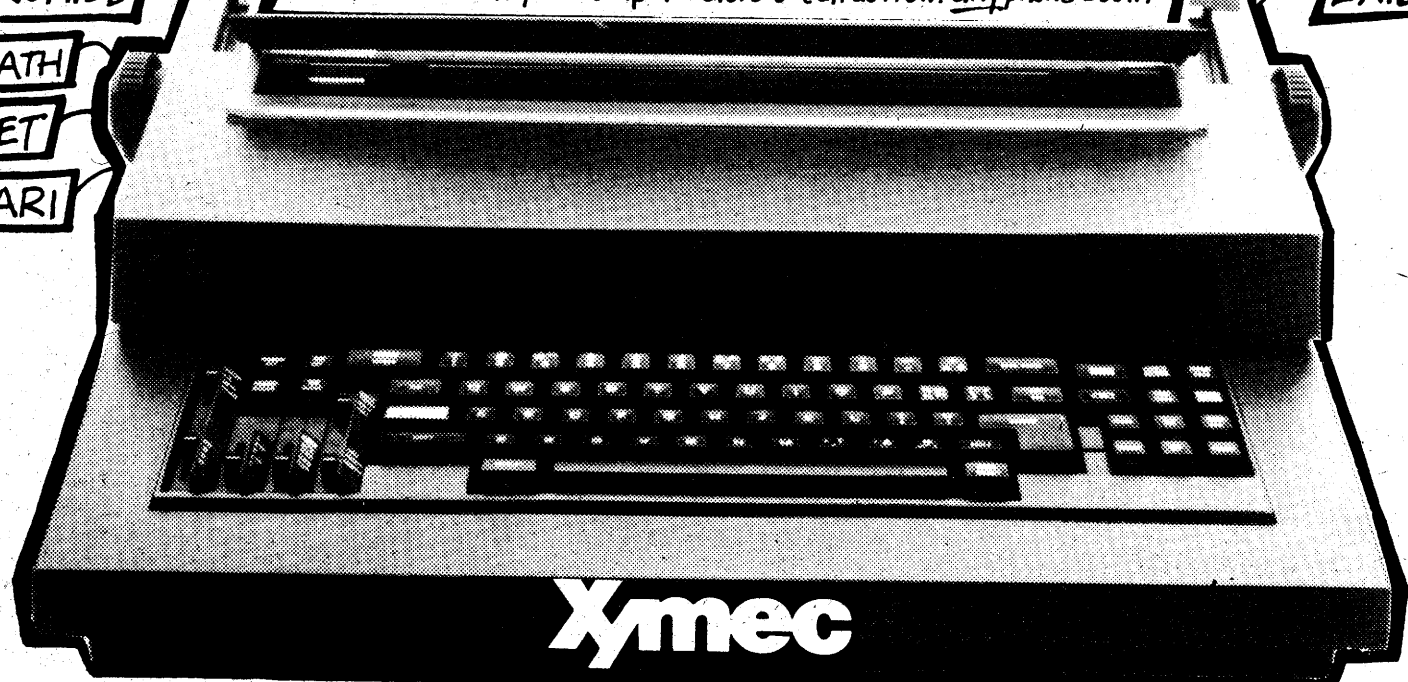
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Apple Computer Users

International Meeting of
International Apple Corps

The Board of Directors of the newly-formed International Apple Corps announced that its first general meeting will be held on Thursday, March 13, during the 5th West Coast Computer Faire, being held March 14-16, in San Francisco's Civic Auditorium and Brooks Hall.

The International Apple Corps meeting will be on the 4th floor of the Civic Auditorium. Rooms 406.408 and 410.

The International Apple Corps will also be exhibiting in two booths (1022C & 1024) made available to it, compliments of the Faire. There will be presentations and seminars on Saturday, in the Corps 4th Floor suites. They will feature speakers and demonstrations by Apple and others.

Everyone interested in speaking or giving demonstrations should send an outline of the proposed activity to Matthew McIntosh, Faire/Logistics Chairman, International Apple Corps, P. O. Box 575, San Francisco

Discount is Better'n
Dat Count at
Computer Club Alliance

The newest computer club in Southern California isn't really a club at all, but instead an alliance of computer clubs.

Announced recently by Hobby World Electronics, is the Hobbyworld Computer Club Alliance, offering discounts and specials to selected clubs in either group or individual purchases. Discounts are offered on the smallest components, memory IC's, software, printers, terminals, and entire systems.

Details on membership can be obtained from Mr Pat Olson, Hobby World Electronics, 19511 Business Center Dr., Northridge CA 91324; 213-886-9200 x25, 800-382-3651 x25 (in Calif.), 1-800-423-5387 x25.

Programming is
Kidstuff for Some
Primary Students

Computers are for kids — at least that's what the 30 students in a Talented and Academically Gifted program at the Woodland School in Spotswood, New Jersey believe.

These students in grades four through seven, have been writing their own programs covering everything from geography to graphics on a Radio Shack TRS-80 microcomputer for about a year now. They are part of a Talented and Academically Gifted (T. A. G.) program that obtained a TRS-80 computer in January of 1979 with a grant from the New Jersey Department of Education.

Now, at the request of teachers within the school, the students are creating and writing computer programs for use in the classroom. The programs are designed for grades one through seven in the areas of mathematics, social studies, science and language arts, and to prepare students for quizzes.

A computer program has its beginning with an idea. This idea is developed by the student until it becomes a set of instructions for the computer to follow. When the thought process is completed by the student and the idea has become a plan, the program is ready for the computer.

The program — a step-by-step set of instructions demanding decision-making and attention to detail — is entered into the computer via the keyboard. The students are instructed bi-weekly in computer programming in BASIC (the computer "language" of the TRS-80). For homework they write their own programs.

Because of their enthusiasm for the TRS-80 and the success they have had with it in the classroom, the students at Woodland School were filmed recently for the syndicated children's television program, *Kidsworld*, using the TRS-80.

Kidsworld is a children's program designed to provide youngsters an opportunity to report what is going on in their world. All ideas for the content of the program are submitted by the youngsters themselves on anything of interest or importance. The program with the Woodland School T. A. G. group is being televised in major cities across the nation.

PROMOTES CREATIVE
& LOGICAL THINKING

According to the T. A. G. facilitator, Laura Zatz, "The TRS-80 represents a challenge to my students because it is something new in learning and promotes creative and logical thinking. Even slow learners can benefit from using the TRS-80."

The Woodland School has plans for obtaining a more powerful version of the Radio Shack computer as soon as state funds are available. "The students are ready to forge ahead with the TRS-80 Level II. They have found that computer programming is a fun way to learn," says Laura.

The Radio Shack TRS-80 microcomputer is said to be the world's best-selling microcomputer. It is being used across the country in small businesses, schools and homes by all ages and for a variety of needs.

The TRS-80 is available at over 7,000 Radio Shack stores and dealers across the country, and in Canada. Headquarters for Radio Shack and Tandy Corporation (NYSE) is in Fort Worth, Texas.

"A large number of installed systems work by fiat. That is, they work by being declared to work." — Anatol Holt

Courting Legal Protection
In The Software Jungle

In Greek mythology there is a detailed account of the god Prometheus, giving the gift of fire to mankind. It was soon after that someone received the first burn. In a similar manner, the computer has proven its utility to humanity in numerous ways. The complex legal problems associated with computer use are now becoming more apparent in both the civil and criminal courts.

The high demand for applications software has resulted in a small army of independent developers and distributors. The computer industry has quickly reached the multi-million dollar stage. A single program can cost anywhere from a few dollars to a hundred thousand dollars depending on its complexity. It comes as no surprise that piracy of software is fast becoming a major concern to software developers who may have invested much time and effort in their creations. The question is not whether any protection exists for software, but which alternative offers the best protection.

As programs with real-life applications proliferate, it is conceivable that lawsuits will be filed against the original software developer for damages or injuries arising from the use of their programs. Unsophisticated consumers should be aware of the simple means they can employ to protect their investment in software when dealing with an independent vendor.

"These are only a few of the problems facing the computer industry today," says attorney Raymond Karch. His talk at the Computer Faire, "The Software Jungle: Legal Pitfalls," deals with some of the legal problems that are commonly encountered by software developers, distributors, and purchasers. Alternative methods of software protection are seen in the context of copyrights, patents, and trade secrets. Potential liability from software use is explored along with means to limit it.

Conference Session

CAI Helps Uncap
The Handicapped

Early in the formal study of Special Education, teachers and researchers recognized the importance and effectiveness of individualized instruction for handicapped learners. There is typically such a wide range of intellectual experience among handicapped students that group-based instruction is not effective. Many persons have long felt that the computer held a special promise in dealing with these individualized instruction needs. However, they also recognized the special communication problems associated with providing CAI to handicapped learners. This is particularly true with moderately, mentally retarded learners who have little or no reading skills.

Utah State University Exceptional Child Center administrator Ron Thorkildsen discusses the importance and need for individualized instruction for handicapped individuals, and how CAI can influence this need in his Computer Faire talk, "Microcomputer/Videodisc CAI: Fulfilling a Promise for Handicapped Students." Ron's talk is based on a research project being conducted at Utah State University's Exceptional Child Center. The major goal of the project is to develop a CAI system utilizing a microcomputer-controlled videodisc to present CAI to mentally handicapped non-readers. The project is in its second year, with one CAI program field-tested, and three more CAI programs under development.

COMPUTER EDUCATORS:

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to the

5TH WEST COAST COMPUTER FAIRE

being held

March 14, 15, 16, 1980
Friday Saturday Sunday
9am-6pm 9am-6pm noon-5pm

in

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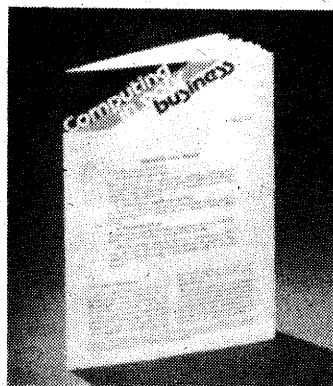
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Conference Session

Deleting Secret Terrors About Computers

"Today you can have in your own hands the same amount of computer power that only a few years ago was reserved to the large corporations and to governments. You can buy it for the price of a household appliance, a color tv, or, if you get fancy, a car," says Nicholas Rosa.

In his talk, "Beginners, Gather 'Round, or Welcome to the Small Computer Revolution," at the Computer Faire, Nicholas answers basic questions about computers. "Somewhere each of you has a bottom-line question about computers. The answer to everybody's question is a qualified 'yes'.

"It's a qualified 'yes' because the computer cannot do anything for you all by itself. You will do whatever it is you hope the computer will do. You will work all the miracles. The computer is only your tool. In order to make it work its magic for you, you will have to understand the tool. You will have to learn how to use it.

"That may sound discouraging. The very word, 'computer', already sounds so technical, so forbidding. Could you really learn to use this tool? The answer is 'yes.' You already use countless tools. You use pencils, you use sewing needles. You use typewriters and sewing machines. You run dishwashers and clothes washers and ovens-with-timers. You drive a car. Using each of these tools requires a certain amount of skill. You have learned that skill.

"Even so, you may be holding onto a secret terror about computers. Everybody in modern American society is a little paranoid about computers. We all remember HAL from 2001. HAL was as smart as the astronauts aboard, but tricky, sinister. Evil. HAL fits our deep-down notions about computers. We all know that there's a computer somewhere watching us. Several computers. Lord knows how many computers. The IRS has got one (several BIG ones). The Telecredit network has got one. Your bank has got one. All those computers are tigers, waiting out there in the dark.

"Your personal computer will be a pussycat. Your pussycat. And some day — perhaps sooner than we can imagine — an army of personal pussycats may put those tigers to rout. For one thing, your personal computer is going to help you become computer-wise. That is going to make a difference. Out there."

Conference Session

Business Computers: Turnkey or Turkey?

Why should a small business use a computer? What are the alternatives? How can the pains and the costs associated with computerization be minimized?

These issues will be dealt with in simple terms, oriented towards the prospective novice computer user in a talk at the Computer Faire by Byte Shop Computer Stores' founder and president, Paul Terrell, and Compumax president Thomas Bun.

An innovative approach will be described, based on a set of computer programs that come in a form completely ready to use, yet can be understood and set up rapidly, with minimal restrictions and great ease of change and extensions of the particular requirements of an individual business.

Real Grabbers at the Faire



Microbot will unveil its MiniMover 5 at the Computer Faire. This tabletop robot arm is a unique instrument that attaches as a manipulative device to an inexpensive personal computer. It enables individuals or groups — such as schools and technical-interest clubs — to acquire hands-on experience with computer-controlled automation, artificial intelligence, and robotics.

The MiniMover 5 may be used for such applications as: (1) computer games, in which the arm moves game pieces on command; (2) computerized construction, in which building components may be arranged into a wide variety of configurations or programmed mathematical designs; (3) computer assembly, simulating automated factories of the future; (4) computer art, utilizing such direct graphic instruments as paint brushes, felt tip pens, etc.

A complete hardware and software package has been developed to run the MiniMover 5/80 version with the Radio Shack TRS-80 Computer (Level II). The hardware consists of the arm, its power unit, and a ribbon cable connection to the TRS-80 keyboard. For interfacing with other computers, the MiniMover 5/8P version is controlled by a single 8-bit parallel port.

The ARMBASIC software package allows control of the MiniMover and its hand by simple BASIC-like commands. The assembly language motor drivers and the Cartesian coordinate transformations are included. Sample applications programs for calibration and block construction are available.

The MiniMover 5 is a five-jointed arm with a lifting capacity of 8 oz. when fully extended. Controlled by stepping motors, it has a resolution of 0.013 inch. The parallel-jaw hand grasps objects up to 3 inches wide and may be positioned inside a partial sphere with a radius of 17.5 inches. Top speed is from 2 to 12 inches per second depending on the weight of the object being handled.

Conference Session

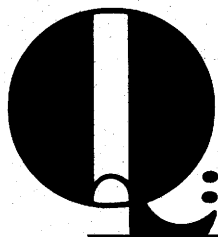
Energy Management: A Dim Future Is Not Watts Current

Helion's MicroManager, a dedicated CMOS process control computer, developed specifically for energy conservation in the home, is the subject of Helion President Jack Park's talk at the Computer Faire.

"The MicroManager," says Jack, "is a complete computer system dedicated to performing tasks related to home energy management and security. The prototype version has two functions: it performs home energy management according to a "home profile" provided by the dweller concerning weekday schedules as well as weekend requirements; it performs a modest amount of home security control.

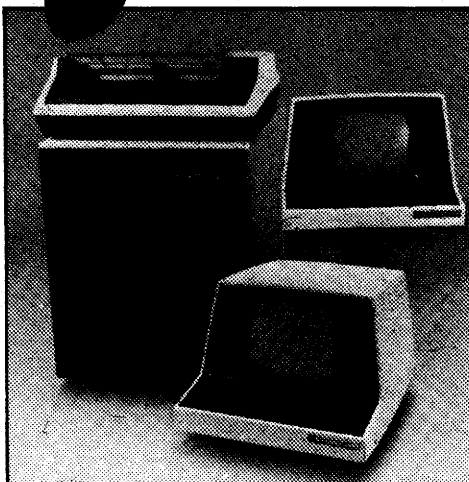
"The MicroManager serves as a home energy manager by automatically controlling energy consumption according to a user-input description of the dweller's daily requirements. That is, at initialization, the MicroManager requests information such as desired temperatures throughout the day (along with acceptable variations) and time(s) of day for peak energy usage in the dweller's normal schedule. This provides a "home profile" which tailors the MicroManager to the user's individual requirements. Once initialized, the MicroManager automatically manages energy consumption in the home.

"The impact of the MicroManager on daily life in the home depends on the way that the user configures the system. At one extreme, the only perceptible difference to the dweller is the reduction in energy consumption (as reflected in utility bills.) At the other extreme, the user may choose to adopt a new, energy-conscious lifestyle and may use the MicroManager to enforce miserly consumption. Of course, manual override of the system is allowed at any time. Also, whenever necessary, the user may reset the "home profile" to reflect changes in the daily schedule."



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Conference Session

Even an Unbeastly Artist Can Draw out the ANIMAL in the Computer

ANIMAL (ANIMATION Language used in creating animated scenes in color on a personal computer) will be the subject of a talk by Computer Automated Graphics' president Jim Blum at the Computer Faire. ANIMAL provides commands for creating animated scenes, running them in real time, and for saving and retrieving them from diskette. (A scene consists of one or many individual frames which are "run" sequentially to create the animation.)

One of the draw subcommands is "Paint", a continuous drawing mode (has no prompts). Dots (pixels) are placed on the screen where and whenever the stylus is held down and moved across the BITPAD. This gives the effect of a paint brush being moved across the screen. This mode will continue until a point outside the display area is selected.

The paint mode provides the creator with maximum self-expression, and is used when none of the other draw subcommands can create the desired shape or form. "Painting" takes a little practice to get used to, but once learned, becomes a very powerful tool. Besides animation, "painting" may also be used to create exciting modern art.

Jim will provide several examples of this innovation during his talk.

Illegal

Doug Ross reports that he has a chess program that beat him ... by castling after moving its king.

Bringing Computers To the Masses

"Inexpensive and easy-to-use microcomputers offer the possibility of expanded use of computers, both into new areas, and by people who have never before considered using them. But the expansion beyond the naturally motivated population does not necessarily follow the introduction of new equipment or the offering of new courses. Certain individuals are naturally attracted to computers and quickly pick up the skills and vocabulary necessary to make progress. But most people, whether because of lack of opportunity, low confidence, or the high level of most computer offerings, find it difficult to gain this experience and knowledge about the field."

In his talk at the Computer Faire, "Programming for Everyone: A Rationale and Some Teaching Strategies," William Wagner of Mt View, California, High School, addresses the problem of bringing computers to individuals who do not normally seek them out, and whose experience and opportunities are limited. First, the reasons for broadening the scope of computer education are presented. Then an argument is presented for the inclusion of elementary programming in any such non-technical introduction to computers. Finally, two experiences the author has had teaching such a course are described — in a high school programming class with no math prerequisite, and in an in-service course for non-technical adults offered through the local community college.

Conference Session

SOFTDOC Proposed to Stimulate Health Care Computer Applications

"Although computers have been utilized for health care applications for two decades, for a number of reasons widespread acceptance among clinicians has been disappointingly slow," says James Gagne. "The introduction of new microcomputer hardware, though clearly capable of supporting sophisticated medical applications, is not likely by itself to lead to a surge of medical computing."

"The primary problem has been the indiscriminate throwing of masses of computer technology and software at a medical problem by those without an intimate understanding of the clinical process. By contrast, successful medical applications are most likely to stem directly from health professionals who have an interest in computing and who are willing to share their products with others."

"Datamed Research is announcing the formation of SOFTDOC, a medical software exchange club. Interested physicians and other health professionals are invited to donate CP/M-compatible or UCSD Pascal source-code medical programs on 8-inch, flexible disks, in return for a free disk volume full of such donated software. Others will be charged a minimal fee (\$15) per disk. Additional services related to medical software, such as compilations of user evaluations of commercial products, will also be offered."

James' talk evaluates the history of medical computing, discusses the problems of the past, and offers suggestions for the creations of successful medical software.

Microelectronic Progress Is Self-Perpetuating

"Electronics will be the largest contributor to progress in all other industries during the decade of the eighties," a Rockwell International executive said recently.

Speaking to the Orange County Chapter of the IEEE (Institute of Electrical and Electronic Engineers), Mal Northrup, executive vice president, Electronic Devices Division, Rockwell International, added that "the only thing that's not optimum about the existing rate of progress is that we're not progressing fast enough."

Rebutting the alarm expressed by some semiconductor manufacturers that microelectronic progress in the last decade had out-distanced our capacity to use advanced devices, Northrup pointed out that progress in one area of technology contributes to advances in other disciplines. He said that advanced integrated circuits, microprocessors and other devices emerging from the research laboratories, make it economical to implement functions which engineers could only dream about a few years ago.

"A room full of electronics costing a million dollars twenty years ago, today fits on a single board and costs a few hundred dollars," he said.

"He noted that electronic equipment designers had ingeniously used microcomputers to devise word processing, text processing, automated photo-composition and electronic typewriters to vastly increase the amount of paper and information processed.

"However, information storage and retrieval have lagged," he said.

He said that the information explosion had resulted in some 60% of workers keeping track of data generated by computers on the activities of the 40% of workers now directly involved in manufacturing.

He challenged equipment engineers in Orange County, California, which has one of the largest concentrations of computer and computer-related manufacturers in the U.S., to direct their talents at controlling the information explosion.

He said the motivation was that new microelectronic devices in the 1980s would provide designers with the necessary low-cost hardware.

To support his contentions that progress must be speeded up in the U.S. semiconductor industry, Northrup said that 51 major U.S. companies now own R&D or full-production semiconductor facilities, 36 of which are fully active. But foreign firms now hold major equity positions in 19 U.S. semiconductor companies which for decades have been the world's leaders.

"We have identified more than \$1.7 billion being spent by foreign governments on nationalistic semiconductor development programs," Northrup said.

Emphasizing that new products must be driven by the real needs of markets, and not by research, Northrup said, "If we can combine microelectronic device advances with electronic system expertise addressing the real needs of industries, the 1980s will truly provide electronic progress which benefits mankind."

"But," he added, "we all have to get to work."

Rockwell International is a major, multi-industry company applying advanced technology to a wide range of products in its automotive, aerospace, electronics, and general industries businesses.

5TH WEST COAST COMPUTER FAIRE

Conference Cassettes



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Getting to First Base With the Data Base

Johnson Associates has announced the availability of a TRS-80-based information retrieval system for simple or complex search of a collection of reference material.

The program maintains a disk file of user-supplied information (titles), source (reference pointer), and attributes (subject matter), and carries out inquiry searches by attribute. A maximum of 36 attributes are allowed for any specific data base, and any single entry may have one to 36 attributes coded. The attributes need not be specified prior to data base entry since the system allows dynamic attribute definition as the data base develops.

New entries may be added at any time, and a file review mode allows old entries to be corrected, or their attributes to be updated. Search output may be directed to the screen, printer, or to another disk file. The program allows generation of a new data base (empty), with null attributes as a starting point for any specific application. During both search definition and new item entry, a display of all attributes currently assigned to the database is maintained, on screen, for easy reference.

The TRS-80 Information Retrieval program is available, on diskette, for \$20. Contact Johnson Associates, P.O. Box 1402, Redding, CA 96001.

Take Credit For Attending Computer Faire With Class (UC)

Two short courses — "Practical Introduction to Personal Computing," and "Computers for Education" — will be given in San Francisco by University of California's Berkeley Extension in connection with the Computer Faire.

Both courses are planned to help participants get the most out of the Faire, offering guidance on what presentations should be most valuable, and what equipment to examine. Sessions scheduled before, during and after the Faire provide an opportunity for preview and subsequent evaluation of presentations and exhibits.

"Practical Introduction to Personal Computing" is intended for people who have little knowledge of computers and will offer a general introduction to the subject with discussion of current and future applications. Emphasis will be on personal computers.

This four-session course will meet from 7 p.m. to 10 p.m., Tuesday and Thursday, March 11 and 13, at the UC Extension Center, 55 Laguna St (off Market St), and from 8 a.m. to 10 a.m., Saturday, and 5 p.m. to 7 p.m., Sunday, March 15 and 16, at the Computer Faire in the Civic Auditorium, 99 Grove St.

Topics and speakers are:

* March 11: "What is a computer? What computers can and cannot do," Gerald Baugus, president of Alpha Info Systems, Palo Alto. "Computers and the future for the average consumer," Jim Warren, director of the Digicast Project, Palo Alto, and chairperson of the Computer Faire.

* March 13: "Current uses of computers and how they do what they do, including an introduction to programming with a demonstration on a personal computer," Gerald Baugus.

* March 15: "What to look for in computer products," John Craig, publisher of *InfoWorld*, and past editor of *Creative Computing*, and *Kilobaud*.

* March 16: Panel discussion of Faire exhibits with opportunities for questions and answers about specific applications of interest to course participants, Joan Lasselle (course coordinator), technical writer at Hewlett-Packard in Cupertino, accompanied by Gerald Baugus and John Craig.

The second course, "Computers for Education," will explore classroom and other educational applications of low-cost personal computers. Academic credit (optional) may be earned.

The course will meet from 7 p.m. to 10 p.m., Thursday, March 13, at the UC Extension Center, 55 Laguna St (off Market St), and from 6 p.m. to 9 p.m., Friday, and 5 p.m. to 7 p.m., Sunday, March 14 and 16, at the Faire in the Civic Auditorium, 99 Grove St.

Topics include classroom computing activities, specific applications for elementary and secondary schools, comparisons of available computing hardware and software, computer-kit building at home or at school, and sources of materials that can be used with a computer.

Course instructor will be LeRoy Finkel, teacher of computer science at San Carlos High School and DeAnza College. Guest speakers will include Joanne Coltnow, computer consultant in Palo Alto.

Registration fee for each course is \$75, which includes admission to the Computer Faire. For further details and enrollment forms, call 642-1061 in Berkeley, or write to Letters and Science, UC Extension, 2223 Fulton St, Berkeley CA 94720.

Conference Session

The Personal Computer Makes Overtures to The Performing Musician

The number of people able to do computer music has expanded greatly with the introduction of personal computers, freeing the field from its previous limitation to a few, large, expensive studios. Techniques and commercial products have developed for shaping the four, basic parameters of a musical sound: pitch (what frequency is the note?), timbre (harmonic content; like a flute, or something harsher?), duration (percussive, like a drum, or continuous like an organ?), envelope (initial attack, sustain while held, decay at end).

The techniques range between two limits: from making sounds in software only, to doing it all in hardware.

In a talk at the 5th West Coast Computer Faire, Richard Higgins of the University of Oregon Physics Department, will survey recent developments in electronic music (polyphony, microcomputer control, dynamic keyboards, and digital sound generation), and new techniques in digital music development systems (additive synthesis, FM or phase modulation timbre, and digital filter music). A number of recent advances are described which are familiar to synthesizer music performers but are unfamiliar to personal computer users.

A personal computer is a resource for music experiments, provided that several gaps are overcome. Solutions to two of these (dynamic keyboard, and software real-time, musical, voice-synthesis on an 8-bit microcomputer) are briefly described.

WHATSIT Prints Charmingly

"WHATSIT?" (trademark), a conversational filing and query program for personal computers, is now available in a new printing version for the Apple II, according to Computer Headware, its developer.

Called a "self-indexing query system," the program has been available since 1978 in versions for CP/M and North Star computers. By cross referencing data entries in disc storage, WHATSIT is able to answer direct questions, phrased in simple "pidgin English."

Always spoken of as "her" in the 160-page user's manual, WHATSIT distinguishes herself by her breezy, impertinent repartee, including such rejoinders as "News to me!" when queried for information not currently on file, or "Never mind!" when the user cancels a request unexpectedly.

An acronym for "Wow! How'd All That Stuff get In There?," WHATSIT responds at conversational speed ... even in files containing hundreds or thousands of entries. Typical response time is 2 to 10 seconds, the firm claims.

In contrast to the rigid formatting demanded by other programs, WHATSIT's open-ended data structure evolves continuously as the system is used. New file headings, unlimited in number, may be added any time ... then remain available for future reference.

To accommodate large files, the program squeezes 2000 or more entries onto a 5-inch disc ... up to a total 25,000 using four discs in the CP/M format. Detail entries are automatically cross-indexed under any desired headings.

Applications of WHATSIT include desktop indexing of investment portfolios, music or hobby collections, customer lists, household or professional files. At least one WHATSIT customer uses the system to index real estate listings.

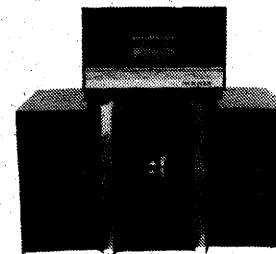
Computer-Chess Players Never Turn in Their Chips — They Just Pawn Their Software, Hoping for a Good Knight

The 1980 Computer Faire Micro-Chess Tournament will be under way with at least six micros competing for the title. At the 1978 Tournament, Sargon made the news and enlightened the computer hobbyist on what could be achieved with a micro. The success story continues for the Spracklens with their newer version of Sargon 2: 2.5, and the Sargon 3. This year's tournament is still open to all who feel they have a quality chess program, and want to find out how it does against such programs as Sargon 3, Mychess 2, Voice Challenger, and the Atari Chess.

For details on entering, contact: John Urwin, 1537 Argyle Ct, San Jose CA 95132; (408)923-5662.

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TF-3 Shugart SA400, 35 track, same as tandy	\$389
TF-5 MPI B51, 40 track	\$379
TF-70 Micropolis, 77 track with 195K of storage	\$639
TDH-1 Dual sided drive, 35 track	\$499

Maxi Disk 2: 10 Megabyte (fixed) Winchester Technology

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LP730 Centronics 730	\$950
LP700 Centronics 700	\$1395
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Mastering Data Communications

A unique program at a small university in San Francisco is setting the pace for future graduate education of data and telecommunications managers.

Golden Gate University, a private school specializing in education for emerging business needs, graduated its first class last year with a masters of business administration specifically in telecommunications — apparently the first such MBA in the nation.

The evening program consists of 20 classes that can be completed in two years. Many of the students, generally in their late 20s, see the program as needed academic training for a profession that is moving from middle-management to top-management status.

"We are producing the managers who will be more and more needed because changing communications technology is itself changing the way companies do business," says Terrence Easton, the chairman of the department.

PROGRAM

No technical training beyond calculus is needed for admission to the program. The first year consists of traditional MBA courses in economics, management, and accounting, plus one course each in telecommunications and data communications.

The second year takes the student into the legal and regulatory aspects of the business, networks and switching, advanced data communications, and the design and management of international systems. A broad range of electives include video and computer conferencing, and distributed processing.

"We support it [the MBA program] very strongly," says Donna Parker, president of the Northern California chapter of the Telecommunications Association. Some of the chapter's 400 members are enrolled in the program because "in the past the industry has depended on people who were trained only by experience, often in one of the Bell companies. But now the demands of the job are so great that college training is needed."

Turtlelike Teletype

by Jim C. Warren, Jr.

We have a Teletype Model 40 chain printer, here at the Faire. It has served us well. However, a two-dollar item — the form-feed contact — broke, and we ordered another one, last October.

We received a back-order notice, dated November 9th (that's 1979). Recently, noticing that we were still limping along with kludged, formfeed-less software, we called and asked about the part.

We were told — with no slightest hint that it was extra-ordinary — that the part was scheduled for delivery in August, 1980. Yes, they knew it was crucial for the proper operation of the printer. No, they didn't know if they could ship it earlier — but they'd check and get back to us, immediately.

That was a couple weeks ago, and we have yet to hear anything. Our understanding is that Teletype is still manufacturing Model 40's . . . which require that part. So, apparently, they are reserving all of the parts they manufacture for the new machines — and the people who already have machines can eat cake.

We thought you might be considering purchasing a Model 40, and thus might be interested in our experience. It's great . . . until something breaks. Then, you can call their backorder clerk at (312)982-2132, and see if your machine is going to be usable within the next year or so.

Donna, also the director of administrative services, including telecommunications, for Envirotech Corp., Menlo Park, California, is a strong believer in the business focus of the MBA program. "You're not only looking at the technical matters but worrying about financial analysis, personnel, and budgets . . . you need a lot of business sense."

BUSINESS COMMUNITY SUPPORT

Perhaps the strongest recommendation, however, comes from the business community. Most of the instructors are working managers, and the Golden Gate advisory committee that recommended that the few classes once offered at the school be expanded into a full MBA, reads like a *Who's Who* of telecommunications in the San Francisco Bay area. Included are the computer and communications manager of Quantas Airways Ltd, the director of telecommunications for the California State Auto Association, the manager of the logistics systems development for Del Monte Corp., the division manager for AT&T Long Lines, and the vice president of operations for Southern Pacific Communications Co.

In fact, the school has become something of a placement office, with students looking for jobs, and corporate managers teaching classes with one eye on likely candidates for their growing departments. "There's no secret about it," says university president Otto Butz. "Some of our part-time instructors say that teaching a class is like having four months to look over a potential employee."

Students graduating this year can expect salary offers of about \$17,000 per year, which is about normal for graduate MBAs, says Terrence. But those students able to combine their MBA with several years of experience will attract offers of \$26,000 or more.

PROBLEMS

The problems with the program reflect the rush into the new field. Some of the classes are getting crowded, according to James Koerlin, an instructor who spends his day as the corporate communications specialist for Lucky Stores Inc.'s 1,400 stores. "But the biggest headache is the lack of textbooks," he says. The newness of the field and its ever-faster-changing technology and legal status have kept many traditional textbook publishers away.

Perhaps the biggest problem for the fledgling academic approach to so new a profession is exactly the same problem that besets the whole industry, suggests James. "We are an industry looking for an identity," he says.

Traditionally, telephone services have been under the office manager or controller. Recently, however, a feud has been brewing as various corporate departments have jockeyed for control of communications. This problem has shown up at Golden Gate, as well. What one insider calls a "power struggle" emerged soon after the MBA in telecommunications was proposed. The data processing department claimed that subject matter as its own, while James, backed by the advisory committee, contended that it was a separate discipline.

In the future, says James, data processing will be considered a sub-area within communications, which is a position that is often disputed. "We fought it out and finally decided to make it a program by itself," says Otto, adding that enthusiasm from both students and the business world has since confirmed that decision.

This Spring, information systems courses as well as courses in general management and other subjects will be offered at the University. For further information, contact: Golden Gate University, 536 Mission St, San Francisco CA 94105; 415-442-7000.

Micro Entrepreneurs: On the Industry List?

- Want timely, accurate, inside information about the microcomputer industry and marketplace?
- Would you like to see the summaries of statistics gathered at the Computer Faires?
- Like to know the error rates found in 'bingo card' name lists furnished by various magazines?
- Want to be among the first to receive exhibitor information — and thereby best booth choices — for future Faires?

If you are a business person specializing in microcomputing — dealer, manufacturer, publisher, software producer, etc. — you can be placed on the industry list maintained by the Computer Faire. The Faire uses this list to distribute its newsletters and Exhibitors' Prospectus. As a service to the industry, it also furnishes that list upon request, without cost, to the several trade associations serving the microcomputing industry (e.g., the Microcomputer Industry Trade Association), for distribution of their communications.

To be placed on that list, simply send a request on your letterhead stationery, including your title, to: Computer Faire, 333 Swett Rd, Woodside CA 94062. Of course, there is no cost or obligation.

Spare Loot for You (or for Your Organization)

If your computer club, professional association, school or company department — or your entrepreneurial self — wishes to handle Computer Faire preregistration, the Faire is willing to offer you a discount. Any person or organization that wishes to do so may purchase Faire prereg forms and door-pass badges in groups of 20 for \$7 each with a 50% return privilege. (At-the-door registration will be \$10.)

This means that you and your associates (10 or more; you can return the other 10 for a full refund) can (a.) attend for Faire for 30% lower cost than on-site registration, (b.) build your organization treasury by offering Faire reg at more than \$7 but less than the \$10 on-site fee, or (c.) become wealthy while offering purchasers the opportunity to avoid standing in the on-site registration lines at the Faire.

Orders for prereg packets — in multiples of 20 — may be placed by mail or phone. The packets will be shipped to you within two days of the order, via UPS. If payment accompanies the order, the Faire will pay the UPS charges. If you prefer, you may order C.O.D. and pay the nominal UPS shipping and COD charges. \$140/packet of 20.

Up to a 50% refund (i.e. up to \$70 for 10 unused preregs) will be available upon request, following the Faire. To claim this refund, the unused packets in their original condition must be returned to the Faire offices by April 17th (a month after the Faire). All refunds will be mailed on or before April 30th.

San Francisco Visitors' Bureau

The San Francisco Convention & Visitors' Bureau offers a variety of information to assist out-of-area visitors to 'The City.' The Bureau may be of particular assistance to those attending the 5th West Coast Computer Faire, to be held in San Francisco's Civic Auditorium & Brooks Hall, March 14-16.

Among other things, the Bureau offers guides to restaurants and 'night life,' and has a daily events 'hot line' — (415) 391-2000. For guidebooks and more information, call or write: San Francisco Convention & Visitors' Bureau, 1390 Market Street, San Francisco CA 94102; (415) 626-5500.

Carpool to the Faire with Retailers' Help

Computer Plus of Sunnyvale, (408)735-1199, is providing a super service to its customers: It is organizing a charter bus for south Bay residents wishing to attend the Faire in an energy-conserving, money-saving, sociable way.

A number of other computer and electronics retailers may provide a similar service to their customers: They can allocate a bulletin board area to those wishing to post Karpool Kards — 3"x5" cards from individuals in their area who are planning on attending the Faire. The cards should list name, departure address, home & work phones, and times & dates of expected attendance. If your local retailer has not yet started such a bulletin board, you might request that he or she do so, now.

And, in fairness to the retailers, if they are going to assist their customers in this manner, it is only reasonable that you personally visit their site and check out their product lines — as well as checking out the Karpool Kards.

Conference Session

Individualized Instruction in Computer Programming

Individualized instruction is a process based on the premise that a student, given sufficient time and the availability of adequate human and educational resources, can master a given segment of instruction to meet an objective that has been specified in advance. Individualization recognizes that different students learn at different rates and in different ways, and that instructors are as varied as the students they teach. In an individualized course the instructor is a facilitator and a resource person, providing supplemental assistance through tutoring sessions, small groups, on-the-spot answers to questions, selection of additional media, and development of innovative learning activities to extend the traditional functions of teaching and administration.

In a talk at the 5th West Coast Computer Faire, Carl Grame and Dan O'Donnell will describe how courses in FORTRAN, BASIC, and IBM 370 assembly language are conducted on an individualized basis at De Anza College, Cupertino, California, where they are instructors. Since FORTRAN is their most completely developed course, they use a detailed description of it as representative of all three courses. The individualized approach, which includes audio tapes, uses a variety of teaching styles and accommodates a variety of student learning styles.

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to: Jim C. Warren, Jr., President
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* DATACAST is the trade mark of Wireless Digital, Inc., and refers to both the occasional periodical that is now offered, and the digital broadcasting services and products that Wireless Digital plans to offer in the future. The periodical is offered at this time, throughout the U. S. and the world. The broadcasting services are expected to be available only in the U.S. for the next several years. TBS-80, Pet, Apple, and PDP-11 are trade marks of Tandy, Commodore, Apple, and Digital Equipment Corp.

continued from page 1

as the COMET service offered by Computer Corporation of America, the new multi-function office systems such as the IBM 5520, Xerox860 and Datapoint IEO are expected to capture much of the future desk-to-desk electronic message traffic. As a result, vendors of TBEM services and software, particularly those timesharing companies who have recently moved into the TBEM field, will probably be disappointed by the acceptance of their messages services. The report points to the Datapoint Integrated Electronic Office as the outstanding current example of the new generation of multi-function office communications systems, and projects very strong growth for this segment of the market.

AGE OF THE INTEGRATED NETWORK

Analyzing the new network service offerings from suppliers such as Satellite Business Systems(SBS), Xerox (XTEN), and Hughes, IRD predicts that by the mid-1980's, most of the etworks will include message-switching nodes which will have the capability of handling intermixed facsimile-type and CWP-type traffic, together with digitized voice traffic. "Although store-and-forward voice switching services will grow rapidly in popularity over the next five years, the underlying trend in traffic will be away from voice and towards more structured types of message communications," predicts Linda.

The IRD consultants expect AT&T to participate strongly in both the store-and-forward voice market (using its #1 VSS offering), and also in the message market (using the Advanced Communications Service offering). "AT&T will almost certainly receive permission to implement ACS," believes Linda, "and the current delay in implementation can be attributed as much to a desire by AT&T to pick the right political moment for receiving authorization as to the software problems which AT&T has claimed delayed ACS."

If all current types of electronic message services, including Telex/TWX and Mailgram, are considered, the current spending by users on electronic mail is about \$1 billion, says the report, which projects a 1989 market in excess of \$4 billion.

International Resurce Development, Inc. is a specialized research and management consulting firm, which has produced more than fifty major market studies over the past eight years. Research for these studies, and for corporate-client projects, includes an on-going program of interviews and questionnaires with users and suppliers of computer/communications services and equipment. In addition to producing multi-client studies, IRD has performed major consulting assignments for organizations such as AT&T, General Electric, Centronics, Rockwell International, and GT&E.

Conference Session

Taking Away HIPO Leaves a Pot o' Mess

Master Schedule: a management tool that means nothing to any concerned party, but is required by persons removed from the project.

In his talk, "A Case Study in Unstructured Software," to be delivered at the Computer Faire, Boeing Aerospace Specialist-Software Engineer Howard Hollander details a nonfictional account of an unstructured software project using HIPO (Hierarchy plus Input-Process-Output) — a degenerate tale, indeed.

Conference Session

Auntsy Has a Niece: Micro COBOL

A compiler-interpreter for a subset of ANSI COBOL has been implemented on an 8080 or Z80 under the CP/M operating system. The implementation provides all nucleus level constructs and file options from ANSI COBOL. The language was implemented through a compiler and run-time package which can be executed in 20K bytes of main memory. A program consisting of 8K bytes of intermediate code can be supported on this size machine. The programs that make up the compiler and run-time package require 50K bytes of disk storage.

The NPS MICRO-COBOL compiler/interpreter is the result of thesis research at the Naval Postgraduate School that commenced in 1976 to demonstrate that it was feasible to implement a COBOL compiler on a microcomputer.

NPS MICRO-COBOL is the subject of a Computer Faire talk by Lieutenant Mark Moranville of the Naval Postgraduate School. Mark notes that, "The original design was based on HYPO-COBOL which is a Department of Navy approved subset of COBOL, designed to place minimal requirements on a system for compiler support. The definition of HYPO-COBOL was prompted by the need for a small-scale package that could exist in a microcomputer environment. The problem with using one of the existing COBOL-level specifications was that the level structure was oriented toward batch environments on systems of various sizes, permitting COBOL implementations of various degrees of sophistication. Many of the features supported by even the lowest levels of COBOL are not applicable to an interactive, single-user system such as CP/M. Additionally, the COBOL language being highly verbose makes high demands on systems with regard to parsing time and storage space. MICRO-COBOL was designed to reduce the size of the compiler, and to eliminate functional redundancy provided by multiple options in the language statements. It should be noted that MICRO-COBOL is a proper subset of ANSI COBOL."

Conference Session

Plain Programming: PILOTing Without A New Twist

"What I call the 'Spaghetti Syndrome,' says Robert Watkins, "is the tendency of computer programs to consist of such twisted, convoluted threads of logic that they resemble the proverbial plate of spaghetti. If this is not true from the very start, then certainly as changes and enhancements become necessary, the program listing becomes less obvious and clear as to what is to be accomplished.

"Whether the program in question is one written in BASIC or a lesson written in PILOT, this occurs too frequently. The comparison with BASIC is intentional, since although BASIC and PILOT were developed for different reasons, they are both prone to 'Spaghetti Syndrome' programming."

Robert's Computer Faire talk, "Lesson Design in PILOT", focuses on the programming task using the CAI language PILOT. A method of lesson design that makes construction of PILOT lessons easier and less prone to programming error is presented. This method is part of a class in using PILOT that is taught at The Computer Merchant.

Faires Scheduled thru '84

West Coast Computer Faires have been scheduled through 1984 (we don't know what's going to happen, post-Orwell). All are planned for San Francisco's Civic Auditorium and Brooks Hall — the largest convention facility* in northern California. The dates are:

1981 April 3-5
1982 March 5-7
1983 March 4-6
1984 March 23-25

Note: We are attempting to move to later dates in '82 onward, however San Francisco's convention calendar is absolutely packed, and — to our amazement — we were doing well to get any options on the dates indicated.

* — We did consider using other facilities, e.g. the Cow Palace or County Fairgrounds (great for cows, but with little or no conference facilities, and we strongly feel that the information exchange in the conference program is a major benefit of the Fairest. San Jose Convention Center (delightful place, but too small), and the new Yerba Buena Center (so new it's never been built).

Avoid Reg Lines: Prereg for the Faire

A considerable number of bookstores and computer stores are carrying preregistration packets for the 5th West Coast Computer Faire. These include the door passes that allow immediate entry to the convention center for all three days of the Faire. By preregistering 'through participating dealers', you completely avoid the hassle and wasted time of waiting in the on-site registration lines.

Additionally, it is an excellent opportunity to visit your local dealer and see their latest offerings.

A list of prereg sites appears elsewhere in this issue.

Note: The Computer Faire does not handle preregistration by mail. However, a number of the prereg outlets do accept mail orders — if you order early enough (remember the speed of the U.S. Snail Service).

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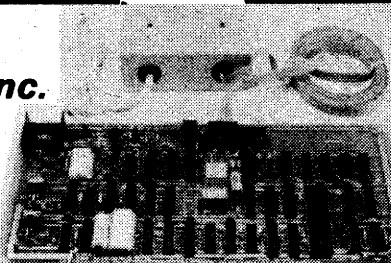
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The Terminal Condition Is Either Up or Down

After several years of growth rates hovering above 30%, unit shipments of alphanumeric CRT terminals fell to a 22% growth rate during 1979. Although the industry continues to grow rapidly, the rate is below manufacturer's projections, according to a recent study by Venture Development Corporation.

The study *Alphanumeric CRT Terminal Industry: A Strategic Analysis*, points out that projections made by terminal manufacturers during the first quarter of 1979 signaled a yearly growth rate "as good as or better than 1978." This growth rate has not materialized as second-half shipments slowed when the heavy backlogs from 1978 had been met.

Combined shipment volumes of conversational, editing, and processing CRT terminals reached 473,000 units in 1979. These units were valued at \$1.6 billion, up 13% over 1978.

Sales of the low-end conversational CRT terminals were up 28% over 1978. Shipments of these "glass-teletype" or "dumb" terminals, long thought to be declining, made significant gains, primarily due to price reductions. Product enhancement and added features, such as cursor controls and a page or two of buffered memory, also spurred the shipment growth of these low-end terminals.

Shipments of editing terminals composed of the IBM 3270 and terminals offered by 3270-compatible manufacturers increased only 13% in 1979. Demand for 3270-type terminals is high, but delivery times have been stretched out as production rates have reached their current limits. IBM's delivery problems have given 3270-compatible manufacturers a second wind following the 3270 price reductions and product enhancements announced in 1977.

The non-3270 editing CRT terminals led all categories in shipment growth during 1979. Shipments of this class of CRT terminal increased 31% over 1978 levels. Non-3270 terminals have at last caught up with the 3270-type terminal. By 1981, non-3270 editing terminals will surpass the 3270-type in annual shipments and continue to widen the gap through 1984.

Thanks to distributed processing concepts and advances in communications, the processing CRT terminal category is beginning to expand. These "intelligent" terminals composed of single stations and "clustered" units are expected to be the fastest growing sector of alphanumeric CRT terminals. 1979 shipments of "keystations" or clustered units were up 16% over 1978. VDC expects this growth rate to increase to 28% during the next five years, 1979-1984.

In analyzing the competition, the VDC study places IBM as the dominant manufacturer with a 23% market share of the installed base of all alphanumeric CRT terminals. This percentage is considerably below IBM's share of other computer equipment markets, but is nearly four times greater than any other CRT terminal manufacturer. IBM's strength is in the 3270 market, but 3270-compatible manufacturers are continuing to chip away at IBM's share. During 1979, IBM's share of the 3270 market eroded to 65% as the 3270-compatible manufacturers increased their share by 3% to 35%.

For the long term, VDC expects the total installed base of alphanumeric CRT terminals to grow at a compound rate of 21.6% for the five-year period 1979 to 1984. This growth rate will yield over 4,500,000 units installed at year end 1984, up from 1,700,000 at year-end 1979.

For further information, contact: Venture Development Corporation, 1 Washington St, Wellesley MA 02181; 617-237-5080.

Hot Micro Product? Show it at the Faire

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

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

The Faire has just expanded its exhibit area to include more microbooths (for low-budget computer craftspeople) and more regular booths. While they last (all exhibit space is available on a first-contracted; first-assigned basis), microbooths are available for \$200 and the regular booths are \$650-\$800 depending on location.

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

Trade Association to Meet During 5th Computer Faire

The Microcomputer Industry Trade Association (MITA) will hold its first 1980 General Meeting, during the 5th West Coast Computer Faire in San Francisco. The meeting will take place in the Civic Auditorium, on Friday afternoon, March 14, beginning at 6 p.m. (immediately following the close of the exhibits).

The meeting is open to all members and prospective members - anyone in the management of any company addressing the microcomputing industry. This includes manufacturers, distributors, retailers, software houses, publishers, show organizers, and so forth.

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Conference Session

KYDE TYME Provides An Apple For the Teacher

The KYDE TYME Project in the San Juan Unified School District in Sacramento, California, and the CHIPS Project at California School for the Deaf in Berkeley, California, are funded to develop a computer-assisted instruction author language for the microcomputer. The language is to be easily usable by the "novice" teacher in CAI. The authoring system necessitates no programming expertise on the part of the teacher and literally walks the authoring teacher a step at a time through building a student curriculum, and the authoring system makes full use of the graphic capabilities of the Apple computer.

The "author language" is complete and running, and Ted Perry of the KYDE TYME Project will describe and demonstrate it at the Computer Faire. Included in the author language program are: teacher authoring program, student presentation program, graphics development program, graphics library program, and data management program.

"Whenever anyone says, 'theoretically,' they really mean, 'not really.'" —Dave Parnas

Course Where? . . . Courseware!

"As a courseware developer," says Silas Warner, I have had many requests along these lines: 'I have written (or found) a great textbook in xyz. If I put that book on the computer, what will I have to do to avoid copyright problems?'

"To which my answer has always been, 'If you want to put a textbook on a computer, put it on top of the keyset, and tell the students to read it. It's cheaper that way, and the student can take the book home.'

"One of the worst things that a computer can do is display long passages from a book. It essentially wastes the power of the computer. There is no reason why a textbook can't be packaged as part of a computer-based course, and the computer assign 'homework' in the book."

Silas, in his Computer Faire talk, "You'd Like to Teach the World to WHAT?: A Guide to Writing Microcomputer Courseware," presents a guide for writing educational programs, testing them and making them available to students. His presentation covers: what is courseware, what the computer is not, what the computer is, what are you going to teach?, how are you going to teach?, how to ruin courseware, nice touches, programming your lesson, testing, and out into the world.

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Conference Session

Giving Yourself The Business

Many people are looking at the microcomputer, and playing with the idea of quitting their secular jobs and going into business for themselves with their micro. Tony Severa dropped out of the 9-5 job market to go into business for himself in 1978. He opened Tony's Data Service in Vacaville, California, in March of that year. He has since started a new software company for the Apple computer for beginning owners, called Apple Orchard.

"Thoughts While Waiting for the Cavalry to Rescue Me," is the title of Tony's talk to be given at the Computer Faire, describing life in the wilderness, and survival tips.

"Computer science is the only discipline in which we view adding a new wing to a building as being maintenance." —Jim Horning

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Conference Session

Microcomputers and Contelligent Systems

Contelligence is the combination of consciousness and intelligence.

"The linking of human biocomputers," says Dean Gengle, "with microcomputers defines a particular system. By virtue of the human side of the linkup, we know that the system possesses contelligence. We have all heard of programs combined with computers that teach various biofeedback methods: alpha/theta production and control; myography; temperature/blood pressure control; etc.

"There are many esoteric traditions which have taught 'altered states of consciousness' methods for spiritual and sometimes 'magickal' reasons. Can any of these methods be augmented through computer/human combinations?"

In his talk at the 5th West Coast Computer Faire, Dean will explore some of the possibilities opening up in the age of the personal computer, and will suggest specific experiments that might be undertaken by the individual seeker/scientist.

Operator or Operatee?

"Using a computer should always be easier than NOT using a computer," says Tony Bove of Sybex, Inc. In his talk at the Computer Faire, he will describe methods of teaching an operating system to "naive users," and outline typical operations in a system using CP/M (and the latest MP/M) as models.

Tony says, "If you walked into a stereo showroom with your own cassette, you could easily manipulate any of the controls on the latest and most expensive cassette recorders. You should also be able to walk into a computer store and operate an operating system. You should know what to look for in a system, and know what kind of application programs would fit well with a particular operating system.

"During my talk, I will simply demonstrate teaching an operating system to ordinary people. If you are a total beginner to computers, you should be able to understand and even TEACH the fundamental operations of a system like CP/M."

Conference Session

Information, Please

Interface Age reports that home computer equipment sales are projected to be \$1 billion in 1980 from a standing start in 1977.

Ron Jacobson of the San Francisco State University Broadcast Communication Arts Department states, "Our society is in transition, moving from a service to an information-oriented economy. Within sight is mass usage of a public information utility network, where data flows from host computers into the home computer terminal as freely and easily as water flows from the kitchen faucet. The possibilities of such a communications system are tremendous, the consequences staggering. What is at stake is a revolution of our sensibilities and the way in which we live our lives."

Speaking on "The Emerging Personal Computer National Information Utility Network," at the Computer Faire, Ron pursues an historical and critical approach to the subject by reviewing the characteristics of some present systems operating in the world today, and by trying to establish criteria for the systems of tomorrow.

Becoming a Technical Writer

"Technical writing is one of the easiest fields to get into, and one of the hardest to stay in. Why easy to get into? Because there is a crying need in the microcomputer industry. Every week another company wakes up to its need for good, technical communicators. Why hard to stay in? Because it is demanding, exacting; because the results of your work will be out there for all the world to see (And for your boss to see.) If you're a dud, it will show. But if you are competent, conscientious, professional — then Silicon Gulch can be a technical writer's El Dorado," says Sharon Rosa.

In her talk, "Breaking into Writing for the Microcomputer Field," at the Computer Faire, Sharon covers the following: what does it take?, the writer's background, getting started, presentation, security versus freedom: advantages & disadvantages for captive employment and free-lancing, how much can one earn?, and marketing yourself.

5th Faire Registration Lower than 4th Faire — Given Inflation

On-site registration for the 5th Computer Faire will be \$10.

(Some computer stores, and computer and electronics organizations may be offering discounts on preregistrations they are handling. Last year, the Computer Faire publicly stated a prereg price that was \$2 below the on-site fee. However, it turns out that this is prohibited by Federal Trade Commission regulations — it's price-fixing. So, this year, most stores are charging most or all of the full on-site fee. Don't you appreciate the protection thereby offered you by the FTC?)

Hold on, there! Last year, the reg fee for the 4th Faire was only \$9, on site. This year, it's \$10. How's that 'lower'?

True. But, the government has printed so much money in the past year, unbacked by anything of value (i.e. goods or services), that our inflation rate was around 13%. Since a \$9-to-\$10 increase is only 11%, the 5th Faire reg fee is 2% lower than it was last year in real cost. Or, at least, that's how we see it in our purchasing power (e.g., in the past year, our printing costs, alone, have increased almost 18%).

Making Computers Read and Speak

Limited font, optical character recognition, and limited vocabulary speech response have been in office use for some time. By incorporating artificial intelligence (sophisticated programming that emulates simple human thought processes) two new technologies have been developed — omni-font OCR, and unlimited vocabulary synthetic speech.

Art Derfall of Kurzweil Computer Products, will speak at the Computer Faire about these two new technologies.

Speak at the 6th Faire

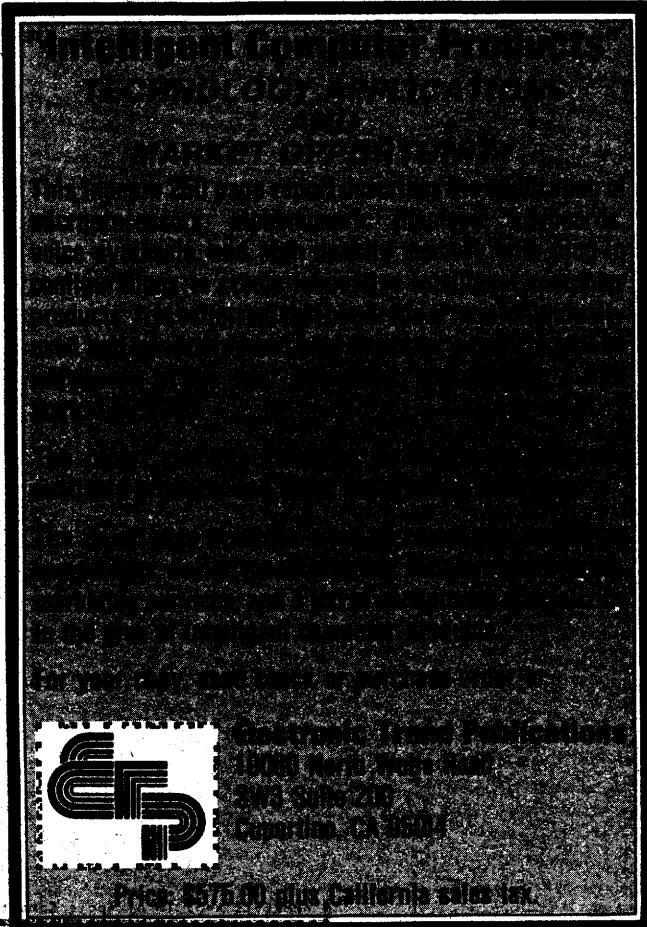
It's too late to submit a paper for presentation in the Conference Program of the 5th Faire, but you can get a good running start at the 6th Faire, to be held in San Francisco in the first part of April, 1981.

Request a 6th Faire Speaker's Kit: Computer Faire, 333 Swett Rd., Woodside, CA 94062, (415)851-7075.

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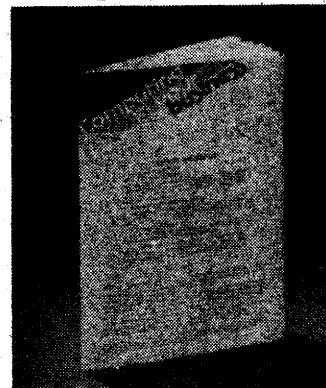
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What's in a Name?

A normally unreliable source reports that before Fairchild Camera and Instrument's recent takeover by Schlumberger, the company was considering a merger with Honeywell Information Systems. Negotiators had major difficulties, however, in agreeing on a name for the new company. "Fairchild Camera & Information Systems" didn't quite hack it; neither did "Honeywell-Fairchild Information, Camera & Instruments." Negotiators finally compromised with "Fairwell Honeychild Corporation."

Real-Time Real Estate

Redam-III, a new disk-based system for the PolyMorphic Systems 8813, is intended for use by brokers. The system comes on three disks, stores listings for homes and buildings, and performs 25 analysis routines, including RPA, a residential property analysis; CPA, a commercial property analysis; and CML, a client mail list. The packages may be purchased separately on diskette.

Contact Micro-Systems Design, 1114 State Street, Santa Barbara, CA 93101; (805) 965-0385.

Do Your Faire-Busing On Computer Plus' Bus

Computer Plus, a retail computer store in Sunnyvale, California, is again chartering buses to transport Faire-goers to and from San Francisco's Civic Center, site of the Fifth West Coast Computer Faire. The fee is \$8 for the door-to-door roundtrip. The buses will leave from Computer Plus, 1324 S. Mary Ave. (in the De Anza Square Shopping Center at Fremont & S. Mary).

The schedule follows:

Date	Leave Sunnyvale	Leave S. F.
March 14 (Friday)	9:00 a.m.	3:30 p.m.
March 15 (Saturday)	8:30 a.m.	3:30 p.m.
March 16 (Sunday)	11:00 a.m.	4:45 p.m.

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

Avoid Waiting in Lines Preregister for the Faire

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

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

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

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

- | | | |
|---|---|---|
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1612 E. Algonquin Rd
Schaumburg IL 60195
(312)397-8700 | Computer Plus *
1324 S. Mary Av
Sunnyvale CA 94087
(408)735-1199 | MicroSun Computer Ctr
2989 N. Main St
Walnut Creek CA 94596
(415)933-6252 |
| Byte Shop SLC *
3616 W 2100 S
Salt Lake City UT 84120
(801)973-4446 | Computerland SF
117 Fremont St
San Francisco CA 94105
(415)546-1592 | Computerland Walnut Creek *
1815 Ygnacio Valley Rd
Walnut Creek CA 94598
(415)935-6502 |
| Byte Shop Reno *
4104 Kietzke Ln
Reno NV 89502
(702)826-8080 | Computer Connection *
214 California St
San Francisco CA 94111
(415)781-0200 | North Bay Computers *
6526 Washington St
Yountville (Napa) CA 94599
(707)944-8885 |
| Thorpe Data Systems
22968 Victory Bl
Woodland CA 91367
(213)703-6900 | Computerland The Castro *
2272 Market St
San Francisco CA 94114
(415)864-6900 | Silveri, Len
1166 Midway Ct
Novato CA 94947 |
| Byte Shop San Diego *
8038 Clairmont Mesa Bl
San Diego CA 92111
(714)565-8008 | A. I. D. S *
301 Balboa St
San Francisco CA 94118
(415)221-8500 | Marin Computer Ctr *
70-Skyview Ter #301
San Rafael CA 94903
(415)472-2650 |
| Computerland *
289 E. Highland
San Bernadino CA 92404
(714)886-6838 | Coastal Computers *
986 Monterey St
San Luis Obispo CA 94301
(805)543-9310 | Affordable Computer Systems *
3400 El Camino Real
Santa Clara CA 95051
(408)249-4221 |
| MicroXchange
2031 De La Vina
Santa Barbara CA 93105
(805)682-1507 | Electrolabs
930 Emerson
Palo Alto CA 94301
(415)321-5601 | Alltronics
15460 Union Av
San Jose CA 95124
(408)371-3053 |
| Electric Brain
3038 N. Ceder Av
Fresno CA 93703
(209)227-8479 | Computerland El Cerrito *
11074 San Pablo Av
El Cerrito CA 94530
(415)233-5010 | Micro Byte Computer *
2626 Union Av
San Jose CA 95125
(408)377-4685 |
| Zackit Electronics *
350 Del Monte Av
Monterey CA 93940
(408)375-3144 | PC Computers
10166 San Pablo Av
El Cerrito CA 94530
(415)527-6657 | Computerland San Jose *
1077 S. Saratoga-Sunnyvale Rd
San Jose CA 95129
(408)253-8080 |
| Computerland Belmont
1625-A El Camino Real
Belmont CA 94002
(415)595-4232 | Byte Shop Fremont *
Glenmoor Shopping Ctr
38256G Glenmoor Dr.
Fremont CA 94536
(415)794-8000 | Santa Rosa Computer Ctr *
604 7th St
Santa Rosa CA 95404
(707)528-6480 |
| Kepler's Books & Magazines *
825 El Camino Real
Menlo Park CA 94025
(415)324-4321 | Byte Shop Hayward
1122 B. St
Hayward CA 94541
(415)537-2981 | Byte Shop
6041 Greenback Ln
Citrus Heights CA 95610
(916)961-2983 |
| Digital Deli *
80 W. El Camino Real
Mtn View CA 94040
(415)961-2670 | Computerland Hayward *
22634 Foothill Bl
Hayward CA 94541
(415)538-8080 | Computer Store Corvallis *
2015 NW Circle Bl
Corvallis OR 97330
(503)754-0811 |
| Homebrew Computer Club
Box 626
Mtn View CA 94040
(415)967-6754 | Computerland Dublin *
6743 Dublin Bl
Dublin CA 94566
(415)828-8090 | Ye Olde Computer Shoppe Inc *
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Richland WA 99352
(509)946-3330 |

Conference Session

Drive Standard, And Leave the Busing Compatible

The personal or home computer has often been mentioned in conjunction with the concept of overall management of home environmental control and monitoring systems, home entertainment, and information systems. One of the factors inhibiting wide acceptance and realization of this concept is the fact that connecting to control and monitoring points of the home environmental systems is a complicated and costly process.

"The concept of the Home Bus Standards Association provides an optimum approach to eliminating the economic and organizational inhibiting factors," says Robert Richardson, SRI International Consumer Electronics Department Director.

Robert, who will be speaking on "Home Bus Standards Association, What is it and What does it Mean?" at the Computer Faire, adds, "The Home Bus Standards Association (HBSA) is a non-profit (IRS501C3) membership organization for the purpose of establishing a widely accepted set of communication protocols, allowing all household electrical devices to interact as parts of a modular intelligent network, using powerline carrier digital packet radio transmissions.

"The consumer benefits of a Home Bus system include direct savings from reduced energy consumption, improved personal safety, and the convenience of remote and automatic control and monitoring of every system in the home. These benefits can be provided at little or no additional cost to the consumer, due to the recent advances in microelectronic technology combined with high volume production of standardized "Bus Compatible" components suitable for use in a broad variety of applications.

"HBSA's objectives are to serve as a neutral focal point for development of an industry-wide monitoring and control signal language, and to provide fundamental public education informing consumers about the advantages of having Home Bus-type technology.

"HBSA is needed because no current organization covers the diverse spectrum of products potentially benefiting from bus compatibility: appliances, heating and air conditioning equipment, home entertainment devices, utility meters, the telephone, lights, locks, alarms, and so on.

"Through HBSA, the central nervous system of the computerized home of the future can be quickly defined, thereby facilitating the linkage of advanced technology's capabilities with immediate public needs."

Conference Session

A Touching Communication

The Versatile Portable Speech Prosthesis (VPSP) is an on-going project to develop a wheelchair-portable speech synthesis system capable of unlimited vocabulary and message construction, and designed to simplify message construction for the user. This simplification was achieved via two methodologies. Linguistic analyses of language structure were used so as to limit the number of items the user must choose from at any point in the message construction process. Limiting list size will reduce search time for humans as well as computers. Additionally, a single switch (1 bit) user input requires that the system automatically present the user with successive alternatives until the user uses the switch to say "yes" to one of the alternatives. The fewer alternatives, the faster, on the average, the system will arrive at the item the user wants. To this end, rules of syntactic and graphophonotactic constraints on choices for selections were incorporated into the system logic. Linguistic human factors' experiments were also conducted to determine which of several alternative design principles produce the fastest visual search times for words and for letters used in message construction.

Carol Simpson, a major developer of VPSP will present in her Computer Faire talk ("Alphabetical Versus Graphotactic CRT Page Layout of Letters for a Versatile Portable Speech Prosthesis (VPSP)") results of a linguistic human-factors study of alternative layouts for CRT menu pages, and will discuss application of the results to the design of single-switch communication aids.

Carol notes, "The VPSP is a working prototype that is at this time being used to collect data essential to improving the human factors of its design. The present system has demonstrated feasibility. The current phase of the project is a comparative evaluation of alternative design principles with actual users."

Conference Session

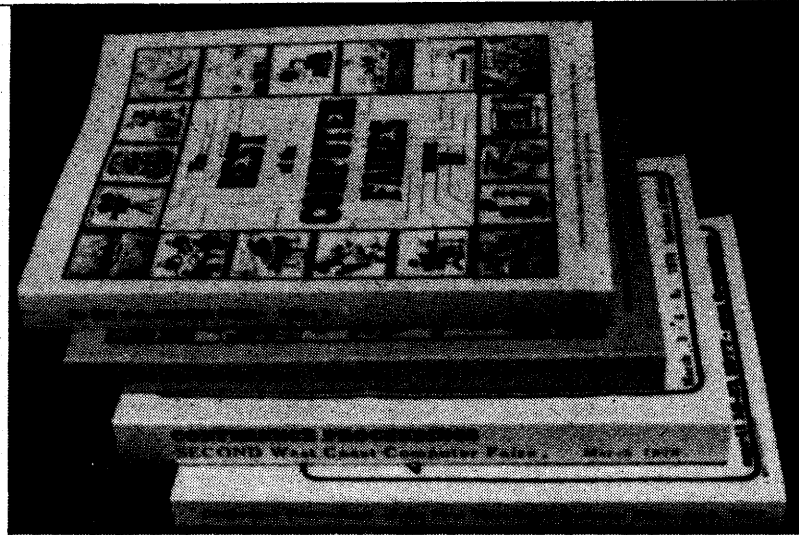
Microcomputer in Japan: An Orientation

"The microcomputer market is one of the growing markets in Japan in spite of the low-growth economy in the last several years after the oil shock," says Seiichiro Yahagi, Managing Director of Nippon Time Share Co., Ltd.

In his Computer Faire talk, "The Microcomputer Market and Users in Japan," Seiichiro reviews current trends in his country.

5th Computer Faire Conference Program**SUNDAY, March 16, 1980****FRIDAY, March 14, 1980****Unusual Microcomputer Applications**Energy Management for the Home with the Helion Micromanager
*Jack Park*Microcomputer-Assisted Amateur Astronomy
*Sidney Levin*Radio Wave Imaging System by Microcomputer
*Yoshinao Aoki***Legal Aspects of Software Protection**Writing and Negotiating the Vendor's Software License Contract:
Let's Make a Deal *Joseph R. Igelmund*The Software Jungle: Legal Pitfalls
*Raymond Karch***Micro Hardware & Interfacing**Home Bus Standards Association, What is It and What does It Mean?
*Robert J. Richardson*Microbotics: Enter the Table-Top Robot Arm
*John W. Hill*A Linear Scrolling CRT with Standard Parts
*John P. Cater*An Overview of Serial Communications in Microprocessor Systems
*Frank L. Toth***Association of Software Producers & Publishers** [open meeting]**Microcomputer Industry Trade Association** [open General Meeting]**Business & Low-Cost Computing**Personal Computers in the Office: An Example
*Clarence A. Ellis, Gary J. Nutt*Four Programs for Use with Listed Option and Common
Stock Investment Strategies *Alfred A. Adler*The Micromputer Market and Users in Japan
*Seiichiro Yahagi*Turnkey or Turkey?
*Thomas P. Bun, Paul J. Terrell***Medical Computing**Softdoc - A Proposal for a Medical Software Network
*James Gagne*The Computer in the Practice of Medicine: An Overview
*Mark H. Spohr***Computer Assistance for the Physically Impaired**Alphabetical Versus Graphotactic CRT Page Layout of Letters for a
Versatile Portable Speech Prosthesis (VPSP) *Carol A. Simpson*Microcomputer/Videodisc CAI Fulfilling a Promise for Handicapped Students
*Ron Thorkildsen***Informational Graphics: Show Business & Know Business**Micro Graphics for Communicating Information Efficiently
*Aaron Marcus*Demonstrations & Explanations of Work in Progress
*Visual Design Students - U. C. Berkeley***Computer Retailers** [open meeting]**Digital Group Users** [open meeting]**SATURDAY, March 15, 1980****Tutorials for the Novice**Beginners, Gather 'Round or Welcome to the Small Computer Revolution
*Nicholas Rosa*An Easy Approach to Operating Systems...For Example, CP/M (For Beginners)
*Tony Bove*Tutorial: Programming Data Files in Basic
*Leroy Finkel, Jerald Brown*Thoughts While Waiting for the Calvary to Rescue Me
*Tony Severa***Artificial Intelligence & Micros**Microcomputers and the Design of Contelligent Systems
*Dean Gengle*Artificial Intelligence as Applied to Input and Output in the Office - or -
Making Computers Read and Speak *Art Derfall***Computer Music**The Digital-to-Analog Converter Method of Real-Time Computer Music Synthesis
*Hal Chamberlin*The Performing Musician and the Personal Computer
*R. J. Higgins, R. K. Goodall, R. Vedanayagam***Potpourri**Seeing Motion with the Mind's Eye
*Sam Hersh, Al Ahumada*Microcomputers in Africa: A Travelogue of the 1980 Eclipse
*Carl Helmers*Breaking into Writing for the Microcomputer Field
*Sharon Rosa*Is Electronic Technology Making Mankind an Endangered Species?
(or: Carbon Chemistry Chauvinist? - You Bet!) *Don Perry Dunlap***Computer Games & Computer in Education**The Starship Simulation Project
*David Fox, Annie Fox*Computer Games in Education
*David H. Ahl*Solving the Shooting Stars Puzzle
*Joel Shprentz***Low-Cost Computing for Education**How to Produce Random Access Videotapes, Videodiscs and Other
Intelligent Wonders with Your Microcomputer *Robert V. Whitney*Lesson Design in Pilot
*Robert N. Watkins*An Apple for the Teacher - A Graphic CAI Authoring System
*Ted Perry*CAI: A Different Way
*Jeff Levinsky***Teaching About Computers & Programming**Programming for Everyone: A Rationale and Some Teaching Strategies
*William J. Wagner*Individualized Instruction in Computer Programming
*Carl Grame, Dan O'Donnell*You'd Like to Teach the World to What?
A Guide to Writing Micro-Computer Courseware *Silas S. Warner***Personal Communications & Microcomputers**Telecommuting Via the Personal Computer
Jack M. Nilles"Information w/Cheese Please?" The Emerging Personal Computer
National Information Utility Network *Ron Jacobson*The Electronic Sandbox
*Mark Cummings, Georjean Frank***Pascal & Pascal Machines**A User Looks at the Western Digital Pascal Microengine
*Tom Pittman*An Introduction to the Wonders of Pascal
*James Gagne*A New, Minimal-Cost Software Club for Users of UCSD Pascal
*James Gagne***Significant Software for Inexpensive Machines**ANSI PL/I, Subset-G: A Commercial Implementation Under CP/M
*Gary Kildall*Animal - An Animation Language used in Creating
Animated Scenes in Color on a Personal Computer *Jim Blum*NPS Micro-Cobol
*Mark S. Moranville*A User-Guided Monitor ROM for Commodore CBM
*John Clothier***Micro Software Engineering**Modular and Structured Programming on Small Systems
(Including 6809 Assembly Language) *Terry F. Ritter*Structured Flowcharts - A Hybrid Approach to Program Design
*Gregg Williams*A Case Study in Unstructured Software
*Howard R. Hollander***International Apple Corps** [open meeting, all day]**Forth Interest Group** [open meeting]

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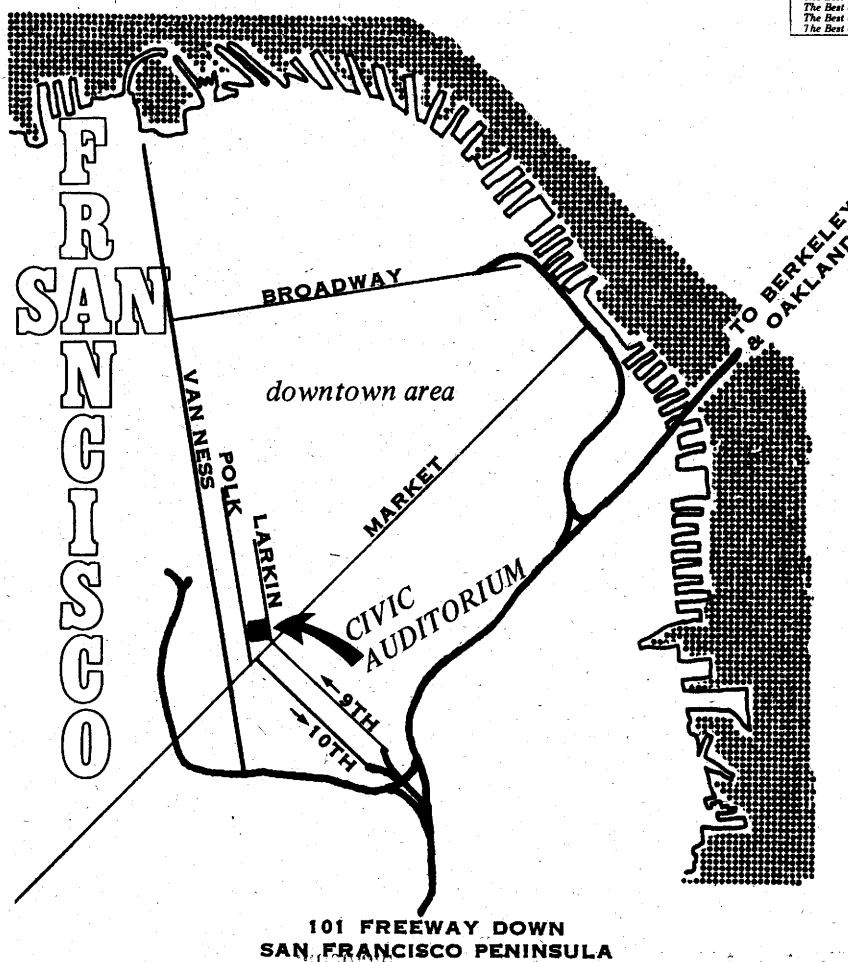
Statistics Programs For the Person Of Average Means

Now available from Radio Shack is a system of computer programs designed for the analysis of data in business, education, medicine, government administration, and other fields. Advanced Statistical Analysis may be used with Level II BASIC or Disk BASIC on a 16K Radio Shack TRS-80 Microcomputer System.

The Advanced Statistical Analysis system consists of 13 computer programs stored on cassette tapes, and a comprehensive manual which takes the user through each program step-by-step. Each program in the system was written to interact with the user and to guide the user in conducting statistical analysis.

Included in the system are ten programs for describing data sets and conducting statistical data analysis; two utility programs for preparing, updating, and listing data files stored on tape or disk; and a program to aid in selecting data samples.

Programs supplied with the Advanced Statistical Analysis system are: Tape Data Files, Disk Data Files, Random Sample, Descriptive Statistics, Histogram, Frequency Distribution, Analysis of Variance, T-Test for Matched Pairs, Correlation & Linear Regression, Multiple Linear Regression, Time Series Analysis (two programs), and Chi Square Analysis.



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

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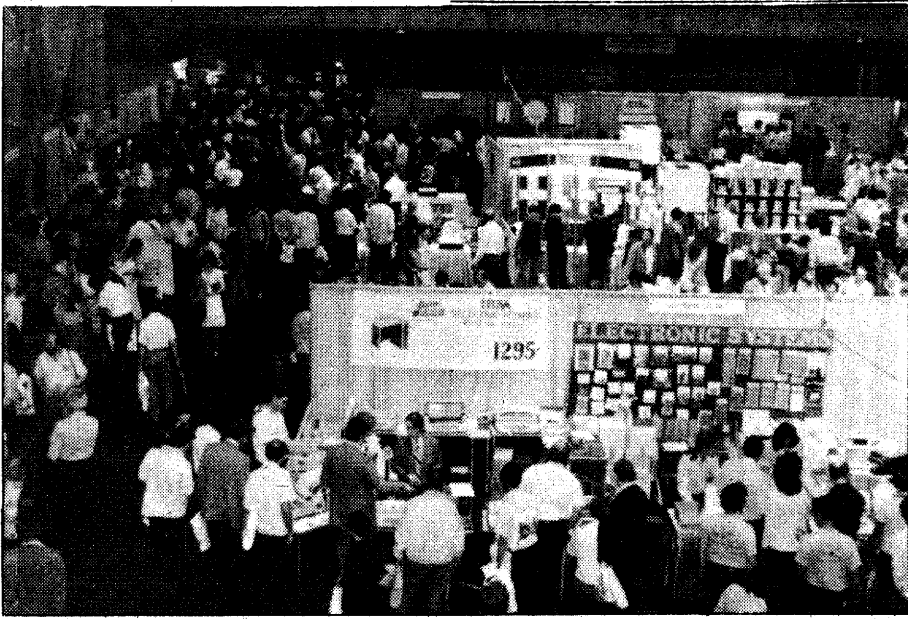
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LPSPPOOL: More Than Just Spooling Around

LPSPPOOL, a line printer spooling facility for the Radio Shack TRS-80 Model I has been announced by Automated Resource Management Inc. LPSPPOOL permits concurrent printing in the foreground while normal TRSDOS operation continues in the background. A multi-tasking monitor permits switching between foreground and background processes. The Despooler accesses spool files through a queue which may be generated by a utility program or automatically by the Spooler. A separate spool and despool queue is maintained by the system. Each Queue entry allows the specification of spool filename, number of copies, form type, whether the file is to be printed immediately, and whether the queue entry and/or file is to be deleted after printing.

A two-disk 32K or 48K byte system is required to support then3K assembler program.

The diskette includes: a 32K version; a 48K version; a queue maintenance utility; a demonstration program which leads the user through LPSPPOOL's facilities; and a comprehensive user manual. For more information: Automated Resource Management, Box 4353, Irvine CA 92716; (714) 963-2975.



SCENES FROM THE 4th WEST COAST COMPUTER FAIRE



SEEDing the Database

The first CODASYL-compatible database management system for microcomputers is being distributed by Microsoft of Bellevue, WA. Micro SEED, in its initial release, runs under CP/M with Microsoft's FORTRAN-80 as the host language. It is a useful software tool for microcomputer applications in which the data base is too large for conventional file handling methods.

Micro-SEED is a compatible subset of the larger SEED DBMS, originated by International Database Management Systems, Inc., in Philadelphia. In addition to the CODASYL recommendations, Micro-SEED implements extra features, such as self-optimizing FIND commands, that further streamline access to the data base.

Written primarily in FORTRAN (with isolated assembly language routines for I/O and buffering), Micro-SEED is easily transported to various 8080/Z80 hardware configurations. It is implemented under CP/M like a FORTRAN application and therefore places very little extra burden on operating system tasks. A 64K microcomputer system is required to support the DBMS.

Micro-SEED uses the CODASYL schema, sub-schema and area methods to divide and define the data base, providing easy access from user programs. The routines for managing the database (data manipulation language) are then called from the user's application programs, written in FORTRAN or other host language.

A relational query language and report generator called HARVEST and an interactive system utility program called DBLOCK will be available as add ons to the system in 1980. They will run on upward compatible versions of Micro-SEED that utilize 16-bit microprocessors. Additional host languages (Microsoft COBOL-80, PASCAL-M and compiled BASIC) will also be supplied in future releases.

For more information, contact: Microsoft, 10800 NE 8th, 819, Bellevue WA 98004; 206/455-8080.

Conference Session

Computer Games in Education

Fewer than 30% of the pioneers that set off from Independence, Missouri, ever made it to the west coast during the years 1840 to 1870.

Using the computer game, "Oregon Trail," players have the opportunity to re-create that six-month journey, and face some of the problems and decisions that were crucial to safe passage for the first pioneers. (There are attacks from wild animals and bandits; your wagon can get swamped, break a wheel or even have a fire; your oxen can get injured or wander off; in the mountains, heavy rains, snow and impassable trails are constant hazards; illness and injuries are always a threat; and provisions and supplies must be maintained throughout the journey.)

Dave Ahl, publisher of Creative Computing, will speak at the Computer Faire about the latest generation of computer games that educators are finding effective as teaching tools (in first grade through adult education) in such subject matter as: economics, industrial development, pollution, science, language arts, mathematics, geology, business, and medicine.

— Want Ads —

WHOLESALE Prices to Dealers & Computer Club Members! Computers, Printers, Terminals, Modems, Boards, etc. (eg. TI #810 Printer: \$1551; CAT Modem: \$152). Patio Computer Sales Co., 5437 Laurel Canyon Blvd, #208, N. Hollywood CA 91607; 213-762-0020.

Software Closeout: Dealer quitting business—Word Star reg \$495 now \$349! Similarly Tex Writer \$59, Qsort \$79, NAD \$69, Analyst reg \$250 now \$195! Also Serendipity or Structured Systems accounting software. Send check & \$3 shipping. Network, 3304 Geary, San Francisco CA 94118.

Wanted: In-house engineering technician and field service engineer. Good \$\$\$. Good benefits. Auto included. Come to work for a small, fast-growing company. Palo Alto area. Call Bob at (415)494-6221.

FOR SALE: 3 used Cromemco computers. 1-64K System III \$5500. 1-64K Z-2 \$5500. One-48K Z-2 \$5200. All have dual 8" PerSci drives, 3 serial, 2 parallel I/O. Call Jonathan or Henry, 415/524-5522.

Industrial quality disc-based computer system. DTC Microfile, 8080 processor with 48K memory, full Microsoft Disc Basic, floppy disc operating system, dual 8" PerSci floppy disc drives. Used for Computer Faire files for two years, until we outgrew it. Will sell for \$4800, F. O. B. Woodside, CA. Contact Computer Faire at (415)851-7075.

Six 16K Dynabyte memory boards, any or all at \$195 each. Jim at (415)851-7075.

Genuine, antique 8K PDP-8/I with quad DECTapes and papertape punch. Fully functional; in two 6' instrument racks on casters; runs OS/8, DIBOL, etc. — 15 years of systems and applications software available; includes manuals, DECTapes, schematics. \$3800, F. O. B. Sunnyvale, CA. Call Jim at (415)851-7664.

If you feel that you and your tax dollars have been treated fairly or unfairly by the UCSD Pascal Project, please send your comments to Jim Warren, 345 Swett Rd., Woodside CA 94062. If you were an industry or OEM user of UCSD Pascal, you may wish to copy your comments to the Microcomputer Industry Trade Association, c/o Jim Edlin, Secretary, 380 Mountain Home Rd., Woodside CA 94062.

Wanted: Used CDC Hawk, 10MB hard-disc drive with a 3M interface. Contact Wireless Digital at (415)851-7077.

For the first time in the U.S.: The **Japan Microcomputer Club** will exhibit their work and projects at the West Coast Computer Faire. Don't miss it.

Subscribe to the only fast-turnaround microcomputing news medium: *InfoWorld*, the biweekly newspaper for the micro community. \$18/26 issues throughout the U.S. InfoWorld, 530 Lytton, Palo Alto CA 94301. Visa and MasterCard accepted.

About 60 cancelled and uncanceled Czech stamps were taken in trade for a subscription to the old *Intelligent Machines Journal* (newly transformed into *InfoWorld*) — the subscriber couldn't get U.S. dollars out of Czechoslovakia. These include a number of astronaut/cosmonaut/space stamps, as well as the more usual horses and castles. \$35 for all of 'em. Jim, (415)-851-7075.

[Huh?] Used (=inexpensive) redwood water tanks wanted. Contact Jim at (415)851-7664. Also sought: redwood planking and solar heating equipment.

If the porkbarrelers would stop deflating dollars, we would stop increasing Computer Faire fees (we increased 11%; the economy inflated 13%; thus, the 5th Faire is 2% less expensive than the 4th Faire. Aren't we good folks?).

Decreasing dollars! Tired of rampant inflation? Let's tell our congresspeople to stop creating money undervived from products or services.

(In fairness, we must also tell them that we are willing to — and wish to — accept less from the government. *Please Uncle, I'd rather do it myself!*)

WANTED!

a used (=cheap)

Wangco

or

Persci

floppy disc

drive

call Jim (415)851-7075

Special Retailers' Showing At Computer Faire

The Computer Faire exposition will be open for a special showing for retailers and exhibitor guests on Sunday morning, March 16, from 10 a.m. to noon. Computer and electronics distributors and retailers may obtain a "Retailer" ribbon to attach to their admission badge — allowing access to this special showing — by requesting it on letterhead stationery from the Computer Faire office.

Immediately following the Sunday morning retailer show, there will be an open meeting for computer retailers, chaired by Bob Moody (Alpha Information Systems, Palo Alto).

5th Computer Faire Exhibitors & Products

(a partial list, as of 80-02-07)

3M Co.-Data Recording Products
Data recording supplies (media) & accessories for microcomputer sys

6502 Program Exchange
6502 Software

80-U. S. Journal
TRS-80 related computer publication

A. I. D. S., Inc.
ABC Computers Inc
DEC-compatible hardware, dekchester & Minichester, versatile accounting packages

Acorn Software Products, Inc.

Advanced Computer Products Inc

Adventure International
Software for microcomputers/T-shirts

Allen Gelder Software
TRS-80 software

Alltronics

Alpha Information Systems

Alpha Supply Company
Data Processing Supplies & Accessories

Altos Computer Systems, Inc.
Digital computers

American Word Processing

Apple Orchard
Educational software for Apple II

Arkenstone, Inc.
Custom business systems & development software

Arrow Computer Supply
Memorex media, Avery labels D. P. ribbons, W. P. ribbons & paper...Everything your

Artec Electronics, Inc.
Computer products & printed circuit boards

Automated Simulations, Inc.
Fantasy games for home computers

AVS/Audio-Video Systems
Custom furniture for TRS-80, custom programming

Bakalinsky Designs & Suns
Design

Basic Systems Corporation
Anadex printer, Houston Instrument recorder, Qantex tape drive

John Bell

Benwill Publishing Corp

Bits, Inc.
Books for the small computer user "Books to erase the impossible"

Byte Industries Inc

Byte and OnComputing
Computer magazine

Byte Shop of Hayward

California Computer Systems
Peripherals for S-100, Apple, Pet & TRS-80

Carl Dick, Distributor
Printers, Apple add ons, high volume distributor of IC's especially 4116, 2708 &

Casheab
32 Channel Music Synthesizer

Century Electronics
Computers, books, hobbyist items

CMC Marketing Corp

CoEvolution Quarterly
Magazines, books, T-shirts, galaxy posters

Commodore Business Machines Inc
CBM & Pet microcomputer systems

Complete Business Services Corp

CompuMax Associates, Inc.
MicroLedger, MicroPay, MicroRec, MicroInv, MicroPers, MaxiLedger, MicroMax

Compumech Electronics
Power supplies

Computalker Consultants
Speech synthesizer

Computer Connection

Computer Cookbook
Microcomputer reference guide in loose-leaf binder

Computer Furniture & Accessories
Computer room furniture, enclosures & terminal stands

Computer Headware
Whatsit: A self-indexing query system

Computer Information Exchange
Peoples software, S-80 Computers, S-80 Bulletin

Computer Plus

Computer Room
Belais master index, software for Pet, CB-2 sound amplifier, compute magazine

Computer Stop

Computer Store Etc
Computer store franchise opportunity

Martha Herman
T-Shirts, rubber stamps

Computer TEXTile
Qume Sprint 5 Daisywheel Printers & accessories, reconditioned Daisywheel prints

Computer/Law Journal
Computer/Law Journal

ComputerMat
TRS-80 software directory, micro software directory

Concord Computer Components

Corvus Systems, Inc.
Winchester disk drives for the Apple, TRS-80, S-100, LSI-11 and Altos Computers

Creative Computing
Magazines, books, software, art prints, records, T-shirts, etc

Cromemco, Inc.
Computer systems and peripherals

CSUC/Time-Sharing Users Group

Custom Programming
Apple software, program development & consultation

Cybernautics
Software specialists

Data Sound
Microcomputer supplies

Data Trans, Inc.

Data Wholesale

Datamation Magazine

Dataspeed Inc

Davilyn Corporation
Printer/terminal

DMS
0-300 baud, crystal-controlled modem kit

Delta Products

Design Enterprises of S. F.
Books

Diablo Systems, Inc.
Information to be provided at future date

Digital Design

Digital Research
CP/M, MAC, SID, TEX, DESPOOL

Digital Video Systems
Digital video framebuffers, RGB monitors, lightpens, TV cameras, imaging & graph

dilithium Press
Books & cassette tapes

Disco-Tech
TRS-80 & Apple II software: utilities, engineering programs

Eakins Associates, Inc.

Edu-Ware Services, Inc.
Entertainment, Simulation & Educational Software for Apple II

Elcompro
TRS-80 peripherals

Electrolabs
Computer equipment, peripherals, components, integrated circuits

Electronic Systems Furniture Co

Electronic Systems

Encyclopaedia Britannica
30 vol. Encyclopaedia Britannica

ESCON Products Inc
Selectric typewriter conversion systems

Evolution 1
Video based education

Ex-Cell-O Corp/Remex Div
Data Warehouse/Intelligent Drives

Exatron

Expansion Products Company
CERTI-TAPE cassettes, certified cassette dup service & blank cassettes

Forth Interest Group
Forth Implementation Guides

F. S. I. Distributor's
Verbatim Magnitic Media

Galaxy
Analysis 1 (anal), stock market analysis program for Apple II

Gimix, Inc.
Ghost System 68

Graham-Dorian Software Systems
Business application software

Grass Valley Computer Systems
G. W. Computers Ltd., business management software for Commodore

H&E Computronics, Inc.
Software and magazine for the TRS-80

Hayden Book Company, Inc.
Books & Tapes

Heath Co.
Microcomputers, Peripherals & Software

Helion, Inc.

Hewlett-Packard
HP-85 Personal Computer for Professionals

Hobby World Electronics
Computer products & general electronics

Houston Instrument
Hiplot, HiPad Digitizer

Howard W. Sams
Computer & technical manual/book publisher

IMSAI Computer Div
Integrated systems, disk peripherals, S100 boards

InfoWorld
InfoWorld (newspaper)

Integrated Data Concepts
TRS-80 software

Interface Age Magazine
Magazine

International Apple Core
International Newsletter

Ithaca Intersystems
DPS-1 Micro, boards, high density graphics, single board computer, etc

J. Petrovich, Cabinetmaker

Jade Computer Products
Comprehensive line of microcomputer products

Japan Micro Computer Club
Micro Computer News

Jensen Tools, Inc.
Electronic tool kits, tool cases, hand tools

JHM Marketing Assoc (Votrax)
Votrax Speech Synthesizer

Here Come Decipher

Cryptologia is a quarterly journal devoted to all aspects of cryptology with special emphasis on mathematics and computers. Articles deal with current encryption issues as well as proposed systems. The historical and cultural aspects of cryptology and the role codes and ciphers have played in history are also featured. For more information, contact: *Cryptologia*, Albion College, Albion MI 49224.

5th West Coast COMPUTER FAIRE

March 14, 15, 16, 1980
Friday Saturday Sunday
9am-6pm 9am-6pm Noon-5pm

San Francisco's Civic Auditorium & Brooks Hall
San Francisco Civic Center
Lots of Parking — It's a Weekend

Registration includes
Conference Program & Exhibits for all 3 days
Pre-registration available at participating stores & clubs
At-the-door registration: \$10

John Wiley & Sons, Inc.
Professional reference books

Robert Lafore
Interactive fiction

Leedex Corporation
Video monitors

Lobo Drives

Macrotronics
Electra sketch, ham interfaces for TRS-80, PET, Apple, Sorcerer

Malibu Design Group Inc
Malibu model 165 high speed dot matrix printer

Marinchip Systems

Martha Herman
T-Shirts, rubber stamps

Mauro Engineering
X-Y plotters, analog data systems

Micro Matrix

Micro Technology Unlimited

Micro-Ap
Selector (software)

MicroAge

Microbot
Home robotics

Microbyte Computer Systems
Alpha Micro systems, Altos, TI, MBS

Microcomputer Consultants
Business software

Microcomputer OEM Systems
S-100 components, peripherals & systems

Microcomputer Technology, Inc.

Microcomputerworld
TRS-80 add on memory, floppy drives

MicroDaSys
Sys Z word processor & business sys, MD-690A 6802/6809, S-100 Compatible CPU car

Micromation Inc
Microcomputers, disk drives

MicroNET
Remote personal computing service

Micropolis Corporation

MicroPro International
Word-star word; super-sort

Microsette Co.
Blank C-10 cassettes, cassette duplication services, data enhancer for TRS-80

Microsoft
Level III Basic, TRS-80 Editor/Assembler-Plus, COBOL 3.1, Basic Compiler, Fortra

Microsoft Consumer Products
Level III BASIC, TRS-80 Editor/Assembler-Plus, COBOL 3.0, BALIC Compiler, FORTRAN

MicroSun Computer Center
MB800 Small business system

Microtronix, Inc.
Microcomputers & peripherals

MQI Computer Products

N N C Electronics
Main frames, power supplies, disks, enclosures

NCE/CompuMart
PET APPLE Sorcerer Atari Computers & peripherals from various manufacturers

North Star Computers, Inc.
HORIZON Micro-computers

Osborne/McGraw-Hill
Microcomputer books

People's Computer Co.
Dr Dobbs Journal, recreational computing PCNET & ComputerTown USA!

Personal Software, Inc.
Software for Apple, Pet, TRS-80, Atari

Philips Test & Measuring Instr
Oscilloscopes

Piiceon Inc
Business computer system

Practical Applications
TRS-80 support, Apple, Pet & Osborn programs, floppy diskettes

Programma International
Computer software & hardware

Q. T. Computer Systems Inc
Computer systems, peripherals & components

Quality Software

Quasar Data Products Inc

Quest Electronics

R-Factor Computer Concerns
Software for the Apple II

Radio Shack
TRS-80

RCA MicroComputer Products

Robotics Age Magazine
Robotics Age Magazine

Rothenberg Information Systems
Business systems and software

Seal-O-Matic
Shipping & packaging supplies

Sebree's Home Computers
Software & hardware products for Bally home computer

Systems Formulate Corp. USA
PRIMO business printer, retail store

Skyles Electric Works
Pet, computer memory, keyboard, toolkit, MacroTEA software dev sys

Small Business Applications Inc
MAGIC WAND word processing software

COMPUTE Magazine
COMPUTE Magazine

Software Exchange
TRS-80 software & hardware

Software Works, Inc.
Computer Software

Southwestern Data Systems
Software for the Apple II microcomputer

SSM Microcomputer Products
Boards for S-100 & Apple computers

Stoneware
Applications software & games for Apple II, consulting & custom programming svcs

Strategic Simulations Inc
Computer Bismarck (wargame for Apple II)

Strobe, Inc.
Digital X-Y plotter

Structured Systems Group
Software

Sybex, Inc.
Books, self-study courses, video courses

Synergistic Software

Talos Systems, Inc.
Digi-kit-izer (a graphic digitizer that is assembled by the user)

Taranto & Associates
TRS-80 software (Small Business)

Taurus Research, Inc.
Multi-user computer system

Technical Systems Consultants
6800,8080 & 6809 software

TNW Corporation
Peripherals for Commodore PET

Triac Computer Systems
Complete business systems

TSI
Cromemco business systems, supplies & support

Village Electronics
Apple Computers

Vitek

Western Computer Dirs. Assn

Western Digital Corporation

Xymec
HY-Q 1000

F I F T H

COMPUTER FAIRE

March

14,
Friday
9am-6pm

15,
Saturday
9am-6pm

16,
Sunday
noon-5pm

1980

Request Form for Hotel Reservations

HOTEL	Single	Double <small>(double or twin beds)</small>	Suite 1 <small>(parlor & 1 bdrm)</small>	Suite 2 <small>(parlor & 2 bdrms)</small>	Reservation Notes
Jack Tar (HQ Hotel)	\$45-\$65	\$55-\$75	\$150-\$250	\$200-\$300	<p><i>If requested rate unavailable, next available will be assigned. Reservations must be received 30 days prior to arrival date in order to be confirmed. All reservations received thereafter will be confirmed on availability only. Rooms will be held until 6pm on day of arrival unless accompanied by deposit to cover first night's rental.</i></p> <p><i>Reservations will be held until 6pm of day of arrival.</i></p> <p><i>Reservation accepted if received by Feb. 28th accompanied by deposit to cover first night's rental.</i></p>
Holiday Inn (Civic Ctr)	\$38	\$48			
San Franciscan	\$40-\$52	\$48-\$60			

Rates are subject to an 8% hotel tax.

Please indicate accommodation choice, and call or mail **DIRECTLY** to the hotel.

HOTEL	TYPE OF ACCOMMODATION DESIRED								
<input type="checkbox"/> Jack Tar: 415/776-8200 Van Ness & Geary, S. F., CA 94101 <input type="checkbox"/> Holiday Inn/Civic Ctr: 415/626-6103 50 - 8th St, (4425), S. F., CA 94103 <input type="checkbox"/> San Franciscan: 415/626-8000 1231 Market St, S. F., CA 94103	<table border="0"> <tr> <td>Single _____</td> <td>\$ _____</td> </tr> <tr> <td>Double _____</td> <td>\$ _____</td> </tr> <tr> <td>Suite 1 _____</td> <td>\$ _____</td> </tr> <tr> <td>Suite 2 _____</td> <td>\$ _____</td> </tr> </table>	Single _____	\$ _____	Double _____	\$ _____	Suite 1 _____	\$ _____	Suite 2 _____	\$ _____
Single _____	\$ _____								
Double _____	\$ _____								
Suite 1 _____	\$ _____								
Suite 2 _____	\$ _____								

Rooms will be occupied by [Please list those who will share rooms. List additional names on separate sheet. Be sure to show arrivals and departures:]

NAME (please print)	CITY & STATE	ARRIVE (hour/date)	DEPART (hour/date)

<i>For Hotel Use ONLY</i>	NAME _____	DATE _____
	TITLE _____	
	COMPANY _____	PHONE (____) _____
	ADDRESS _____	
	CITY _____ STATE _____ ZIP _____	

Number of exhibitors: 187

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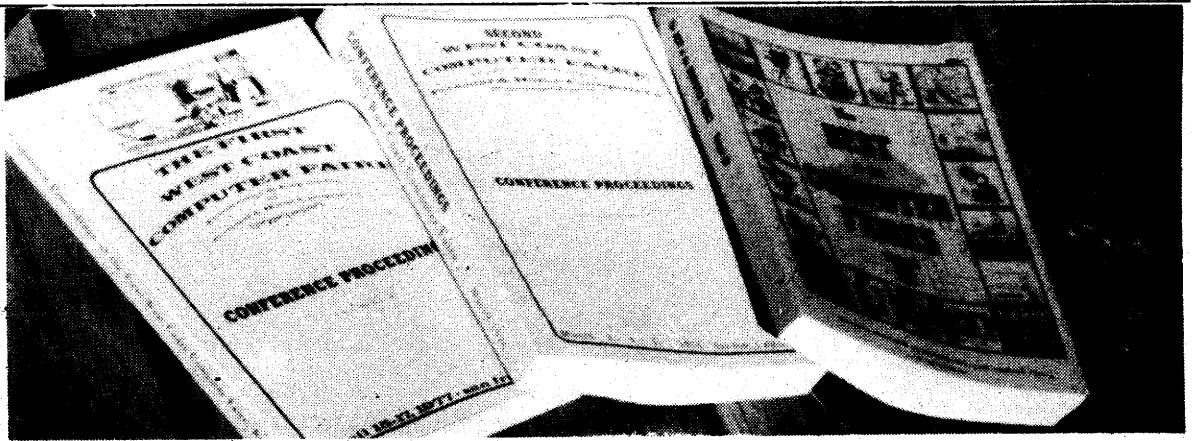
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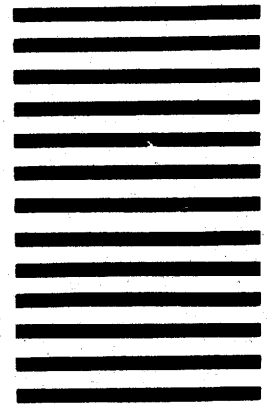


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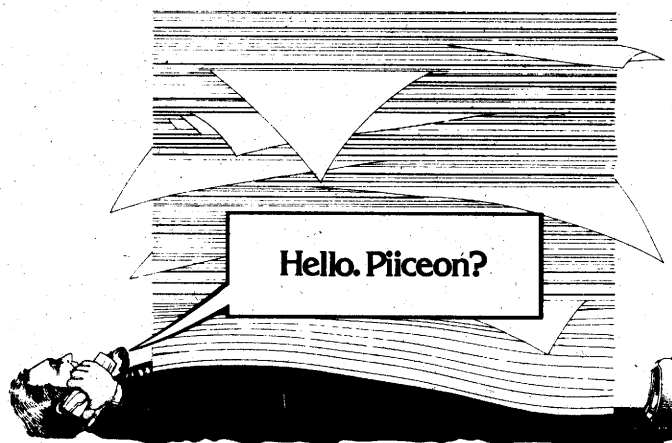
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I would like more information on the Piiceon Systems Analysis and entry on the Sony T.V. drawing. (Entries must be received by 3-13-80.)

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