

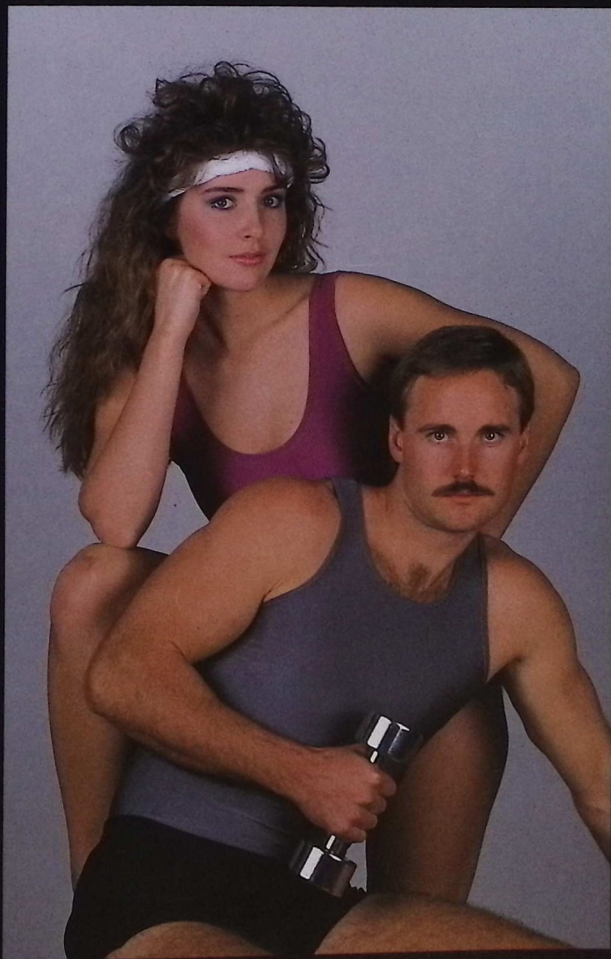
Formerly
PICK
WORLD

RDBM

Published Quarterly for Relational DBMS & Pick® System Users

December 1988

computing

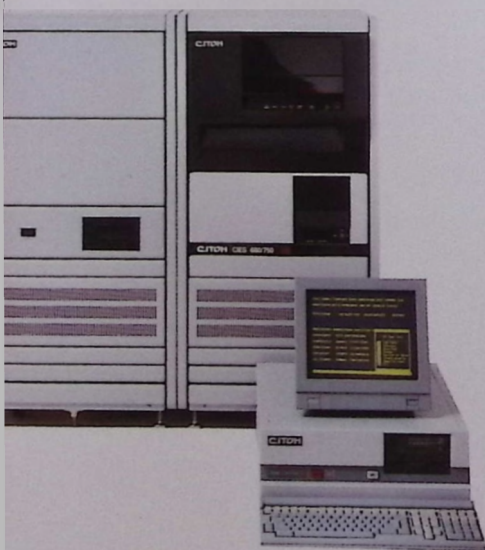


**Imperial
Health Spa
Gets Firm Grip
on Management
Information**

Story Page 4

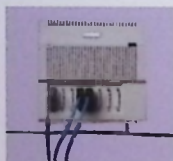
Fastest relief for growing pains.

Choose from a full range of PICK-based systems supporting from 8 to 500 users. Disk capacity ranges from 50 Mb to 8 Gb with up to 64 Mb of available RAM.

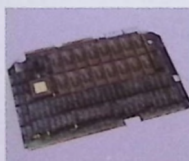


Ask any computer company about their expansion capability and you'll probably hear "no problem" or "piece of cake." Now ask them if you'll have to change hardware. You'll probably hear a painful silence.

Unless, of course, you happen to be talking to CIE Systems. No multi-user system on the market today eliminates growing pains faster than CIES. In fact, most system upgrades are retrofitable right in the field. With no hardware or software revisions.



REMOTE TERMINAL SUBSYSTEM
Expands system's serial port capacity by up to 100 terminals and printers.



68030 CPU
Leading edge 32 bit, zero-wait-state technology.



DISK CACHING SUBSYSTEM
Field retrofits multiple 8Mb disk controllers reducing access time to 3-4 ms.

So instead of the standard computer pitch, you get computers designed around industry standards. PICK.™ Multibus.™ SCSI.™ A choice of four Motorola.™ CPU speeds. This design philosophy not only relieves the chronic pain of being tied to a single manufacturer's proprietary software and components. It's also an assurance that the newest technology will always be compatible with each CIES system, even systems that are years old.

This rare protection of a customer's investment is the driving commitment behind CIE Systems. As a division of C. Itoh, one of the world's largest corporations, CIE Systems has designed this vision into an uninterrupted blueprint of high performance growth. So, if the same old computer stories are getting to be a pain, call us for fast relief. For more information on CIES products or VAR programs call 1-800-437-2341. In California, 1-800-458-6279. CIE Systems Inc., 2515 McCabe Way, Irvine, CA 92713-9628.

All products are trademarks of their respective manufacturers.

C.ITOH

RDBMcomputing
is our new name! As
RDBMcomputing, we will
continue to bring you articles
and news of interest to users of
Pick type relational DBM systems.

Volume 5, No. 4
December 1988

FEATURES

- User Stories:
- 4 Cover Story:
Imperial Health Spa Shapes Up Records
Management With the Heavyweight of O/Ss
 - 18 Coast Central Credit Union
 - 36 Coming Up in 1989: Financial, 4G/L, JET W/P
& More

- Special Product Reviews:
- 67 Product Profile: Vive VIA Vision
 - 70 Word Processing Review Part IV: QuickWriter
by Brian C. Stone
 - 72 Power Preparedness: Power Protection for
PC Systems
by Stephen C. Setzman

TECHNICAL INFORMATION/REPORTS

- 16 The Clean Machine: Archiving Data With ACCESS
by Jonathan E. Sisk
- 31 Disk Caching Catching on With Pick Users
by Doug Dumitru

- 43 Installation Planning:
6 Steps to Successful Implementations
by Dana L. Stern
- 46 Fault Tolerant Computing: System Availability
& Dependability for Critical Applications
by Michael Wintz

NEWS

- Inside Pick Systems:
- 10 Fall/COMDEX in Review
 - 17 Quick Picks
 - 13 News in the Pick World
 - 36 EXPO-VII in PickLand in March
 - 40 Vendor in Review: National Customer Engineering

- International Report:
- 59 International News
 - 60 International User Groups
 - 60 International Pick Dealers
 - 64 Product News

DEPARTMENTS

- User Group Report:
- 21 Notes From User Groups
 - 22 2nd Annual PickLab
by Ann Wahlenmeier
 - 25 User Group Directory - Domestic/
Special Interest
 - 60 User Group Directory - International
 - 34 Classified Advertisements

- Education & Training:
- 48 Education & Training News
 - 50 Educators' Guide
 - 56 Pick Domestic Dealers
 - 66 Pick Licensees
 - 60 Pick International Dealers
 - 74 Advertisers' Product Index

PUBLISHER INFORMATION

RDBMcomputing Staff:

Publisher: Jeanne Sweeney
Copy Editor: Joyce Frazer
Operations: Laura Hand

Contributing Editors:

Product Report: Stephen Setzman, Automation Technology
Brian Stone, Alcyona Computer Consultants

Authors/Contributors:

Robert Boulanger, Rick Davies, Doug Dumitru, Nickie Hughes, Lisa Martin,
Jon Sisk, Dana Stern, Ann Wahlenmeier, Michael Wintz

Typography:

Cayuga Graphics

Design/Production:

Watson Design

Printing:

J.A.&E. Lithographers

ON THE COVER: Imperial Health Spa found that pumping Pick-based iron was the best way to automate membership & office information & get its operations in top condition. Story starts on Page 4. Cover photograph courtesy of Imperial Health Spa.

EDITORIAL & CIRCULATION

RDBMcomputing Magazine is published quarterly in March, June, September and December for Pick Operating System users. Please direct RDBMcomputing inquiries, correspondence, articles, news releases, letters to the editor, advertising materials, & subscriptions or address change information to the publishing offices at:

RDBMcomputing Magazine
P.O. Box 9539
Fountain Valley, California 92728-9539 USA
714-839-6708

Annual subscription rates are: United States \$25
Mexico & Canada \$35 USD
All other countries \$50 USD

Pick, Pickware, Pick Hits, PickFair, Operating Software by Pick, Pick News, PickWorld, Pick Systems of America, Pick Open Architecture, Pick Systems, Access, and Vulture are trademarks of Pick Systems, 1691 Browning, Irvine, California 92714, (714) 261-7425.

Reproduction in part or whole without written permission from RDBMcomputing is prohibited. RDBMcomputing is not responsible for claims or statements made by advertisers or contributors & assumes no liability for accuracy or completeness.

© 1988 RDBMcomputing. Printed in U.S.A.



Imperial Health Spa:

Imperial Shapes Up Records Management With the Heavyweight of O/Ss

To computerize over 100,000 membership records plus administrative functions, Imperial Health Spa wanted a system with muscle. They opted for the power & flexibility of Pick & now Imperial's DP operations are in great shape...



Imperial's large, inviting exercise floors have the latest in machine, free weight and other exercise equipment for both men and women.

The place for *every* body...that's how founder and owner James Joseph Lessard describes the network of Imperial Health Spa clubs throughout the Los Angeles/Orange County, California basin. Imperial Health Spa has a reputation for service and individual attention unmatched in other health clubs. It may not be the best known in the industry; but in 1988, *Orange County Businessweek* rated Imperial No. 1 among the top 25 health clubs in Orange County...with 10,000 more members than its nearest competitor.

"Spotting" the Exercise Trend

Clubs and gyms have been around for decades but not the high tech, coed versions popular today. Before the advent of the total health spa concept, clubs — like the famous Gold's Gym — were typically the bastion of power lifters, body builders and professional athletes.

While working in various L.A. clubs in the early 60s, Lessard made plans to open his own club. He envisioned a club with

much more than a weight room and a shower. His goal was a complete fitness center — one that would attract not only body builders but also the increasing number of men and women turning on to the benefits of exercise.

Lessard was one of the early pioneers of the health spa boon. He put his plan into action in July 1966 when he opened his first club in Downey, California. Lessard got plenty of exercise himself because he was the sole employee. He covered the entire circuit: management, sales, service,

phones, maintenance, and juice bar operator! Within 2 years, he expanded the club, added 5 employees, and installed a whirlpool — the first in a California gym. After another 2 years of growth, Imperial moved to a bigger facility (twice the footage of the original club) and put in its first swimming pool.

In July of this year, James Joseph Lessard — who still keeps active as president — celebrated the company's 22nd anniversary and over 2 decades of success along with 177 full and part-time Imperial Health Spa employees. Imperial now boasts over 85,000 active members, large corporate offices in Fullerton, more than 150 professional instructors, and 8 club locations, averaging 13,000 to 21,000 square feet. Charles Atlas — and the pugilists and 90 pound weaklings of yesteryear — would be ecstatic over Imperial's state-of-the-art fitness equipment and services: Nautilus, Paramount, Universal and free weights; swimming pools, sundecks, steam-rooms, saunas, and whirlpools; trained, onsite instructors and personalized training programs; huge exercise floors and aerobic classes; and spacious dressing, shower, and lounge areas.

The health spa business is extremely competitive and Karen Holt-Lessard, Imperial's corporate secretary, attributes their continued success to a conservative, manageable growth philosophy. "In fact, we do not advertise much. Most of our new business is a result of word-of-mouth, economical membership fees, and referral incentive programs for current members.

"Our members like belonging to a local club," Lessard added, "especially one where they can easily get in touch with the management."

"Working Out"

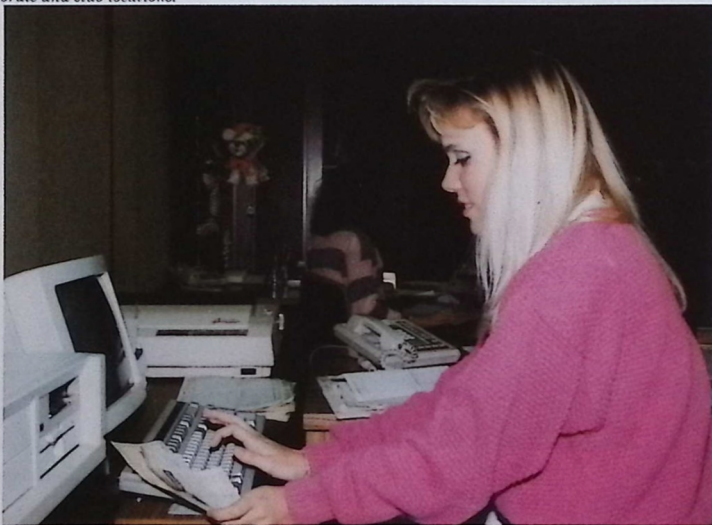
Administrative Problems

Getting in touch with management has always been easy for members, but Imperial Health Spa's huge membership list was making it harder and harder for management to keep in touch with members. While members worked out in the clubs, the office staff was sweating over a manual card system to keep track of them.

Computerization was still a high-cost business option in the early 80s and Imperial opted to put their money where their members were — in advanced, high tech exercise equipment and upgraded facilities. They lived with a manual system a few more years; but by 1984 the manual



Stasi Margos (below) and Yvette Jiron use the Wyse computer to maintain and generate statistical data for corporate and club locations.



system was so bogged down that the company decided that computerizing membership data had to be its first priority.

Like most small and medium sized companies, the Imperial staff "didn't know anything about computers," Holt-Lessard recalls, "so we went with a service bureau to automate our membership files. The one with the best presentation and database expertise was a magazine subscription bureau that ran Pick on a minicomputer."

After the service bureau modified the software to fit membership applications, Imperial Health Spa handled all the data entry of membership records. Running 2 terminals 24 hours a day for 6 weeks, the staff and temporary help transferred the information from over 100,000 membership cards to the Pick system.

"I fell in love with Pick," Holt-Lessard admits. "Pick is the first, and only system I knew. But I also realized it was the right solution for our large database needs. We stayed with the service bureau for a year,

and in that time I learned how to use the system and what I could get out of it. The next logical step was making the transition to our own inhouse system."

"No Pain, All Gain" With Pick

That one year of service bureau experience made setting up their own system easier for Imperial. They had the basic membership program, which was the most critical, and the volumes of membership data already entered.

A hardware consultant put together the initial system: a Wyse 286 PC with a Maxtor 140MB hard disk, an Everex cartridge tape, Wyse terminals, a Toshiba 351S printer, and, of course, the Pick Operating System.



"I've learned to manipulate the data for whatever information we need using ACCESS, and...can do just about anything with our database."

— Karen Holt-Lessard



Dana Dickson (front) and Karen Taylor can quickly answer member inquiries and update records with instant access to Imperial's 100,000 name membership database.

Next, Richard Palmer, a program contractor, helped convert the records from the service bureau tape to the new micro. "We feel fortunate that our conversion was incredibly smooth. There were no nightmares and it cost less and took less time than anticipated," Holt-Lessard reported. "Computerizing really isn't magic. We simply planned the installation and paid attention to all the details, and it went well."

Now Holt-Lessard has the control of information she and the staff need for efficient processing and "can do just about anything with our database, from sorting on any field to generating selective mailings to updating files. I've learned to manipulate the data for whatever information we need using ACCESS, and now we have improved and increased communication with our members."

Since the initial installation of the membership rolls, Holt-Lessard and Palmer have added financial and sales modules to the system. Now they're concentrating on getting general accounting functions "in shape" and are bringing modules online to automate accounts payable, accounts receivable, and personnel/payroll records. Holt-Lessard is also in the midst of installing the CompuSheet+ spreadsheet, AccuPlot graphics, and other programs that Vice President Don Adam is hoping will simplify and speed up analyzing sales and financial data.

Because of its continued growth, Imperial Health Spa is also buying more iron as well as pumping it. In addition to the original Wyse configuration (which is now the corporate machine), employees now have a dedicated membership system. It is a Wyse 386 with a 140MB hard disk. Imper-

ial has also beefed up their systems with additional hard disk storage for the 286, more Toshiba printers, MainLink and modems to communicate between buildings, and a total of 10 Wyse CRTs. Now every body has a terminal!

As for the president, James Joseph Lessard is impressed with Pick's muscle and has a terminal for each system on his desk. He's into computers as much as health these days and busy developing his own programs on the corporate system with his new WIZARD application generator.

For new employees and new application programs, Karen Holt-Lessard does the training herself, and all programs operate from easy-to-use menus.

As for the future, Imperial Health Spa's next exercise in automation will be installing terminals at the club level. Then Imperial will be completely computerized and further increase efficiency and control over its operations...and because it will be all Pick, it'll be *all* gain and *no* pain.

PW

In the World of PICK[®] Fujitsu brings

Throughout its long history, Fujitsu's name has been synonymous with a commitment to quality, reliability and performance. A global giant, Fujitsu is a vertically integrated company which has earned a reputation as a world class leader in computers,

components, peripherals and telecommunications.

Today Fujitsu's continuing commitment to the world of PICK ensures that its Series 2000[™] PICK-based family of products offers business professionals cost-effective

solutions to meet their business requirements.

Fujitsu's family of Series 2000 business computers leads off with its entry level 8 user System 2000[™] and its higher performance 20 user System 2020[™]. Adding to its family,



you World Class Commitment.

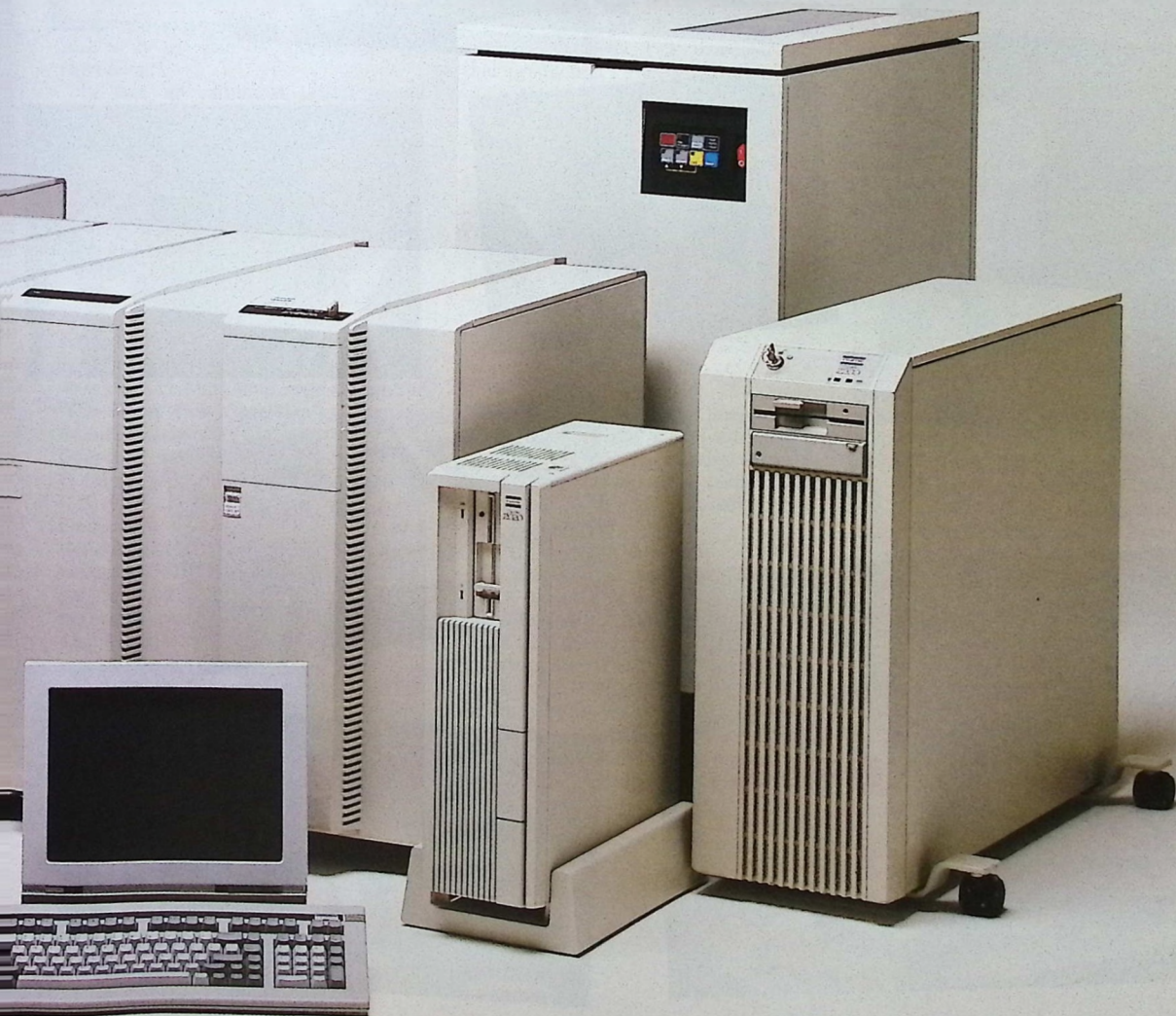
Fujitsu offers its high performance 32 user System 2200™, 64 user System 2400™ and its newest member, the 160 user System 2600™.

In addition, the Series 2000 product line is designed to support Fujitsu's Common Network

Architecture™ (CNA™). The multi-layered CNA software gives you a cost-effective yet comprehensive communications solution.

If you are looking for world class commitment backed by quality, value, performance and support,

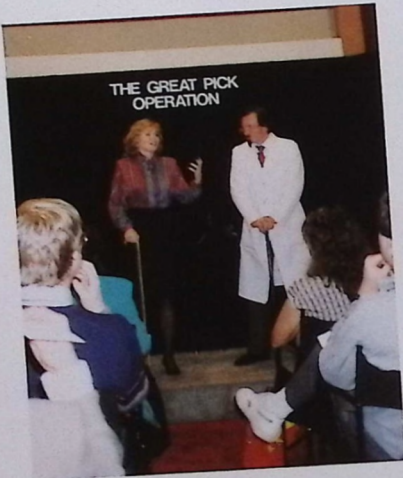
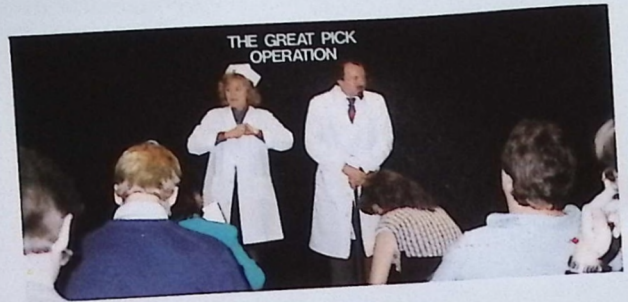
Pick Fujitsu for your partner in business. For more information call 1-800-874-9927, or write Fujitsu Microsystems of America, Inc., 3025 Orchard Parkway, San Jose, CA 95134.



Series 2000, System 2000, System 2020, System 2200, System 2400, System 2600, Common Network Architecture and CNA are trademarks of Fujitsu Microsystems of America, Inc. PICK is a registered trademark of PICK Systems, Inc.

FUJITSU

Fall/COMDEX in Review: COMDEX Skit Draws



"Healthy" Crowd!

Without a doubt, Fall COMDEX 1988 was truly the site of "The Great Pick Operation!"

In fact, an estimated 15,000 people visited the Pick Pavilion at COMDEX in Las Vegas to witness firsthand Pick Systems' celebrated cure for a "sick operating system" or "ailing business application."

And, Dr. Hans Picked personally performed the emergency operations. But, not without the help of his trusty assistant, nurse Sara Bellum.

Between the two, Dr. Picked and Nurse Bellum were personally responsible for educating a crowd of nearly 4,000 Pick Pavilion visitors that decided to relax and watch a Live Marketing presentation on "The Great Pick Operation" — an 18-minute skit covering the basics of the Pick Operating System while entertaining a COMDEX-weary crowd at the same time.

"I don't think we'd do another large trade show without them," Pick Systems General Manager Steve Kruse proclaimed after seeing the results of the Live Marketing presentations. "They [the Live Marketing actors] really had a terrific impact. We doubled the amount of leads over last year's COMDEX show."

Judging by this year's results, the Pick Pavilion exhibit at COMDEX was a smashing success. Showing off a new booth equipped with a 20-foot stage with built-in video monitors and back-lit graphics, Pick

Systems and nearly 25 companies that offer products for Pick demonstrated their products in a 9,000 square-foot area of the huge trade show that attracted an estimated 110,000 attendees over the week-long extravaganza.

"The booth was filled most of the time," Kruse reported. "We didn't have a lot of lulls in the action. I think most of the Pick Pavilion participants were very happy with the results and most have already indicated they want to sign up for next year's show."

The highlight of the show, however, was the Live Marketing presentation performed every half hour. Two actors provided by Live Marketing Inc. of Chicago performed "The Great Pick Operation" to SRO crowds. At the end of the skits, a drawing was held for prizes and each Pick Pavilion visitor was also provided with one of many give-away items bearing the Pick Systems logo.

"The Live Marketing presentations were great in that they provided the uninitiated with a quick overview of the Pick System," Kruse explained. "After they watched the Great Pick Operation, they didn't ask us questions like: What is Pick? They'd ask questions like: What can Pick do for me? Or, they began to get right into their application. The Live Marketing overview gave them a basis from which to ask intelligent questions and get right down to dis-

cussing how a Pick-based system can solve their data processing problems."

Besides being successful in the booth, Pick Systems also made great strides in boosting coverage of the Pick market with a media blitz of Pick-related articles appearing in various computer trade publications before, during and shortly after COMDEX.

According to Kruse, Pick Systems President Dick Pick personally visited key computer publication editors only two weeks prior to COMDEX that resulted in several major articles on the growth of the Pick industry that appeared in *InformationWeek*, *Computer Systems News*, *ComputerWorld*, *PC Week*, *MIS Week*, and others.

The public relations effort was also backed up with full-page ads promoting the Pick Pavilion during the COMDEX run. Pick Pavilion advertisements appeared in *Computer System News*, the *COMDEX Show Daily*, and the *Comdex Exhibitors' Guide*.

"The Pick Pavilion concept continues to grow and prove itself," Kruse noted. "We are now scheduled to have a Pick Pavilion at COMDEX and several European shows as well. It provides a great opportunity to take the Pick message into the mainstream of the computer industry."

PW

CompuSheet+™ reaches into your database, gathers data, and organizes it into a spreadsheet, instantly!

Imagine this. You sit down to create a new spreadsheet. You type "SPREAD" followed by a simple list of the information you want. You press RETURN. And before your eyes, CompuSheet+ pulls the information from your database and assembles it into a spreadsheet. Everything's there — headings, columns of data, and even totals. No typing. No delays.

And that's just one of the features that has made CompuSheet+ the most popular spreadsheet for the PICK® system. Using fast, abbreviated commands, you can consolidate spreadsheets, design powerful macros, sort your spreadsheet, search for characters, and define various windows. Plus CompuSheet+ is fully integrated with

ACCU/PLOT II* graphics.

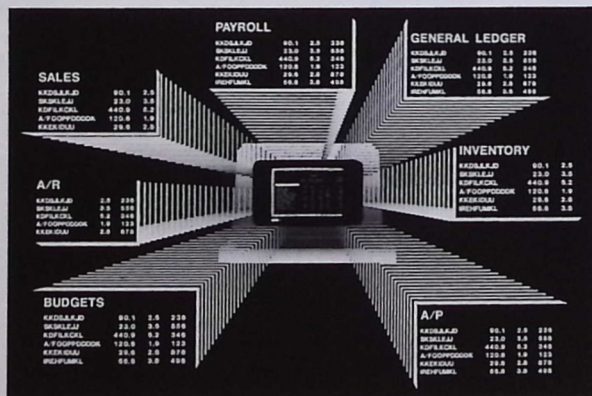
Now you can define and analyze complex business problems in minutes. Examine your cash flow, make cash and sales projections, prepare budgets, proposals, financial statements and much more. For maximum efficiency, CompuSheet+ lets

you combine manual entries with the up-to-the-minute information already stored in your database. And whenever your database is updated, your spreadsheets will reflect the change.

With CompuSheet+'s comprehensive on-screen help to answer your questions, it's as easy to learn

as it is to use. Only CompuSheet+ offers you this much power in a spreadsheet. Call Interactive Systems today at (719) 579-6800, and ask about our 21-day free trial offer. Or write 635 Southpointe Court, Suite 110, Colorado Springs, Colorado 80906. Telex 5101012191. FAX 719-576-7246. Dealer inquiries invited.

Available for all PICK-based systems, including PICK-PC, Ultimate, and McDonnell Douglas.



CompuSheet+ allows you to interactively link your spreadsheets and your database. The information from any number of files can be placed on your spreadsheet and used in your calculations.



**INTERACTIVE
SYSTEMS**

CompuSheet+ is a trademark of Interactive Systems.
PICK is a registered trademark of PICK Systems,
Irvine, CA. ACCU/PLOT II is a trademark of AccuSoft
Enterprises.

*ACCU/PLOT II is offered separately.

News in the Pick World

Analytic Marketing & Research of Colorado (AMROC) expanded operations and now serves customers nationwide. AMROC specializes in research projects (design, management and analysis); convention management and coordination; and product promotion (marketing, representation, introduction). For more information, contact Catherine or Harry Davis at 719/591-1393.

Applied Digital Data Systems (ADDS) of Hauppauge, New York announced last month that it plans to resume production of video display terminals (VDT) in the U.S. starting January 1989. **Omnishore** signed an agreement with ADDS to manufacture a new line of ADDS terminals at its 60,000 square foot facility in Carson City, Nevada. ADDS will also maintain certain VDT manufacturing operations in the Pacific Basin.

CIE Systems (Irvine, California) now publishes *Blueprint for Success*, a 4-page newsletter for CIES Pick dealers. Lisa Elliott is editor; Meryl Silverman, managing producer.

Climax Computer moved in September from Fountain Valley to 23322 Madero, Suite A, Mission Viejo, California 92691, 714/859-7094.

Computer Source International of Central Islip, New York initiated a dealer program for its Customized Dental Computer Systems (CDCS) division. CDCS dealers will market the Dental Office Management System as a complete turnkey package or license the software for IBM AT/386/PS2 or compatible computers. Contact CDCS at 800/222-5022.

Edge Computer Corporation of Scottsdale, Arizona changed its name to **Edgecore Technology, Inc.** effective September 1988.

E.I. DuPont de Nemours (Wilmington, Delaware) now markets its DuPont At Work maintenance and materials management system on Fujitsu Series 2000 computers. DuPont recently became an authorized Fujitsu dealer and sells the system to midsized manufacturing operations.

HAVING TROUBLE GETTING EVERYONE ON YOUR SYSTEM?

SKP ELECTRONICS brings you a full line of switches designed to expand your PICK* or PICK-like system without expanding your budget.

DATA PBX - Multi-port / multi-terminal contention switch

PORT EXPANDER - Six terminals contend for two ports

CODE-ACTIVATED/SPOOLER SWITCH - 3-way code-activated switch.

MPE/3 - Up to three serial devices share one port

ALPHA SWITCH - "Break-free" intelligent A/B switch

MINI DATASCOPE - Intelligent multi-function diagnostic switch

For more information on these intelligent switches and our other innovative products, call or write:



SKP ELECTRONICS

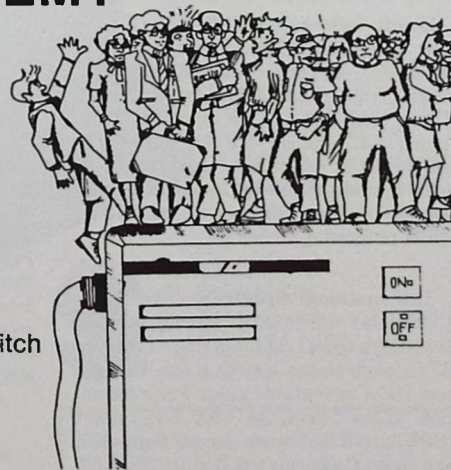
1232-E South Village Way

Santa Ana, CA 92705

(714) 972-1727 Telex: 140476 TAB

*"The PICK Peripheral Specialists
Since 1980"*

*PICK is a trademark of PICK Systems, Irvine, CA



In Memoriam: Ken Simms

We're sad to report that on November 7 Ken Simms passed away following a long illness. Ken was one of the original employees of what has become Pick Systems and designed and implemented the Pick/BASIC language. Over a decade ago he began development of WIZARD, a series of popular 4GL application development tools for Pick systems.

Although Ken is gone, he has left us the WIZARD legacy. WIZARD Software continues under Joy Butler as president. Bob Guthrie of Pick Products in Australia is still working on development and completing versions for OA and Prime, and Bob Savage of SimpleSoft in Oregon continues to provide technical support.

Goodbye, Ken. We'll truly miss you.

Esprit Systems (Melville, New York) now has remarketing agreements for its OPUS 3n1 terminal with **SMT-GOUPIL** (Paris, France) and **ICON International** (Orem, Utah). These OEM agreements are valued at \$2.1 million with SMT and \$1 million for ICON. Esprit also reports that Teltmatic Systems of Toledo, Ohio signed a one year \$1.7 million contract to resell LAN TERM processing terminals.

International Spectrum (San Diego, California) will hold its annual International Spectrum USA Conference February 27 through March 1, 1989 at the Washington, D.C. Convention Center. For information about Spectrum USA '89 contact IDBMA, 10675 Trenea Street, Suite 103, San Diego, California 92131, 619/578-3152.

Jaitare, Inc. of Denver, Colorado is now the exclusive Rocky Mountain Region distributor for PRO:MAN, manufacturing software developed by **RSD** of Seattle, Washington. The company is a manufac-

turing consulting firm and is marketing PRO:MAN through its dealer network which extends into Arizona, Utah and Texas. Jaitare also reports that it is now a value added installer (VAI) for the **Seattle OS IBM RT 6150** system.

MetaStat, Inc. of Cincinnati, Ohio recently signed as a Pick dealer for the Cincinnati area. The company markets the Practice Management System and Scheduler software and provides contract programming and training for Pick users.

MicroPlan Development Corporation of El Paso, Texas reports that its MicroPlan MFG multilingual repetitive manufacturing system was named "Best Maquila Software" for 1988 by the **Southwest Business Journal**. Congratulations! The MicroPlan modules handle Mexico/U.S. customs and payroll processing, inventory control, material requirements and other MRP functions.

Millennium Solutions Inc. is a new company specializing in designing and programming financial and manufacturing applications for Pick based systems. Principals Warren Blackburn, Robin Losito and Kris Rail recently opened offices at 18-3 East Dundee Road, Suite 100, Barrington, Illinois 60010, phone 312/382-2100.

Millsoft, Inc. (formerly of Irvine, California) relocated to Atlanta, Georgia and is operating as **System Builder Technologies-U.S.A. (SB Tech)**. **Giora Friede**, SB Tech president, reports that Release 5 of System Builder is due out the 1st quarter of 1989 and that the company recently signed distribution agreements for **KEYWORD** word processing and the **MISTRAL** database optimizer.

Northern Health Systems moved to larger offices within the Pittsburgh Office & Research Park, 5500 Corporate Drive, Pittsburgh, Pennsylvania 15237. The company is now in Suite 300; their phone remains 412/367-3550.

Prime Computer, Inc. (Natick, Massachusetts) reported in September that it signed a definitive agreement with **General Electric** to acquire GE's Calma business and to create a partnership with GE for the development and purchase of CAD/CAM software. In October, Anthony Craig became chief operating officer, executive vice president and board member. Craig will become president and CEO when **Joe M. Henson**, who is resigning, leaves the company early next year. Also, the **Choice Corporation** subsidiary of **MAI Basic Four** of Tustin, California submitted a \$20 per share acquisition offer to the Prime board of directors, which unanimously rejected the offer in late November.

Sequoia Systems of Marlborough, Massachusetts recently joined the Transaction Processing Performance Council (TPC). TPC develops and publicizes standards for benchmark tests to measure online transaction processing throughput (OLTP). Also, Sequoia reports that the **Federal Aviation Administration** will interconnect 24 Sequoia 200 fault-tolerant systems with its national Weather Communications Processor systems. **Contel ASC**, prime contractor for the WCP system, awarded the fault-tolerant portion of the contract to Sequoia.

The Ultimate Corporation (East Hanover, New Jersey) purchased a minority interest in Service Automation Systems Inc. (SAS), one of Ultimate's dealers. SAS of Houston, Texas specializes in turnkey systems for the service industry.

Ultradata Corporation (Pleasanton, California) opened a hot-site disaster recovery center near Dallas-Fort Worth Airport for users of its ULTRAFIS financial and credit union systems. Since opening the center a few months ago, Ultradata has signed up over half its clients for the DRC service.

PW

PICK[®] and PC DOS work together in Harmony.



Until now, accessing PICK from your PC was a long, involved process. PK Harmony from Synex Systems Corporation has changed all that. Forever.

PK Harmony fully integrates your PC into your Pick system quickly and efficiently. You can move data from Pick to DOS and back again with just a simple command. PK Harmony supports over 36 popular PC software applications, including Lotus 1-2-3[®], Symphony, Word Perfect, MultiMate, and more.

Industry-proven and endorsed, PK Harmony is simple to use, reliable and supported by a company dedicated to giving you fast answers.

Interested in more information? Contact us today and find out how we can make your office work better in Harmony.



**SYNEX SYSTEMS
CORPORATION**

800-1176 W. Georgia St., Vancouver, B.C.,
Canada V6E 4A2. *To Order Call:*
1-800-663-8663 or (604) 688-8271
FAX: (604) 688-1286

See
us at
Spectrum
in
Washington, D.C.

Please send me more information on PK Harmony

Name

Company Name

Address

Zip Tel.

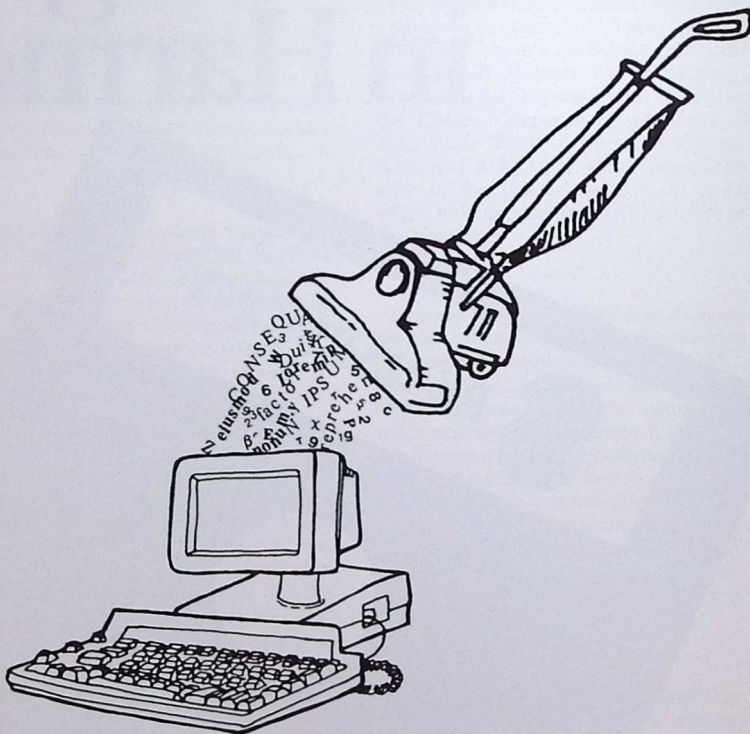
Pick system type

No. of PCs

The Clean Machine: Archiving Data With ACCESS

by Jonathan E. Sisk

Like traditional spring cleaning at home, clearing out & cleaning up your computer system has its rewards. Purging those old data files is not only good for the soul...it's good for your system.



The ACCESS language is a remarkable tool, when put into the right hands (apologies to left-handed readers). Those of us that use ACCESS realize that with just a little training, we can produce reports with amazing speed and ease.

But, alas, everything comes at a price. As more and more data accumulates in files, ACCESS gets slower and slower. Even with properly sized files, the more data that ACCESS must trudge through, the longer the report takes.

Spring Cleaning Your System

We all know about spring cleaning. It conjures up images of long tedious hours of digging through dusty old closets and throwing away the stuff we no longer need. Well, this concept also applies to your system.

It's pointless to maintain data that may never again be needed in your files. This just makes ACCESS take longer and uses up your valuable storage space.

But wait, you say, **someday** I may need to know who I sold a widget to in October of 1982. Okay, so here's how you compromise: Use ACCESS to run reports directly from tape (or diskettes).

Cleaning Out the Clutter

For this illustration, let's pretend that you have a file called **INVOICES** in your account.

In the dictionary of the INVOICES file are 2 attribute-defining items in the dictionary, one called INVOICE.DATE and the other INVOICE.AMOUNT.

Your first step is to determine which items are no longer needed in the "live" data. Let's assume that we want to archive all of the invoices prior to 1987. Here's the first step:

```
>SSELECT INVOICE-FILE BY  
INVOICE.DATE WITH INVOICE.DATE  
BEFORE "1/1/1987"<cr>
```

467382 ITEMS SELECTED.
>SAVE-LIST INVOICESTO.PURGE<cr>
'INVOICESTO.PURGE' SAVED. 1200
FRAMES USED.

Don't laugh. The first company I taught this trick to had more than a **half million** items to purge! The DP manager subsequently named his first son after me.

Archiving the Data

Now, we have a list of all the invoices to remove. The next step is to mount a tape or diskette, attach it with the appropriate command, then issue the following:

```
>GET LIST INVOICES TO PURGE<cr>
467382 ITEMS SELECTED
>T-DUMP INVOICES<cr>
```

As each invoice is dumped (copied) to tape or diskette, a chronological count of the item being dumped is displayed, along with the corresponding ITEM-ID. You may have time to have your tires rotated while you wait.

Eventually, the list exhausts itself and control returns to TCL.

Some people get real nervous when you talk about removing data from their system. Prior to actually taking it off the disk, you may want to print a hardcopy of the invoices that were purged. This can be done though *after* the data is purged.

Now that your data is safely backed-up to tape or diskettes, you can remove it from the system with these commands:

```
>GET LIST INVOICES TO PURGE<cr>
467382 ITEMS SELECTED
>DELETE INVOICES<cr>
```

This may also take awhile. Find something to do while you wait.

Accessing Your Archive Attic

So far, the procedure described seems pretty routine. Most people know that ACCESS has the T-DUMP command for dumping data to tape or diskette, but many don't know about the TAPE modifier available for use with ACCESS sentences.

Here's how it works. Let's assume that 5 minutes after you purge the invoices from the system, the company president calls and asks for a list of all the invoices from February of 1985. Don't panic. You can do it.

Mount the tape or diskette you dumped the invoices to and get positioned to the beginning of the file. Because it's probably the first and only T-DUMP on the media, then the T-REW command should suffice.

Now, you can produce the report with the command:

```
>LIST INVOICES WITH INVOICE DATE >=
"2/1/85" AND WITH INVOICE DATE <=
"2/28/85" INVOICE DATE TOTAL
INVOICE AMOUNT TAPE LPTR<cr>
```

Note the TAPE modifier. It allows ACCESS to retrieve the data from a T-DUMP formatted tape, while using the attribute-defining items from the dictionary of the INVOICES file currently on disk.

Presto! The president is happy — he got his report; the operators are happy — their programs run faster; the controller is happy — this postpones buying more disk storage for a few more months; and you are the hero.

Sorting With S-DUMP

The TAPE modifier only works with ACCESS verbs that don't sort data. This means verbs like LIST, SUM, COUNT, STAT, SELECT, etc. Unfortunately, the TAPE modifier doesn't seem to work well with the LIST-LABEL command, but you might test it on your system to see what it does.

This means that if the data needs to be reported on in more than one sequence, it must be dumped to tape or diskette in the order needed. The S-DUMP command allows sorting during the dump process.

It's important to properly label your T-DUMP tapes or diskettes for future ease of use and handle their storage as you would your FILE-SAVE tapes.

You can put multiple T-DUMPs onto the same tape or diskette, space providing, and use the various tape movement commands (like T-FWD and T-SPACE) to position the tape to the proper place prior to producing a report.

Happy spring cleaning!

PW

Jonathan E. Sisk is president of JES & Associates, Inc., a Pick training & publications organization. Sisk is Series Editor for the The Pick Library, at TAB Books, the author of Pick 5 books, & a noted lecturer & article author.

Quick Picks

Grid Pick's Laptop Choice

GridCase computers are Pick Systems' choice for laptop PCs to run the Pick O/S. Grid Systems Corporation of Fremont, California manufactures battery powered 80286 and 80386 laptop microcomputers.

Frank Petyak, vice president of sales at Pick Systems, said that the company is recommending GridCase laptops because of their reliability and upgrade/reconfiguration abilities. The GridCase models 1520, 1530 and 1535 running the Pick Operating System will be marketed by Pick's large dealer network.

KEYWORD Added to PickWare List

Pick Systems recently designated KEYWORD as an official PickWare product. KEYWORD is a high-performance word processing system which was developed by KEO/SOFT of Tustin, California [see KEYWORD word processing review, *PickWorld*, September 1988 issue].

Pick Systems General Manager Steve Kruse reported that Pick Systems is "very excited about adding KEYWORD to our PickWare offerings. It is an impressive package and designed to provide all the

functionality, look and feel of any PC word processor. But this one has the power of Pick behind it. It is an unbeatable combination."

As an authorized PickWare product, KEYWORD is automatically made available to all Pick dealers and distributors.

(cont. on pg. 19)

Coast Central Credit Union

New Mall Branch Dramatically Increases Membership

A new branch in a recently opened shopping mall may have turned Coast Central Credit Union (CCCU) in Eureka, California into the hardest working credit union in the country. The \$93 million institution is now open to the public 7 days a week, including most holidays, for up to 14 hours a day.

According to Jim Sessa, director of finance, Coast Central is one of the few credit unions nationwide open every day, and "We were even open the Fourth of July."

Coast Central, which serves a tricity area in the northwest corner of California, has a community charter and recently received approval for business lending. The new mall branch is part of an aggressive strategy by the 23,000 member credit union to attract commercial deposit and loan accounts. It opened June 1, offering extended hours: 10 a.m. to 9 p.m. Monday through Saturday, and 11 a.m. to 6 p.m., Sundays and holidays. Coast Central's other 6 branch offices are open Monday through Friday, 7 a.m. to 5:30 p.m.

"Our primary goal in the new branch has been to focus on the merchant accounts, and next, to focus on new members," said Anne Davis, director of marketing. The traditionally high balances that business accounts bring are a key part of Coast Central's overall plan, Sessa said. "We have a high loan-to-share ratio, 99% in 1987. We see the commercial accounts as a good avenue to bring in low-cost deposits."

During the first few weeks of operation in the mall, Pam Foster, the mall branch manager, and Lloyd Erb, the branch manager of the main office, went to each of the 55 mall merchants and told them

about Coast Central and what it had to offer. To date, over 50% of the merchants have opened accounts at the branch.

"It's really convenient for mall merchants," says Gina Luzzi, daytime assistant operations supervisor. "We're right down the hall. They don't have to drive to their bank to get change or make the night deposit."

The new branch is a cornerstone of the credit union's future growth. According to Davis, Coast Central has positioned itself as the major locally owned financial institution in the Humboldt, Del Norte, and Trinity Counties area, a market area of 150,000 people. "Major banks in the area are Bank of America, Wells Fargo, and Security Pacific, which just closed 2 nearby branches. Bank of Loleta, formerly the largest locally owned bank, was just bought by U.S. Bancorp and other area credit unions are not as large as us, so we promote ourselves as the largest locally owned financial institution."

Opening a branch in the new shopping mall became part of Coast Central's marketing plans when the mall developer, General Growth Companies of Iowa, approached the credit union. "They wanted to be linked to a strong local presence," Davis said. "General Growth feels there is a loyalty factor we can offer." Coast Central also saw the move as a great opportunity, Davis said. "It's a good way to get our foot in the commercial market up here. And the mall has the highest foot traffic in the tricity area."

At the branch's public Grand Opening, 66 new members signed up and the flow has been continually steady. Since opening, the mall branch has been responsible for 48% of Coast's monthly membership growth and has also attracted teenage members, Sessa said. "Needless to say, the mall is a draw for those under 18. We'll be helping them learn basic saving habits."

When Security Pacific closed its branch in a mall across town, Coast Central launched an aggressive campaign to attract the bank's former customers. Free checks were offered to Security Pacific clients who turned in their old checks and opened a Coast Central checking account. Coast also extended the hours of their main office during the 2 week campaign and 54 Security Pacific clients became members of Coast; 22 of them were signed up at the mall branch.

"Transaction levels have been increasing all year, but they definitely jumped in June," Sessa said. "Our main office normally processes around 20,000 checks a month. The new mall branch is a close second with over 16,000 checks a month!"

Opening the branch in a mall was different than opening a regular branch, Davis said, and entailed some new approaches. "Rather than transfer experienced staff to the new branch, we hired new people with the understanding they would be working mall hours," Davis said. "We trained them at regular branches, but they came aboard knowing they'd eventually work the later hours."

A total of 10 employees now work at the mall branch. Because of its rapid growth, plans for expansion may not be far off. The new accounts/loan desk may be moved into the branch manager's office, allowing space for additional teller windows. The credit union also plans to install an ATM just outside of the branch.

Coast Central CU and all its locations use ULTRAFIS, Ultradata's in-house financial systems. Ultrafis systems are installed on Pick-based Ultimate Honeywell, IBM and DEC VAX computers and support automated systems that are critical for efficient credit union operation: network and proprietary ATMs, voice response/home banking, office automation, MICR, OCR, and CUSO technology.

PW

(cont. from pg. 17)

Members Elect Dick Pick to SMA Board

During its annual meeting December 5, SMA members elected Dick Pick, president and founder of Pick Systems, to its board and voted to rename the organization Pick Spectrum, a name change designed to strengthen and unify the Pick market and more accurately reflect the group's focus.

"The entire Pick marketplace will gain from this cooperative effort," Dick Pick remarked. "We at Pick Systems felt the time had come to get behind SMA (now Pick Spectrum) and their efforts to promote our technology and create standards and enhancements designed to increase the overall Pick market."

The SMA group began 3 years ago to promote manufacturers of Pick-based products and to establish standards among Pick vendors; to date, almost half of Pick's 32 licensees have joined. Now that Pick Systems has joined and the name changed, membership is expected to increase dramatically.

"The uniting of system suppliers for Pick under a single banner creates a strategic alliance that ensures our members remain on the cutting edge in the markets they serve," states Robin White, Pick Spectrum's newly elected chairman and vice president/general manager of the Systems Division of Applied Digital Data Systems Inc. (ADDS).

As part of its first official business, Pick Spectrum established a joint marketing committee and a systems standard meeting. According to Dick Pick, Pick Systems intends to be directly involved in creating and implementing standards as well as market-driven enhancements and to provide resources and manpower to aid in developing joint marketing and advertising activities for members. "Pick Systems was the first to implement the original SMA standards and we will continue to work with Pick Spectrum members to achieve the same goals."

During the annual meeting, in addition to electing White as chairman for a 2-year term and honoring past SMA Chairman Leonard Mackenzie (vice chairman of General Automation) as chairman emeritus, the following board members were elected: Ted Sabarese (The Ultimate Corporation president & CEO, 3rd term), Joseph Burke (Prime Computer director of product marketing), and John Howorth (McDonnell Douglas Computer Systems) for a second term as secretary/treasurer.



CAN YOU LOAD MAINFRAME TAPES INTO YOUR PICK DATABASE?



AccuLoad MAKES IT EASY!

Admit it.

When you considered our mainframe-to-Pick question above, it conjured up visions of hammering square pegs into round holes, building Rome in a day, that sort of thing.

But mastering the impossible is very possible indeed. Once you've put the magic of AccuLoad on your side, you can:

- Load fixed block length, record length, and field length tapes with multiple ASCII or EBCDIC record formats
- Specify tape formats conveniently in tables on a field-by-field basis, including alpha-numeric, numeric, decimal, hexadecimal, binary and packed decimal data types
- Update specific attributes of existing items without loading entire items from a tape

Of course you *can* create a version of your own if you're willing to spend an enormous amount of time programming—then waiting 5 or 6 times longer than AccuLoad for it to perform.

Buy why code it when you can AccuLoad it?

AccuSoft

8041 Foothill Boulevard
Sunland, CA 91040
818/951-1891

"PICK is a registered trademark of PICK SYSTEMS, Inc., Irvine, CA"

The Mini-Slayer

Conquers The Cost Of Multi-User
Business Systems!

The speed . . .

The power . . .

The glory!

We're talking, of course, about Mini-Slayer®, the heroic new Pick based microcomputer system that rescues you from the clutches of costly minis.

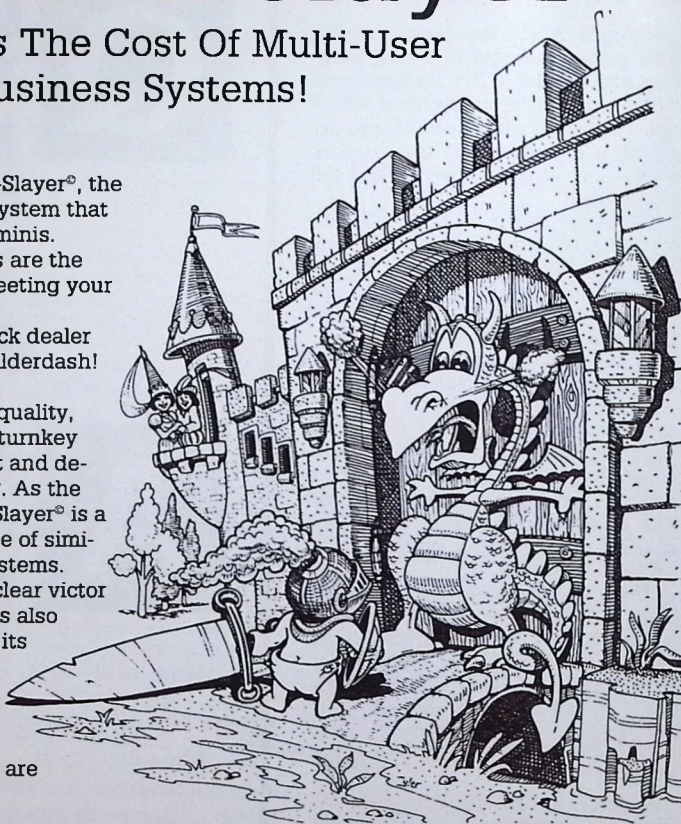
Minis!? But you were told that minis are the *only* multi-user computers capable of meeting your business requirements.

But we at Alcyona, America's top Pick dealer for three straight years, have a reply. Balderdash! *The mini is a myth.*

Alcyona has bundled together high-quality, name-brand equipment into the kind of turnkey multi-user system business people want and demand. The system's name? Mini-Slayer®. As the table below amply illustrates, our Mini-Slayer® is a formidable challenger to the performance of similarly configured, more expensive minisystems.

In fact, MiniSlayer is more than the clear victor in terms of power, price and features. It's also the victor in terms of the affordability of its optional Pick microcomputer software.

So if you want a "storybook ending" in your search for the optimal multi-user business system, call Alcyona. After all, our Mini-Slayer® hardware and software are *designed to save the day!*



MiniSlayer - Minicomputer Power, PC Prices!

80386 SYSTEMS (2 to 33 users starting at \$3,495)

Compaq 16mhz/20mhz/25mhz 386

Xmark Microplex/Turboplex 386

AST Premium 386

ALR Flexcache/Flexnode 386

80286 SYSTEMS (2 to 17 users starting at \$2,495)

AST Premium 286

ALR Flexcache/Flexnode 286

Xmark Triplex 286

PORTABLES (2 to 17 users starting at \$2,695)

Toshiba 3200/3200/5100/5200 Laptops

Compaq Portable III/386

Ogivar 286 Laptop

Maxtron 286/386

All prices include 640kb RAM, 40mb disk drive, monochrome monitor, keyboard, 1.2mb floppy, serial and parallel ports and Pick O/S.

THE PC TO REPLACE YOUR MINICOMPUTER!

At a fraction of the cost of a minicomputer system, MINI-SLAYER can deliver better performance and often greater computing capacity. Features include:

- 2 to 33 users
- 40 mb to 2 gigabytes formatted disk capacity (MFM, RLL or ESDI)
- 10 mhz to 25 mhz/0 wait CPU speed
- 60 mb to 125 mb 1/4" tape cartridge
- Choice of R83 or O/A PICK plus MS-DOS

Optional Features:

- 512 kb to 12.5 mb disk cache
- Intelligent Serial Ports
- Disk Mirroring (Fault Tolerance)
- 1600/3200 bpi 1/2" tape
- 6250 GCR 1/2" tape
- Optical Disk (1989)
- On-Site Maintenance Nationally

Call for specific system configuration and prices.

Porting services available.

ALCYONA
COMPUTER CONSULTANTS, INC.

U.S.A.

7080 Hollywood Blvd., # 718

Hollywood, CA 90028-6933

(213) 462-1549

FAX: (213) 462-2006

Singapore

875, Bukit Timah Road,

Singapore 1027

(65) 467-2080

FAX: (65) 467-9082

PICK is a registered trademark of PICK Systems, Irvine, CA

MINI-SLAYER is a registered copywrite of Alcyona Computer Consultants, Inc. Hollywood, CA

Mini-Slayer® The Power Of A Mini For The Price Of A Micro

USER GROUPS

Notes From User Groups

200 Attend Annual Ultradata Conference

September 11 through 14, 200 users of the Ultrafis financial institution system convened at Scottsdale, Arizona for the 6th Annual Ultradata User Group Meeting. On the agenda for the 4 day conference were Ultradata corporate and product sessions, management and operational breakout meetings, hardware and software forums, and election of user group officers.

SWAPU Serves More than Texas

The Southwest Association of Pick Users (listed in the directory under Southwest) wants potential members to know that the group serves Pick users in locations besides the El Paso area. The officers are in El Paso (which borders both New Mexico and Mexico) and SWAPU is actively recruiting members located in southern New Mexico (Las Cruces area) and north-eastern Mexico (states of Chihuahua and Coahuila). In fact, many members speak both Spanish and English.

Please contact Max Minor at 915/833-5184 for group information.

Forty-Niners Start User Group

Way up north — in Alaska — Pick users are now meeting to share information and promote the O/S. The 1st gathering of Alaska Pick Users Group was December 20 and future meetings will be the 3rd Tuesday of each month.

David Slezak, who is coordinating the group, would like to hear from all users in the 49th state. Contact him at 907/248-3746, 3121 Wendy's Way, Suite B, Anchorage, Alaska 99517.

Groups Sponsor Saturday Workshops

Southern California Association of Pick Professionals

SCAPP's first spring seminar will be Tuesday, March 7, 1989 at the Holiday Inn in Irvine, California. This educational seminar will focus on numerous application tools for Pick users. Call Karen Schaltenbrand at 714/496-7672 for further information.

Seattle Pick Users Group

Workshops are really popular in Seattle, and the group holds ongoing sessions the 1st and 2nd Saturday every month. Workshops on the 1st Saturday are oriented to new Pick users; the other Saturday is devoted to topics of interest to experienced users. Contact Judy Terreberry at 206/443-2365 if you did not receive a registration form.

PW



Bayside, We Mean Business

Your company's PICK computer needs are as important to us as they are to you. We take those needs very seriously because we want your business, and we want to deliver the right equipment at the right price at the right time. With an extensive inventory and staff of skilled professionals, Bayside can assist you in your computer purchasing decisions with speed and skill unmatched in the industry.

Buy, Sell, Trade In and
Service

ADDS MENTOR
ULTIMATE
GA ZEBRA
MICRODATA
CIE
PRINTRONIX
WYSE

- New and Used Systems
- Peripherals and Upgrades
- Immediate Delivery
- Savings up to 60%



Corporate Offices:
46759 Fremont Blvd.
Fremont, CA 94538
(415) 490-8733
Fax (415) 490-9178

USER GROUPS

2nd Annual PickLab: Attendance Picks Up With Advertising Blitz



by Ann Wahlenmeier

Over 200 Pick users took advantage of a day off from work to attend the 2nd Annual PickLab held September 20 at the Sheraton Hotel in Burlingame, California.

Hosted by the Northern California Pick Users Association, the show was held in conjunction with NCPU's regular monthly meeting to encourage show attendees to remain for the dinner meeting and find out what NCPU is all about.

"A show like this takes quite a bit of planning," explained Susan Hendrickson, PickLab coordinator this year. Several meetings were held throughout the year to structure and implement ideas. Advertising amounting to over \$5000 was placed with 2 radio stations catering to the business environment and in 2 local business publications. The advertising paid off! PickLab '88 drew 100 more registrants than last year.

Attendees saw the latest version of JET with windowing capabilities from JET Software; touch screen menus from Active Data Processing; the latest hardware from vendors such as Fujitsu, General Automation, ICON International, ScanOptics; ScreenGen from Interactive Systems; Integrator from Kirkland Information Systems; bar coding and the Directory Assistant from SKP.



Technical and educational sessions included:

- *Pick on the PC as a Serious Business Solution* - Brian Stone, Alycona Computer Consultants
- *Open Architecture: Where Is It Today?* - Kathy Goss, Rixon
- *Application Design Techniques* - Toby Kraft, Kraft Enterprises; & John Timmons, Laguna Software
- *Multiple Operating Systems* - panel
- *Programming Considerations for Large Systems* - panel

Labs ran every hour on such topics as: Peripheral Control on Pick, Picking Your PC, Taking Inventory of Your Pick System,



What Do You Mean Read Your File Stats?, Care & Feeding of a Pick System, and How to Keep Your Computer From "Spooling" Around.

Another highlight of the show was the many door prizes (donated by various companies) awarded at the end of the day.

NCPU PickLab committee members were Fred Dietrich, exhibit sales; Annette Theusen, education; Linda Gardner-King, registration; Cathy Turner, volunteers; Chris Marley, hotel/exhibit layout; Jackson Chan and Raymond Hong, lab; and Susan Hendrickson and Denis Hill, marketing.

PickLab is one of several localized computer shows presented by various user groups across the country in an effort to inform and educate local users. Check with your local group to see if and when they plan a show.

PW

Ann Wahlenmeier is an avid Pick supporter & was editor of the IPUA Journal. In early 1984 she started PickWorld & was editor of the first 2 issues.

Photography by Ann Wahlenmeier.



FAST RELIEF FROM THE HIGH COST OF HIRING NEW WP OPERATORS.

"The Works" has always been able to hold its own with the best word processing software around. But because so many experienced operators from outside the PICK® world rely on function keys, which "The Works" has never included, some users have found it harder to hire and slower to train new people.

But suddenly we've changed all that. Our new Release 2.0 includes function keys which can be arranged in almost any familiar pattern. So even operators unfamiliar with "The Works" can immediately feel comfortable and quickly come up to speed on Release 2.0.

And there's more. We've also added important new functionality including:

- electronic spread sheets or ACCESS™ listings can be integrated into any word processing document.
- any number of columns of any width can be specified and text will word-wrap to fit.
- text in columns can be sorted alphabetically, numerically or by date in ascending or descending order.
- a much faster spelling checker can correct more than one incorrect character.

"The Works" Release 2.0 is already available for PC/XTs and PC/ATs under PICKWARE®. Relief is as near as your phone. Call Sherry Elrod at (714) 832-8822.



JET™
SOFTWARE

Word processing for the PICK world.

PICK, ACCESS and PICKWARE are trademarks of PICK Systems

PICK, ACCESS and PICKWARE are trademarks of PICK Systems
Copyright 1987, Jet Software

**1987
Pro-Gramme
Award Winner**

VICISSITUDE

"... a change so great as to seem a substitution for,
or a reversal of, what has been."*

Economical, error-free transfer of data among remote Pick machines was finally provided last year by our new "Laguna Connection."

It offered a new dimension to Pick computing and it won the 1987 Pro-Gramme Award for "the Best Non-vertical Support Package of the Year."

We're very proud of that. We're also proud of the "vicissitude" it brought to the Pick community!

For, if the truth be known, the Pick community has been reluctant to talk about communications. It was a sore spot. We had the RS 232 "wired" communications capability of our early minicomputer years, of course, but we couldn't match the micro-age communications of most other operating system environments. And we knew it.

We've changed all that with the Laguna Connection. We can do more than match those other capabilities; we can beat them.

The "Connection" offers asynchronous, point-to-point communication between any Pick-equipped system regardless of its vendor. It also provides spoke networks for every port in the system, and you can transfer as much data as you wish, any time you wish. Auto-dialing is a key feature, and there is no need to babysit the data transfer.

Data movement is tracked and reported automatically. (The Laguna Connection's users claim 100 % reliability!) And it is economical. All that is needed with the "Connection" are modems and telephone lines.

We believe we have more than changed the Pick communication picture. The Laguna Connection substitutes a modern communication system for an older one, and has completely reversed the Pick communication story. What was once a Pick negative,

is now a Pick positive. With the Laguna Connection, Pick-based systems can now have the best communication capability available today. And that's more than just a simple "change," it's vicissitude.

See for yourself. Call:

**(800) 437-6347 Toll-free U.S. or
(714) 494-1092**

**Laguna Software
580-117 Broadway
Laguna Beach, CA 92651**

*Webster's New Dictionary of Synonyms,
G. & C. Merriam Co., 1978



USER GROUPS

Directory

We hope this directory is helpful to *PickWorld* readers, particularly new Pick users. We list organizations by category for easier reference:

- 1) Domestic user groups
- 2) International user groups (See International Report Section)
- 3) Special interest user groups

Help us keep the directory up-to-date by sending us your bulletins.

Domestic User Groups

ARIZONA

Pick Users Group of Arizona (PUGA)

Meetings:
Monthly, 3rd Thursday, 4:30 p.m.
Contact:
Wes Kar, chairman
(602) 862-5113
147 East Monte Cristo
Phoenix, Arizona 85022
Michelle Hill, secretary/treasurer
(602) 946-2983

Southern Arizona Pick Users Group (SAPUG)

Meetings:
Monthly, 2nd Tuesday; 5:30 p.m.
Contact:
Jodi Hilgenberg, chairwoman
(602) 323-7500
P.O. Box 42050
Tucson, Arizona 85733
Ron Loren, secretary/treasurer
(602) 323-7500

CALIFORNIA

Fifth Thursday Pick Workshop

Meetings:
Every 5th Thursday (Evenings)
Contact:
Bill Wulff
(714) 494-1092
Laguna Software & Consulting, Inc.
680 Broadway, Suite 117
Laguna Beach, California 92651

Los Angeles Pick Users Group

Meetings:
Monthly
Contact:
Brian Stone, president
(213) 462-1549
Philip Barton, secretary
(818) 986-7870 or (213) 876-7123
P.O. Box 7887
Van Nuys, California 91408

Northern California Pick Users (NCPU)

Meetings:
Monthly, 3rd Tuesday (Dinner)
Contact:
M. Denis Hill, president
(415) 632-0977 or 237-6788
NCPU
P.O. Box 884474
San Francisco, California 94188-4474

Northern California Prime Information Users

Meetings:
Monthly, 2nd Wednesday
Contact:
Michael Dyslin, president
(415) 626-8032
Jeanne Benloff, treasurer
(408) 946-9600
NCPIUG
c/o Trans Ocean, Ltd.
851 Traeger Avenue
San Bruno, California 94066

Sierra Pick Information Exchange (SPIE)

Meetings:
Monthly, 2nd Tuesday (Dinner)
Contact:
Mike Rodriguez, president
(916) 467-4533
Mike Kirkland, vice president
(916) 441-PICK
SPIE
P.O. Box 18362
Sacramento, California 95819-0362

Southern California Association of Pick Professionals (SCAPP)

Meetings:
Monthly, 3rd Wednesday (Dinner)
Contact:
Toby Kraft, president
(619) 471-8385
Mary Margaret Herman
(714) 972-1727
CDBMA
P.O. Box 3926
Tustin, California 92681-3926
Bulletin board (714) 972-4965

COLORADO

Colorado Pick Users (CPU)

Meetings:
Monthly, Usually 3rd Tuesday
Contact:
Elizabeth Stehl, president
(303) 871-8913
Glen Finley, treasurer
(303) 455-1122
P.O. Box 3154
Denver, Colorado 80201-3154

Have you noticed your computer isn't responding as fast as it used to?

The Problem:

Your files are too full. Although they were sized right originally, as you added data they filled up — then overflowed.

The Solution:

Put the zip back in your system with correctly sized files. Your machine will perform just like it was designed to perform. You'll have your disk set up exactly right.

Autosize is easy to use by anyone.

You can:

- Resize an entire account
- Resize just one file
- Produce an account analysis report or a single file analysis report

And, you can use it whenever you have a moment.

Triadyn delivers fast and offers a 14-day money back guarantee if you're not completely satisfied.

Contact Triadyn of America today. Receive your copy of Autosize complete with user manual and on-line help.



In the US call:
619-541-1696
3675 Ruffin Rd., Suite 315
San Diego, CA 92123

In Australia:
02-965-7234
133 Alexander St
Crows Nest, NSW 2065

Computer hardware, software and consulting

USER GROUPS

CoRug (Revelation)

Meetings:
Monthly, 2nd Wednesday (Dinner)
Contact:
Tyler Band, president
(303) 744-3487
419 South Vine Street
Denver, Colorado 80209

CONNECTICUT

Connecticut Pick Professionals

Meetings:
1st Meeting - September 1988
Contact:
Jim Malnati
(203) 447-4747
P.O. Box 67
East Berlin, Connecticut 06023

FLORIDA

Pick Users of Florida

Meetings:
Quarterly Conference
Contact:
Jon Clayton, president
(800) 282-4657
Lisa Darling, administrator
(305) 665-0123
P.O. Box 161268
Miami, Florida 33116

GEORGIA

Atlanta Area Pick Users Group (AAPUG)

Meetings:
Monthly, 3rd Tuesday (Dinner)
Contact:
Ben Carroll, president
P.O. Box 1267
Atlanta, Georgia 30301-1267
Bulletin Board (404) 969-0618

HAWAII

Pick Users of Hawaii

Meetings:
Every Other Month (Luncheon)
Contact:
Jack Davis, coordinator
(808) 599-8880
Federal Finance & Mortgage
P.O. Box 22466
Honolulu, Hawaii 96822

IDAHO

Eastern Idaho Pick Users Group

Meetings:
Every Other Month, TBA
Contact:
Wade Snedaker
(208) 525-7800
P.O. Box 309
Idaho Falls, Idaho 83402-0309

Treasure Valley Pick Users Group (TVPUG)

Meetings:
Monthly
Contact:
Judi Edwards, president
(208) 888-1492
Lois Harpham, vice president
(208) 322-5554
Compass Ltd.
877 North Liberty
Boise, Idaho 83704

ILLINOIS

Chicago Pick Users (CPU)

Meetings:
Bimonthly (Dinner)
Annual Conference (Fall)
Contact:
Christine Lindstrom, president
(312) 990-8060
P.O. Box 1274
La Grange Park, Illinois 60525-1274

IOWA

Iowa Pick Users Group (IPUG)

Meetings:
TBA
Contact:
Bob Kasenchak
(319) 395-2910
Marie Gillette
(319) 398-1800

LOUISIANA

North Louisiana DataBase Users Group (NLDBG)

Meetings:
2 Monthly, 3rd Wednesday & Thursday, 7:00 p.m.
Contact:
Mike Towhig, president
(318) 388-8820
NLDBG
P.O. Box 2081
Monroe, Louisiana 71207-2081
Paul Havard, vice president
(318) 322-0677

MARYLAND

Baltimore Pick Information Connection

Meetings:
Monthly (Regular Meeting)
Quarterly (Dinner)
Contact:
Wayne Singley
(301) 776-6667
Automation Dynamics
P.O. Box 1470
Laurel, Maryland 20707-0852

MICHIGAN

People Using Pick Systems (PUPS)

Meetings:
Monthly, 1st Wednesday, Detroit Area
Contact:
Ed Pelic
(313) 522-5187
Charlene Lucas
(313) 358-1100

West Michigan Pick Users

Meetings:
Monthly
Contact:
Carrie Rodgers-O'Neal
(616) 241-9236
c/o C & F Stamping Co.
2369 Breton Industrial Park, S.E.
Grand Rapids, Michigan 49508

MINNESOTA

Minnesota Pick Users' Group

Meetings:
Every Other Month, 2nd Wednesday (Afternoons)
Contact:
Sean McCoy, president
(612) 338-2585
Teri Tennesen, treasurer/secretary
(612) 333-6431
MNPUG
P.O. Box 6024
Minneapolis, Minnesota 55406-6024

MISSOURI

St. Louis Area Pick Users (SLAPU)

Meetings:
Quarterly General Meetings (Dinner)
Monthly Technical Sessions
Contact:
Rose Hubert, president
(314) 991-2929
Bill Lehares, vice president
(314) 231-8148
P.O. Box 32106
St. Louis, Missouri 63132

NEW ENGLAND

Northern New England Pick Users

Meetings:
Monthly
Contact:
Jim Cronin, president
(207) 439-2700
c/o Kittery Trading Post
P.O. Box 488
Kittery, Maine 03904-0488

NEW YORK/NEW JERSEY

Association of Pick Professionals & Users

Meetings:
Monthly (Dinner)
Contact:
Zamir Hassan
(201) 882-5048
c/o Information Technology
76 Plymouth Street
Fairfield, New Jersey 07006

Upstate New York Pick Users

Meetings:
Monthly, Last Monday (Dinner)
Contact:
Marion Byne
(315) 422-4104
Jan Robbins
(315) 863-3704
UNYPUG
P.O. Box 510
Syracuse, New York 13214-0510

NORTH CAROLINA

Pick Users of North Carolina

Meetings:
TBA
Contact:
Judy Ella, coordinator
(919) 556-6664
Monolith Corporation
335 South White Street
Wake Forest, North Carolina 27587

SIMPLE SOURCE DOES WHAT OTHER GENERATORS WISH THEY COULD.

*Now that you
know the score...*

Call Joe Kurka, Ken Dumesnil or
Charlie Figari at 1-800-342-5432.

Simple Source is a powerful program
generator that's easy-to-use. You can even
move to any Pick machine without run time
or special modules.

Simple Source is powerful and versatile.

- No restrictions on generated source code.
- BTREE's automatic cross referencing on any field.
- Scrolling windows with multiple fields allowing multiple corresponding entries for each field.
- Ability to execute or call any external program or TCL command on any field with a return to the exact position on the screen you left.
- Formulas for complex math functions.
- Multiple screens page forward and backward automatically.
- On-line HELP throughout the system, and much, much more.

	SIMPLE SOURCE™	WIZARD™	SYSTEM BUILDER™	SCREEN- GEN™	OTHER
1. Easiest to Use	✓				
2. Most Powerful	✓				
3. Most Reliable	✓				
4. Most Productive	✓				
5. Fastest	✓				
6. Lowest Price	✓				
7. No Run Time Required	✓				

It all adds up! Simple Source allows you to utilize your computer system without paying high programming costs.



SIMPLE SOURCE

A Product of Houston Data Center
Since 1967

6801 Portwest Dr., #170 • Houston, TX 77024
1-800-342-5432 713-880-0042

USER GROUPS

OHIO

Central Ohio Pick Users

Meetings:
TBA
Contact:
Bob Friend
(614) 836-5790
c/o The Peerless Saw Company
4353 Directors Boulevard
Groveport, Ohio 43125

Pick Users of Northeastern Ohio

Meetings:
Monthly, 2nd Tuesday (Dinner)
Contact:
Wes Howard, organizer
(216) 781-3700
c/o Price Waterhouse
Four Commerce Park Square, Suite 800
Beachwood, Ohio 44122-5483
John Douchette, vice president of program planning
(216) 686-4141

Southwest Ohio/Tri-State Pick Users

Meetings:
TBA (Dinner)
Contact:
Sheila K. Sievers, president
(513) 879-3444
c/o Victory Express, Inc.
P.O. Box 70
Trotwood, Ohio 45341-0070

OKLAHOMA

Oklahoma Pick Users

Meetings:
Monthly, 3rd Wednesday, 3:30 p.m.
Contact:
Larry Johnson, president
(918) 585-5601
Jane Wright, secretary
c/o Computing Technology, Inc.
5314 South Yale, Suite 715
Tulsa, Oklahoma 74135

OREGON

Oregon Pick Users Group

Meetings:
Monthly, 3rd Wednesday
Contact:
Pete Sheppard, secretary
(503) 668-6182
Dale Varco, treasurer
(503) 620-3041
P.O. Box 230968
Portland, Oregon 97223-0260

PENNSYLVANIA

Pittsburgh Pick Users (PPU)

Meetings:
Quarterly
Contact:
James Paul, president
(412) 367-3550
Northtech Design
Pittsburgh Engineering & Research Park
5500 Corporate Drive, Suite 240
Pittsburgh, Pennsylvania 15237

The Communications Link (TCL)

Meetings:
Monthly (Dinner)
Contact:
Jim Cates
(215) 642-9006

Nick Armandi
(215) 236-1700
TCL
370 Commerce Drive
Fort Washington, Pennsylvania 19034

SOUTHWEST

Southwest Association of Pick Users

Meetings:
Monthly, 1st Tuesday (Evenings)
Contact:
Rick Rubio, president
(915) 534-7696
Max Minor
(915) 833-5184
c/o MicroPlan
465 North Resler, #B-2
El Paso, Texas 79912

TENNESSEE

Memphis Area Pick Users (MAPU)

Meetings:
Monthly
Contact:
John Vetter, president
(901) 362-9138
Dana Pittman, vice president
(901) 853-8032
c/o Abacus
2260 Reed Hooker Road
Eads, Tennessee 38028

TEXAS

Pick Users of North Texas (PUNT)

Meetings:
Every Other Month, 2nd Tuesday (Evenings)
Contact:
Don Boy, president
(817) 481-7960
13500 Midway Road, Suite 203
Dallas, Texas 75244
Kathy Horter, vice president
(817) 379-0810
Bulletin Board (214) 490-8107

Pick Users of Texas (PUT)

Meetings:
Monthly, 3rd Tuesday
Contact:
Richard Needham
(713) 660-9910
Steve Schmidt
PUT
2103 Whirlaway
Stafford, Texas 77477

UTAH

Utah Pick Users Group

Meetings:
Monthly, Afternoon, 3rd Wednesday
Contact:
Lynn Nielson, president
(801) 756-4109
Jim Barclay, vice president
(801) 634-1615
P.O. Box 151275
Salt Lake City, Utah 84115

VIRGINIA

Richmond Area Pick User Group (RAPUG)

Meetings:
Monthly, 3rd Tuesday (Dinner)

Contact:
Jerry Saunders, president
(804) 358-1714
P.O. Box 3409
Richmond, Virginia 23235-3409
Wanda Little, vice president
(804) 874-7795

WASHINGTON

Inland Northwest Pick Users & Technicians (INPUT)

Meetings:
General - Monthly, 2nd Thursday (Dinner)
Board - Monthly, 3rd Tuesday (Lunch)
Contact:
Ann Huber, president
Greg Collins, editor
(509) 926-2400
c/o United Coatings
East 19011 Cataldo Avenue
Greenacres, Washington 99016

Seattle Area Pick User Group

Meetings:
Monthly, 3rd Thursday
Contact:
Judy Terberry, president
(206) 443-2365
c/o Seattle Repertory Theatre
155 Mercer Street
Seattle, Washington 98109
Bob Jackson, editor
(206) 353-0900

WASHINGTON, D.C.

National Capital Area Pick Users' Group

Meetings:
Monthly, 2nd Tuesday (Dinner)
Contact:
DeAnn Jelinek, president
(703) 968-9000
NCAPUG
P.O. Box 1347
Annandale, Virginia 22003
Chris Facchina, secretary
(301) 495-6675

WISCONSIN

Wisconsin Pick Users Group

Meetings:
Monthly
Contact:
Don Nelson, president
(414) 291-7979
Curt Stewart, coordinator
Tri-Sys Computer
207 East Buffalo, Suite 600
Milwaukee, Wisconsin 53202

Special Interest User Groups

Artificial Intelligence SIG

Membership:
Colorado Pick Users interested in AI
Meetings:
TBA
Contact:
Brian Kempton
(303) 834-2954

Gathers Users Group

Membership:
Gathers software users, primarily oil & gas,
project management & investment services
Meetings:
Semiannual (national), full day
Quarterly (regional)

USER GROUPS

Contact:
J. Michael Tissue, president
(713) 974-4600
North Central Oil Company
6001 Savoy, Suite 600
Houston, Texas 77036

Madic Users Group (MUG)

Membership:
MADIC Manufacturing System users
Meetings:
Monthly (Lunch), Quarterly Conference
Contact:
Gary Halvorsen
(408) 988-8311
MADIC Corporation
2933 Bunker Hill Lane, Suite 103
Santa Clara, California 95054

MICRU International

Membership:
McDonnell Douglas (Microdata) users
Meetings:
Annual Conference (Spring)
Contact:
MICRU International
(303) 526-9862
1732 Montane Drive East
Golden, Colorado 79491

National Association of Pick (NAP)

Membership:
All Pick users, vendors & supporters
Meetings:
Annual Conference

Contact:
Jack Dement, executive director
(619) 584-7580
NAP
1147 Jackson Place
Escondido, California 92026

National Prime Users Group (NPUG)

Membership:
Prime Information users
Meetings:
Annual Conference & special
interest group (SIG) meetings
Contact:
NPUG
(301) 490-2056
P.O. Box 687
Laurel, Maryland 20707

Pick Software Developers Association (PSDA)

Membership:
Professional organization for Pick software developers
Meetings:
Monthly
Contact:
Toby Kraft, president
(619) 471-9385
P.O. Box 1672
Laguna Beach, California 92652-1672

SHIMS Electrical Wholesalers Association (SEWA)

Membership:
Electrical wholesalers using Ultimate Supply House
Information Management System (SHIMS)

Meetings:
Semiannual 2-day conferences
Spring (West Coast); Fall (East Coast)
Contact:
Roy Beard, chairman
(301) 636-2100
Jerry Gettler
(704) 527-2800
Mill-Power Supply
P.O. Box 30096
Charlotte, North Carolina 28230

Ultradata User Group

Membership:
UltraFis software users
Meetings:
Annual 3-day conference
Contact:
Jack Yevcak, UG president
(415) 463-8321
Ken Burns, vice president
Bay Federal Credit Union
P.O. Box 66998
Scotts Valley, California 95066

WICAT Conference

Membership:
WICAT users and distributors
Meetings:
Annual Conference
Contact:
Mark Nelson
(801) 226-2274
WICAT Systems, Inc.
1875 South State Street
Orem, Utah 84058

PW

SUBSCRIPTION & NEW ADDRESS FORM

SUBSCRIBE TODAY TO THE MAGAZINE FOR PICK USERS

ANNUAL SUBSCRIPTION RATES (4 issues):

	1 Year/2 Years	Back Issues
☐ New subscription	United States \$25/\$45	\$ 7 each
☐ Renewal # _____	Canada/Mexico \$35 USD/\$65 USD*	\$10 each
☐ Change of address # _____	All Other Countries \$50 USD/\$95 USD*	\$15 each
☐ Back issues _____	*Must be U.S. dollars & International money order or U.S. bank check	

(Please print or attach your business card.)

Name: _____ Title: _____

Company Name: _____ Telephone: (_____) _____

Mailing Address: _____

City: _____ State: _____ Country: _____ Zip: _____

Computer system(s): _____

Please mail with check to:
(No invoice will be sent.)

RDBM
computing
P.O. Box 9539
Fountain Valley, California 92728-9539
(714) 839-6708

Mail subscriptions for Europe,
Middle East & Africa to:
ALLM Systems & Marketing
21 Beechcroft Road
Bushey, Herts
England WD2 2JU
(0923) 30150

12/88

Make plans to attend...

EXPO-VII

The National Conference & Exhibition for PICK-based Systems

- **When?** **March 21-23, 1989**
- **Where?** **At the Red Lion Hotel and Conference Center, Costa Mesa, California**
- **What?** **Exhibitions of PICK related software and hardware products by leading vendors in the PICK community. Educational sessions presented by PICK Systems and noted technical experts in the Pick environment.**

■ **In the heartland of the PICK Industry** ■

■ **Rates:**

Room Rates.....\$75/\$85
Full Conference.....\$50
Exhibition Hall.....No
Admission
Charge

■ **For Exhibitor Information
Call:**

Thurman Marketing Services

(714) 855-4442

or

FAX (714) 380-3942

Watch for registration form in Jan., Feb., and Mar. issues of the News & Review newspaper.

See News & Review for Educational Session Schedule

Disk Caching Catching on With Pick Users

Recently, disk caching has become a hot topic for Pick users. This is understandable because disk caching is an extremely economical way to enhance system performance. To understand how disk caching improves the performance of Pick, you need to understand how Pick addresses memory and disk.

by Doug Dumitru

Disk caching in the traditional sense (storing the most recently used data in cache memory) is not very useful on a Pick system. This is because Pick — by its very nature — behaves like a large cache memory pool. Pick's virtual, "least recently used" memory scheme already accomplishes much of what disk caching does under other operating systems. This does not mean that disk caching is ineffective under Pick. It can provide dramatic performance improvements, but for different reasons than in other environments.

Caching Considerations & Concepts

First of all, disk caching allows Pick to optimize its data transfers to more efficiently interface with the physical hardware. Pick deals with data and I/O in pages known as frames. Frames are small (typically 512 bytes long) and provide efficient utilization of system memory. Unfortunately, reading and writing such small blocks of data to and from physical hard disk is far from optimum. Hard disks

perform much better when moving large blocks of data at a time. For example, typical throughput of a hard disk transferring 512 byte blocks is around 30K per second; but when transferring large blocks, the same disk can easily transfer over 150K per second. A high-performance disk can transfer upwards of 1500K per second. This represents a 5 to 50 times performance increase, based strictly on the size of a transfer block to and from the disk drive. It's in this area that disk caching can improve system performance. By

using cache memory to group Pick frame I/O requests into blocks, the overall throughput of disk I/O can be improved dramatically.

Another beneficial area for disk caching is limited primarily to PC systems. Pick PC implementations operate on 8086, 8088, 80286, and 80386 processor chips manufactured by Intel. These processors support an upwardly compatible instruction set that encompasses a number of memory addressing modes. Pick operates in what is known as "real" addressing mode, the mode on all Intel processors mentioned. It has a number of basic characteristics including 16 bit operations and a memory address space limited to 1MB. This 1MB limit, combined with the PC hardware architecture of video displays and ROM BIOS, limits the PC to 640K of addressable memory.

The 80286 and 80386 chips also have other addressing modes and can address memory beyond the 1MB limit. However, implementing Pick within these memory addressing schemes has drawbacks. On the 80286, protected mode allows up to 16MB of memory to be addressed. But it has a difficult to use instruction set and is considerably slower than real mode in a number of critical operations. This is why 80286 protected mode Pick will probably never exist. The 80386 protected mode allows access to a gigabyte of memory (U.S. value of a gigabyte of 256K chips is about \$440,000.00, a bit high for your desktop PC). The 80386 also suffers somewhat from the performance problems of the 80286 protected mode, but 386 protected mode Pick is definitely feasible as evidenced by the Fujitsu 2200 implementation. Protected mode on the 386 is still slower on a number of critical CPU operations and thus the choice of going to 386 protected mode is a tradeoff of CPU performance versus memory addressability.

Disk caching software alleviates the problems of accessing large amounts of memory which are only accessible in protected mode by using memory in protected mode but running Pick in real mode. This permits Pick PC systems with 80286 or 80386 CPUs to utilize multiple megabytes of memory. In many ways, it's the best of both worlds.

Caching in on PC Caching Benefits

So much for the general theory, let's discuss disk caching and PC Pick. The Pick

80286 and 80386 PC implementations provide far and away the most cost effective computing environment for database management in existence today. By mini-computer standards, the hardware is amazingly inexpensive and provides good performance for small-to-medium office situations.

The PC implementation does have some rather unusual performance characteristics. First, PC CPUs are very, very fast. With 25 MHz 80386 CPUs and zero wait-state memories, CPU power abounds. On the other hand, terminal and disk I/O are definite bottlenecks and some companies are now reducing terminal I/O overhead with intelligent controllers.

HARDWARE CACHING

Disk caching on the PC is currently available in 2 forms: hardware and software. The primary advantage of hardware caching (in the form of special disk caching controllers) is that by having a separate intelligent CPU for disk caching, the system can achieve some degree of concurrency. This means that the cache controller can perform work, reading or writing data while the main CPU is processing. This primarily helps Pick performance during disk writes because the controller can delay write operations and write the data to disk later, when the disk is not in use.

However, there is a downside to performing write operations in this manner. When the operating system writes data to the disk through a caching disk controller, the physical disk write may not occur for quite some time. This can increase the potential for data integrity problems should a hardware failure occur. In addition, if a disk error occurs during the write, the caching controller has no mechanism to inform the operating system of the failure.

Another drawback to using caching disk controllers under Pick is that the caching method is the more "traditional" method as discussed earlier. This is why these controllers are compatible with not only Pick, but numerous other PC operating systems. However, Pick I/O is quite different from DOS or UNIX because of the virtual memory nature of the operating system's memory usage. The result is that the caching disk controller faithfully saves, in cache memory, an exact copy of what is in Pick's memory.

SOFTWARE CACHING

Disk caching software for Pick works differently. Caching routines that are properly optimized tend to be designed so that the most recently accessed data is the least likely to be asked for again. Because they were developed specifically for Pick's memory model, their performance can actually be superior to the hardware counterpart. Caching software can be intelligent enough to accommodate the type of I/O Pick performs — both in frequency and pattern. Caching software can also perform disk write-throughs, thus preventing data corruption and disk error reporting problems caused by delaying disk writes. While disk writes in background are faster, Pick typically does far more reads than writes (by a factor of 4 to 10 times). Disk caching software is also considerably less expensive than caching hardware and, because many PCs have a megabyte or more already installed on the motherboard, often involves little or no hardware investment at all.

In addition, with the caching software, you can tailor cache memory allocation based on the ratio of ABS and data I/O that your system performs. This permits systems with large amounts of additional Pick assembly code (such as JET, KEYWORD, FULL-VIEW, MAINLINK, INFO-LINK, VIA Vision, AccuPlot, Compu-Sheet+) to eliminate much of the ABS I/O that occurs as users switch from one application to another. The Pick O/S allocates a portion of the main memory pool to ABS and the rest to data. The ABS pool is about 150K or 75 ABS frames large. This is typically large enough for Pick itself to run efficiently without requiring large amounts of ABS code to be paged to and from disk. Unfortunately, when you use large amounts of additional assembly code, a 75 ABS buffer is simply too small a number. Disk caching can improve ABS frame read operations by as much as 10:1.

Software disk caching performance characteristics vary widely by type of system, but an example may help you visualize what is occurring. Assume that we have a fast 80286 based PC with RLL disk drives with 1:1 interleave. A typical disk read without disk caching requires, on average, about 30ms to execute. With disk caching, an equivalent track read requires about 47ms, or about 50% longer. But in this 47ms period, you have read 27 times as much data from disk into the cache

The Programmer's Helper

A serious program generator for the serious software developer

Compare these features with any other software development tool:

- **Produces structured, readable PICK/BASIC code.**
Why tolerate code written by your computer that you would not tolerate from a human programmer. The generated source code is efficient, easy to read, structured, and easy to understand.
 - **Produces *stand-alone* source code.**
If your software needs to run on multiple machines there is no need to purchase multiple copies or a "run time" package. The code is self contained and can be easily transported to other PICK computers.
 - **Call one screen from another.**
Call the Update Customer screen from the Enter Invoice screen to add new customers "on the fly" without using the EXECUTE statement.
 - **Produces data entry screens, reports, menus, and forms.**
No need to purchase a separate package to create forms and reports.
 - **Allows customization by program *or* by system.**
Extensive customization allowed -- practically the entire program can be customized. Or you may modify the master "templates" to generate programs that meet *your* standards.
 - **Multivalues, Multivalues, Multivalues.**
You can have any number of controlling/dependent multivalued "windows" on a screen. You can even have two windows side by side.
 - **Produces program documentation.**
Screen and program documentation is created automatically.
 - **Powerful, yet easy to use.**
Powerful enough for a programmer, yet simple enough for an end user.
 - **All this for under \$1000.**
The Programmer's Helper is \$795 for the PC version and \$995 for all other PICK and PICK-like computers.
-

**The Software Consortium
14000 Tahiti Way, Suite 317
Marina del Rey, CA 90292
(213) 822-8634**

memory pool. A "cache-hit" or access by the operating system to data which exists within this pool can be processed in less than 2ms...and without requiring any physical disk I/O. With RLL drives, it is not at all uncommon to run a system with a 20:1 cache-hit ratio. This means that for each track read, 20 cache-hits were processed. This accounts for more than an 8:1 improvement in disk performance. Even more impressive is that this level of improvement is realized with the little memory available for disk caching.

Performance Gains With Caching

What types of application performance gains can you expect out of disk caching? This is a difficult question to answer, because of the variables involved: CPU speed, disk seek time, track size, interleave factor, the amount of cache memory available, and, most importantly, the characteristics of the applications executing.

Disk caching can improve the performance of CPU bound I/O intensive operations by anywhere from 2:1 up to 10:1. A

4:1 improvement on SELECT and FILE-SAVE disk operations is not uncommon. With adequate cache memory, interactive users experience as much as 3:1 improvements in speed because of memory fragmentation when large numbers of users compete for the system. In fact, system functions like BASIC EXECUTE are ideal examples of where disk caching works well. Systems with large ABS usage can experience up to a 4:1 improvement because of reductions in ABS frame-fault times. In general, the only jobs that disk caching does not help are CPU intensive or those that access data in a totally random manner.

The optimum amount of cache memory is also a difficult figure to determine. Batch I/O jobs like SELECT, FILE-SAVE, etc. experience most of their performance gains with the first 384K of cache memory (the minimum amount required by PC caching software). BASIC EXECUTE also achieves most of its benefits with the first 384K of cache memory. Large ABS usage usually requires from 250K to 500K of cache memory allocated to ABS usage,

meaning that you need 500K to 1MB of cache memory when you are running a lot of assembly code. Large user, interactive environments usually benefit most from 2 to 4MB of cache memory on hand to hold process workspace and frequently used files. As cache memory size is increased beyond 4MB, you'll probably reach a point of diminishing returns. Additional memory does not gain any appreciable performance and is just a waste of money.

Disk caching, either through hardware or software, provides a cost effective means of improving Pick system performance in many areas. In particular, it makes the PC Pick system an even more attractive solution for the small-to-medium business.

PW

Doug Dumitru is president of Modular Software Corporation, Union City, Georgia, & is the author of PC-CACHE, FULL-VIEW & SMARTTREE.

CLASSIFIEDS

EMPLOYMENT/SERVICES

PUBLIC RELATIONS PROFESSIONAL

For the competitive edge your company needs in today's overcrowded marketplace.

More than 16 years experience in the high-tech arena.

- Press Releases
- Brochures
- Counseling
- Ads
- Case Histories
- Seminars
- Trade Shows

Whether your need is for a single press release or a full-scale PR/marketing campaign, call a seasoned pro who knows the market and knows Pick as well.

SHERLI EVANS
141 Wooster Street
New York, NY 10012
(212) 254-9228

DEALERS WANTED

DEALERS WANTED

Alcyona Computer Consultants, Inc. is seeking Dealers in the U.S., Canada and Southeast Asia to market Pick software and hardware. Dealers with vertical market software or utilities are especially sought.

Contact: Jeff Hunt at (213) 462-1549.

EMPLOYMENT/SERVICES

PICK / PRIME / 4GL / REVELATION

Cogent Information Systems, an established Prime INFORMATION and REVELATION software development firm, has immediate openings for ambitious individuals with experience in relational database analysis, design and programming. We seek qualified applicants with 1-3 years of PICK, PRIME, REVELATION, or 4GL experience. Cogent offers unparalleled benefits, opportunities, and compensation.

Send resume and salary history in strictest confidence to:

COGENT INFORMATION SYSTEMS
70 Hudson Street
6th Floor, Suite 500
Hoboken, New Jersey 07030

EQUIPMENT FOR SALE

MCDONNELL-DOUGLAS 4700

- 128K RAM
- 2 - 50MB Disk Drives
- 16 Ports
- 1600 BPI Tape Drive
- 1 PRISM-2 Terminal
- \$7500 or Best Offer**

Contact: Dave Barkley at
1-800-643-DOSE

HELP WANTED

HELP WANTED/HELP FOUND

Dunhill of Portland, Inc., a national personnel recruiting firm, has specialized in providing EDP Professionals with PICK/Information/Revelation experience for over ten years. Whether your organization needs a programmer, a consultant, or an MIS Manager, contract or full-time employee, we can provide you with exactly the background you require.

Dunhill of Portland is also currently recruiting for several positions nationwide that must be filled immediately. For information write or call:

DUNHILL OF PORTLAND, INC.
620 S.W. 5th Avenue, Suite 810
Portland, Oregon 97204
(503) 275-8350

Randy Carrier, CPC

Dunhill of Portland...Your PICK Recruiters

MISCELLANEOUS

HAWAIIAN RENTALS

Comfortable condo accommodations at reasonable rates on the island paradise of Maui. Kihei Garden Estates steps from the beach.

Call Lucy Jim at (808) 879-5785 for information or brochure or write her at 1299 Ulumina Road, Kihei, Maui, Hawaii 96753.

The WIZARD

Fourth Generation Language Evaluator

Compare these five important criteria, then
call 714-786-1111 and order the best selling
generator in the Pick™ marketplace...

		WIZARD	SYSTEM BUILDER	SCREEN- GEN™	ANYTHING ELSE
1.	EASIEST TO USE	☒	☐	☐	☐
2.	MOST POWERFUL	☒	☐	☐	☐
3.	MOST RELIABLE	☒	☐	☐	☐
4.	MOST PRODUCTIVE	☒	☐	☐	☐
5.	FASTEST	☒	☐	☐	☐



Winner of
IDBMA 1986
Programme Award:
Best Non-Vertical
Support Software

WIZARD™
SOFTWARE

32 ESPLANADE, IRVINE, CA 92715 USA
TELEPHONE (714) 786-1111; TELEX: 9103809403

EXPO-VII in PickLand in March

The 1989 EXPO conference is just a few months away. It runs March 21 through 23 at the Red Lion Hotel & Conference Center in Costa Mesa, California, right in the midst of PickLand.

For a mere \$50 [yes, that's fifty dollars] users can attend all conference workshops and general sessions. If you just

want to check out the exhibits, admission to the exhibit hall is FREE!

The Pick Systems' staff — the ultimate authority on the Pick System — will be there and leading a number of sessions including one on Advanced Pick.

IBM will present a session on RISC technology. Other noted experts in the

Pick market such as Jon Sisk, Henry Herman and Matt Stern will be heading up technical sessions.

For complete conference and registration information, contact TMS/EXPO at 714/855-4442.

PW

Coming Up in 1989

March 1989 - Financial Software Special

In March *PickWorld* plans a special report on financial systems. The people at Gardner, Saunders [the Bookstore people] are compiling a listing of financial software for Pick systems. If you currently market financial software, be sure to contact Lisa Saunders at Gardner, Saunders at 415/341-PICK to make sure your package is included. Also Dana Stern is hard at work on a tutorial feature outlining the basics of selecting the right financial software for your operations.

Also don't miss the next segment of our Pick Word Processing Review. Steve Setzman will cover in detail all the wonderful enhancements and new features added to the latest revision of JET.

We'll also have the 1988 article index as well as a complete index of major articles published in *PickWorld* since it began in March 1984 (including the first 2 issues published by Ann Wahlenmeier).

June 1989 - Application Generator Packages

In June, look for a compilation of application generator/4GL products for Pick users. Gardner, Saunders (bless them) is also working on this project. Call 415/341-PICK to make sure your program gets included.

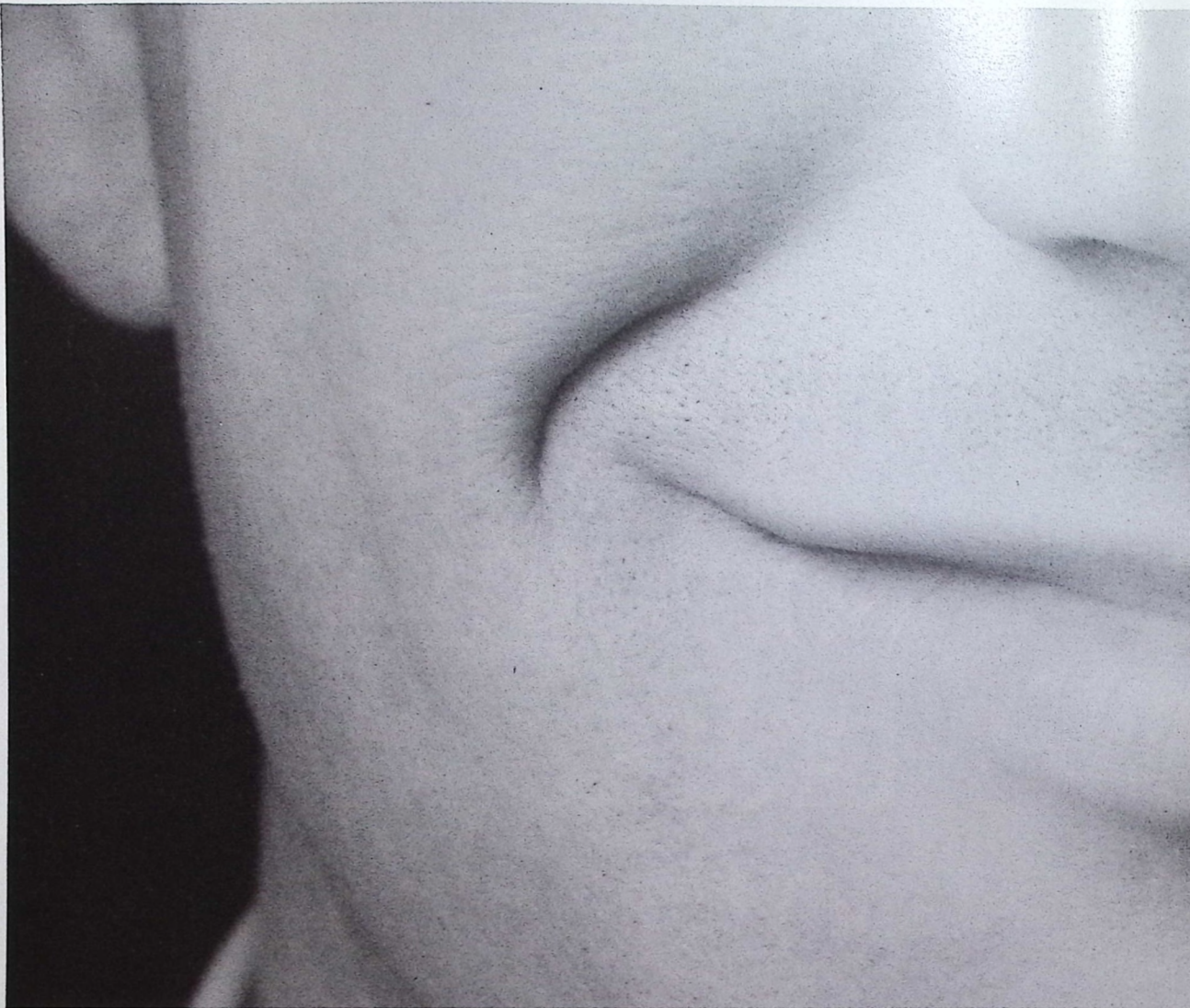
We originally planned to publish an update similar to the word processing series; but because of the vast number now available (30, 40??), we cannot cover them in depth.

Also, look for more Pick word processing reports (Topics) and our annual *PickWorld* Reference Library update. Authors and publishers of materials for Pick users please send to *PickWorld* any changes to your 1988 listing or for new publication information.

When Steve Setzman and Brian Stone wrap up the word processing review, which has been a major project, we'll end it with a summary of features for all products reviewed along with a vendor listing for readers' future reference. This is tentatively scheduled for September. My personal thanks to Steve and Brian for the tremendous effort and time they've donated to this project to enlighten our readers.

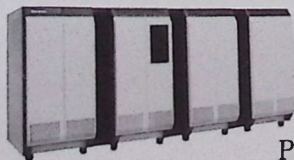
PW

We're
bringing
something
brand-new
to the Pick[®]
market place.



Customer

The minicomputer chosen number one in customer satisfaction for the last three consecutive years* will soon be the number one system running



Pick.

Why are Stratus customers so happy?

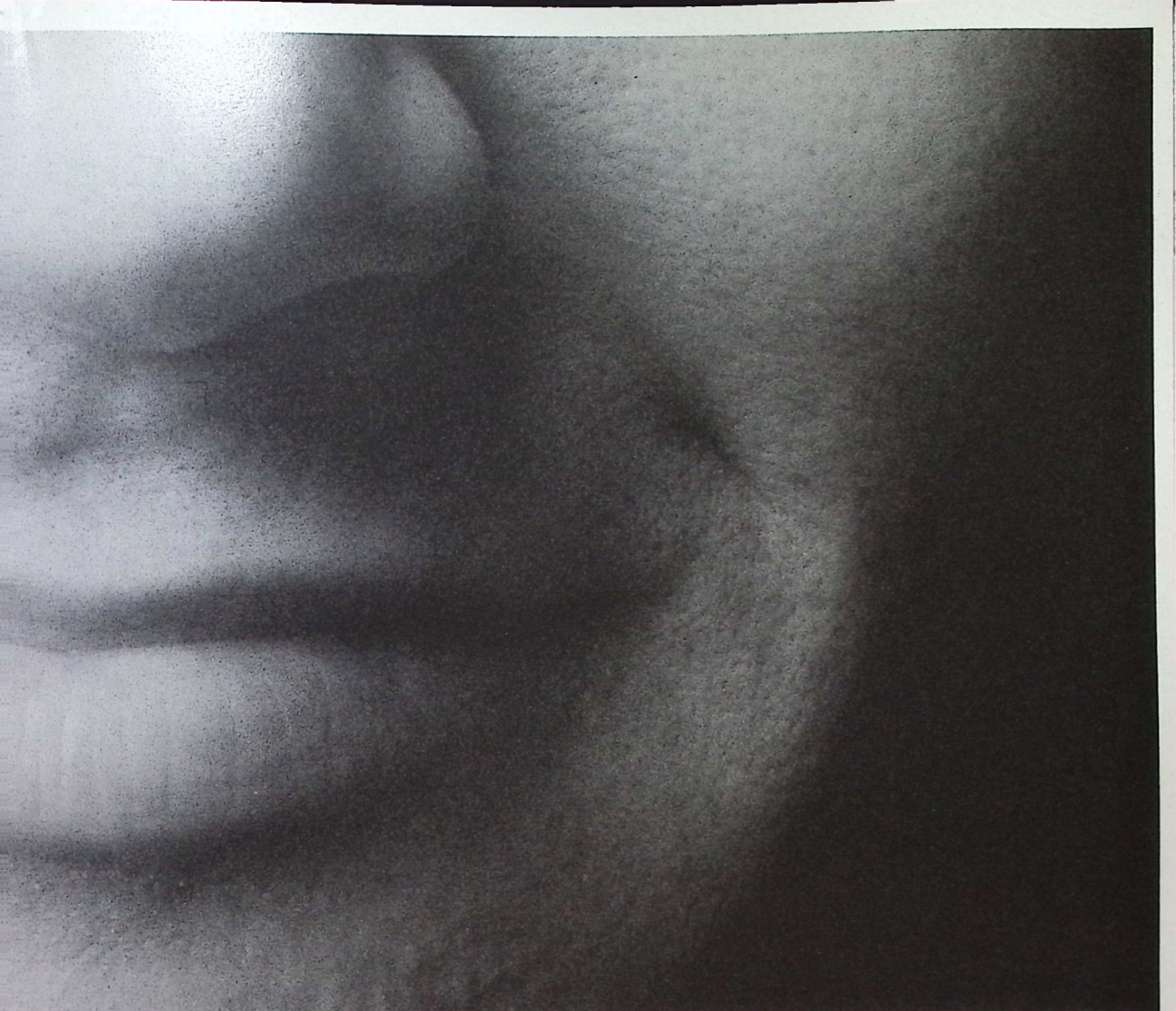
Fault-tolerant reliability second to none. Stratus computers have fault-tolerance built into the hardware instead of the software for even greater reliability, improved diagnostics, lower costs, and no special programming.

It's why a Yankee Group study reported that "Stratus has won the battle of fault-tolerant architectures."

Lower cost of ownership. Not only do Stratus systems start at under \$100,000, but reduced maintenance and low-cost growth brings life cycle costs down remarkably close to conventional computing.

It's easy to expand the system. To boost performance, you simply add processors in modules. No expensive systems to swap out or costly rewrites.

*1986 & 1987 Datamation/Cowen & Co. surveys of 6000 minicomputer users.© 1988 Stratus Computer, Inc. Pick is a registered trademark of Pick Systems, Inc. VOS is a registered trademark of Stratus Computer, Inc.



satisfaction.

The best service you can find. Stratus systems not only monitor their own performance, they isolate, identify and diagnose their own problems. And automatically call for replacement parts. Software problems are even solved remotely. Around the world. 24 hours a day, seven days a week.

You'll want to pick Stratus, too. Pick Open Architecture 2.0 and Stratus' Virtual Operating System (VOS®) are ideally matched. You'll get Pick application portability and more communications options, languages, and data base environments than you'll ever need.

We've set up a whole Pick Division to serve you. Pick experts stand ready to bring you

highly reliable hardware to run your quality applications. Write or call: Stratus Computer, Inc., Pick Division, 24411 Ridge Route Drive, Suite 200, Laguna Hills, California 92653. Phone: (714) 770-1304; FAX: (714) 837-0461.

Stratus
*Pick on us.
Forever and ever*

National Customer Engineering



Bob VanEpps, Vice President of Sales.

When a service organization starts from ground zero, a business plan is usually developed to get the company started. The founders decide what products will be maintained by the company, and from that point, the search for customers begins. With the inception of National Customer Engineering, things happened in a different fashion. The company started in 1981. The primary focus at that time was the maintenance of Basic Four and Data General equipment.

According to Bob VanEpps, vice president of sales, the company just seemed to stumble into the market niche. Becoming the leading independent service organization for Pick-based computers wasn't something the 3 founders had planned on. In fact, getting into the Pick market happened quite by accident.

It all began when the DP manager of a large clothing store chain was having trouble with his Pick computer system. A problem had been lingering on for months, and the technicians from the computer manufacturer's service organization were unable to fix it. This DP manager recognized that this particular computer had its roots in the same kind of hardware that was used by Basic Four, so he contacted NCE. A technician from NCE arrived on the scene and solved the problem with relative ease.

After this, the manager asked NCE to maintain his computer system. The response from NCE was, "We don't know anything about these particular types of computers. We don't have any parts, we don't have any expertise, and what is this Pick Operating System?" But the manager wasn't bothered by this apparent lack of knowledge and still insisted that the company maintain his computer. So he signed a maintenance contract with NCE. When the word got out that NCE would offer maintenance support for Pick computers, NCE was swamped with requests for service. In 3 months, the company went from having no customers with Pick systems to having about 100. And so it was that NCE entered the Pick marketplace.

The Pick Environment

The Pick marketplace is not as widespread as other operating systems such as DOS or UNIX, but it does have some unique qualities about it. Pick is a multi-user multi-tasking operating system. The majority of computers using Pick fall into one of 2 categories: super micro and mini computers or PCs. Pick computers are extremely user-friendly. Secondly, Pick is a relational database management system. According to VanEpps the Pick Operating System is ideal for small business applications, such as accounts receivable, accounts payable, inventory and manufacturing. Using Pick, application software is relatively easy to write and modify down the line.

"Depending on who you talk to, there are 200,000 to a million Pick users," VanEpps said. "It has become kind of a cult. People who use Pick systems don't want to use anything else. People that sell Pick software don't want to sell anything else."

Features offered by the operating system make it popular with the end user. Even a novice user can modify programs without bringing in a programmer. The system operates on simple English commands, making it easier for the user. Using Pick, one computer can do everything for an entire company.

VanEpps said the market is supported by a dealer network, consisting of about 1,000 dealers in the United States and

another 500 throughout the rest of the world. There are about 50 computer manufacturers that sell in the Pick marketplace, plus a host of compatible PCs. Some of the larger manufacturers include Honeywell, DEC, IBM, Altos and NCR.

As NCE learned more about the system, the company developed a philosophy that set it apart from all its competitors. For NCE, service means maintaining the computer as a whole — including both software and hardware problems.

"Most third party maintenance companies that I'm aware of just swap boards until the problem goes away, with little attention paid to the operating system, or application software and its interrelationship with the hardware," VanEpps said. He went on to explain that in the Pick marketplace swapping boards often doesn't fix the computer. The problem can be so interrelated to the operating system and application software. The solution may involve software manipulation.

"We hit on the idea that all of our technicians would become experts or at least become proficient with the Pick Operating System," VanEpps added. "Being a focused organization has tremendous advantages. We know what we can do, and we do it very well. We don't try to be all things to all people."

It seems that taking the extra time and effort to offer total support would affect the profit margin of the company, but that isn't the case.

"Profits are being squeezed, but I don't think they are being squeezed because of the way we do business. It's because the market is changing," VanEpps said.

It is evident that the total support philosophy has worked for NCE. The company now has 32 service facilities throughout the United States with 5 targeted new locations, one service facility in Canada and 3 regional depot repair facilities. NCE has approximately 1,000 full-service maintenance contracts scattered throughout the country and employs about 100 people. Over the last 5 years, the organization has shown an average annual growth rate

by Lisa Martin

of 35%. The predicted billing for 1988 is \$4 to \$5 million. VanEpps thinks this trend in total support will continue to set NCE apart from its competitors.

"We see it as a trend that we're going to port to other markets," he said. "I suspect there are other companies that share our philosophy. I just haven't come across them."

Personality Plus

Through this growth, one thing has remained constant: the extreme care taken in hiring and training technicians.

"It is very difficult for us to find the kind of technician that represents us properly. We can find people that are technically competent, but they may have some other failings," VanEpps said. "They may not have the best interest of the customer or the company in mind. They may have an ego problem, they may have an accuracy problem, they may not be dependable or they may not have the right image."

In an effort to weed out applicants who don't meet NCE standards, the company has developed a personality profile. This profile was designed with the company philosophy in mind and doesn't measure technical aptitude.

"It involves work ethic, appearance, the way people speak and the answers they give to certain nontechnical questions," VanEpps explained.



Training session on a tape drive, conducted by Kevin Scally.



San Diego Depot.

When NCE finds someone who meets that personality profile and has a technical aptitude, that person is hired as an entry-level employee and sent to headquarters in San Diego for 2 to 4 months of training. The length of the training period is determined by where the technician will be located. Certain geographic areas may require more specialized training.

During this period, the technician receives hardware training, software training and other classroom training. They receive hands-on training in all facets of the service business, including the dispatch center and the parts department. Technicians in training also spend time at a depot repair center and in the field with experienced technicians, giving them an overall ability to face customers.

Most of the training is done by senior technicians and other experienced employees. Occasionally, outside trainers or representatives from manufacturers are brought in for specialized training. During the training program, candidates are evaluated daily. If they are not performing as expected, they are dismissed from the program. According to VanEpps, there is a 30% washout rate. The biggest problem the company faces with its training program is the time it takes to train a technician to meet NCE standards.

"The length of time that we spend on an individual makes it difficult to bring in a

large number of people at one time, which limits our ability to take advantage of new opportunities."

In spite of its drawbacks, VanEpps attributes much of the company's success to the training program.

"Our technicians do a tremendous job, and they have the right attitude," he said. "A lot of times in this business, if you can talk to people and you can make them understand that you are concerned about their problem and you're going to do everything in your power to solve the problem, even if you're not instantly successful, (you) will have provided the level of service your customer wants."

Selling the Service

NCE has 5 sales representatives scattered throughout the United States. Each representative has a regional responsibility, working directly with both dealers and users. "We consider the dealers to be the most important customers we have. They refer business our way, and we in turn help eliminate maintenance as an issue during the sales cycle." VanEpps encourages his sales staff to spend time supporting the dealer network.

"I tell my sales staff to become indispensable. If somebody has a question regarding hardware or the maintenance environment, I want those people to feel comfortable in calling my sales guys, knowing that if we don't know the answer, we will find out," VanEpps said.

(continued on page 74)

PC-CACHE™

**BREAKS THE 640K BARRIER
FOR 286/386 PICK**

- Improve disk performance by 4 to 10 times.
- Utilize 384K to 15Meg of extended memory.
- Reduce disk reads to as low as 1 mS.
- Speed file-saves, SSELECTs, and other I/O intensive operations.
- Improve response time and support more users.
- Transparent to O/S and applications.
- No special hardware or disk controllers required.

only \$195.00

Suggested U.S. retail

FULL-VIEW™

**WINDOWING FOR THE
PICK OPERATING SYSTEM**

- "Hot-Key" into windowed applications, menus, or level-pushed TCL.
- Multiple windows on-screen.
- Pop-up menus and help.
- FULL-VIEW uses your existing terminals. No special hardware required.
- Support for line graphics, color, extended character sets, and function keys.
- Direct integration into the Pick O/S. Applications do not need to be modified.
- SMART-TREE Indexing included.

SMART-TREE™

**FAST, FRIENDLY INDEXING
FOR ALL PICK SYSTEMS**

- Auto-Interface integrates B-TREES and applications without program modification.
- Sorted keys for easy on-line lookups.
- Ascending/descending and right-justified keys.
- Keys on multi-valued attributes.
- Complex keys.
- Includes utilities for:

Scrolling lookups.
Rapid key rebuilds.
TCL Selects.

MODULAR SOFTWARE CORPORATION

***INNOVATIVE SOFTWARE FOR
THE PICK OPERATING SYSTEM***

Post Office Box 204
Union City, Georgia 30291 U.S.A.

Phone: (404) 964-7171
Fax: (404) 969-0618

Dealer inquiries invited.

Installation Planning:

1
2
3
4
5

6 Steps to Successful Implementations

The largest implementation I was ever personally involved in occurred when I was working as a consultant for EDS in Detroit, Michigan. This implementation — costing millions of dollars — involved creating a national and international telecommunications network for General Motors. Based on my experience with the EDS implementation and others, I would like to share what I have found to be the basic considerations of a successful implementation.

In today's information age, implementation is that process that occurs after a company has purchased hardware and software. In some cases, it is critical to the real success of the purchase, even in situations where companies have acquired hardware and software that absolutely fits its business requirements. Implementation of the system has to be executed successfully to be of any real benefit to the company.

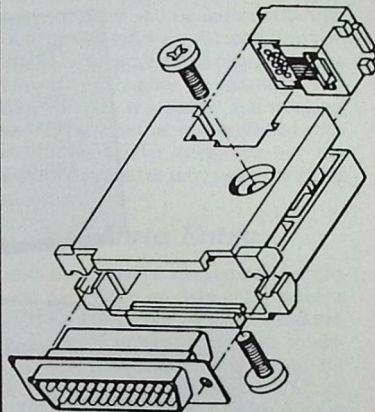
by Dana L. Stern

1. Resources

Resources for any implementation have to be carefully planned. An implementation without a sufficient budget or the personnel to support it will fail. Sometimes companies, after having paid millions of dollars for software and hardware, find it hard to set aside money for the implementation. Money has to be budgeted for training existing personnel, converting old databases, collecting data, and data entry. Additional temporary personnel may be required. Personnel requirements are

Modular Adaptors!

RJ11 to DB9,
DB15 and DB25



Modular Adaptors

allow you to easily connect peripheral devices to your computer. They are ideal for the wide variety of "pick" serial cards.

DB9	- \$ 3.85 /ea
DB15	- \$ 3.95 /ea
DB25	- \$ 4.00 /ea
A/B switch boxes	- \$ 51.00 /ea
A/B/CD	- Call
A/B RJ-11	- \$ 65.00 /ea

We also sell bulk computer cable and computer cabling parts.

CALL TODAY!

BASELINE SERVICES
1209 Alice St., Davis CA 95616

(916) 756-7024

COURSEWARE!!!

Now you can truly master the use of your Pick system with the finest computer-based training available from the leaders in tutorial software...

The Word Processor Electronic Tutorial

With this learning system you will quickly gain a "feel" for the word processor on your Pick system, while you master all of its fundamental and advanced uses. Available for JET, "The Works", UtiWord, WordMate or Documentor.

The CompuSheet+ Electronic Tutorial

Never before has it been this easy to learn the fundamental and advanced uses of this marvelous spreadsheet package. Learn right on the screen through many examples and exercises.

The PROF Electronic Tutorial for Pick

Enter the world of Pick with a complete electronic learning system. This wonderful package has been used by thousands of users to learn the fundamentals of the Pick database, TCL, EDITOR, ACCESS, PROC and Pick BASIC.

Each of these training products is a complete, computer-based, self-study teaching system that anyone can use over and over again. Each teaches you through simulated hands-on work sessions in which you actively participate. They are clever, entertaining, and all learning is done right on the terminal.

CRESCENDO Associates, Inc.

24350 Joy Road, Suite B Radford Township, Michigan 48239 (313) 537-1818

CompuSheet+ is a trademark of Interactive Systems
Prof is a trademark of Crescendo Associates, Inc.
Pick is a trademark of Pick Systems, Irvine, CA

Yes! Please send more info on: _____

Name _____

Company _____

Address _____

City _____ State _____ Zip _____

Phone _____ Computer _____

greatest when building new databases or running parallel tests. Management should understand that these are necessary costs.

2. Office Politics

Office politics will play an important role in any implementation. Resistance to computerization will also present a challenge, such as in cases where cooperation is solicited and not received from a department that will use the software and maintain a database. Management, not necessarily the leader of the implementation, may decide the outcome. If the decision is made to support the leader of the implementation, all may go well. However, if management decrees that this department does not have to cooperate or adhere to a schedule, then the entire implementation can fail.

3. Scheduling & Project Control

Scheduling of activities or tasks supporting an implementation is also critical. Costs associated with the implementation will directly relate to activities and tasks. Management should be apprised of the schedule's progress at all times. One of the best tools to accomplish this scheduling is a software product called the Harvard Total Project Manager, one of the tools that EDS used in its implementation. Certainly there will always be reasons for schedules to move backward or forward. Schedules should be flexible and extended when necessary to reflect realistic completion dates. However, if schedules are continually lengthened, then this indicates a problem in leadership or resources.

Implementation schedules must be of the shortest time possible for economic and operational reasons. Implementations of undue length can mean financial disaster for a company which cannot keep up with orders or inventory. While in the midst of an implementation, economies of time and costs must be considered.

4. Leaders & Project Management

Over the years I have personally seen companies fail because of poorly handled implementations. The reasons for the failures are many, but always add up to leadership — to that individual who is responsible for the implementation. The project leader may not be directly connected to the hardware or software day to day

administration. Alternately, he could be the MIS director. Whoever this individual is, he must have a commitment from management; management's commitment to the leader is crucial to the success of an implementation.

The leader must have certain abilities... not just the responsibility. He must be able to organize and direct efforts efficiently. Politics should not be a stranger to him, but rather an ally. His ability to generate enthusiasm and a feeling of teamwork is essential. At the same time, he has to know when to go around obstacles to achieve goals. This leader is primarily an administrator and not necessarily a technical person. While patience must be his stock in trade, frustration must not be in his vocabulary.

In addition to a leader, it is helpful to assign individuals within the various departments that the software or hardware supports as implementation coordinators. They should be the most knowledgeable people in their departments, not just who the department head can spare. These coordinators should be trained and then expected to train other personnel in their respective departments. They should become as knowledgeable about the software or hardware as possible. Reviewing and understanding the documentation should be their first priority, although no one individual will understand all of a software or hardware system.

5. Software Changes

A common situation I have seen is that someone decides to modify the software or hardware specifications before the implementation is completed. If it's hardware and you are changing capacity or functionality, this should not be a problem. However, if you modify the software before the overall implementation is completed, you're stepping into dangerous territory. The primary reason is that the company may not be able to support the product after it has been changed efficiently. The software vendor may not have the ability to maintain multiple versions of the software. Also, when vendor support people come to the rescue, their experience will be with the standard product, not the changed version. Most software companies may have one or two versions of software, but this cannot be counted on.

Of course, there are situations where software is modified and no problem arises. At the same time, if you are waiting

and it takes 3 months to get it, you have a new problem. Time is never on your side in an implementation. Nothing that will delay or impede progress toward accomplishing the implementation should be allowed. I have seen implementations lose momentum and stall waiting for changes in software.

From the very beginning of an implementation, there will be individuals who want to modify software. Adopt a firm policy from the beginning that changes to the system will occur after the standard version of software is installed and working. These changes can be accomplished with the software vendor (negotiate for the best price possible) or internally, if staffing is available.

6. Data Entry

Users should not be allowed to enter any data in data fields on data entry screens other than what is documented. Field validation should prevent this. Field validation means that the data is tested for numeric, alpha, or other characters. Check or cross-check data entered with data in other fields that already exist to insure that only the appropriate data can be entered. Of course, there are always exceptions. Some software packages may not use field validation in all instances. This would allow the entry of incorrect or corrupt data, and then the software may fail to work correctly. Systems are designed to accept data as it is documented in the documentation. It should be noted that software which does not perform field validation on input screens is of poor quality. Software documentation should be reviewed and understood before starting to load or convert databases.

I have found these to be the major points to consider when embarking on an implementation of either hardware or software. Managers who have not previously participated in an implementation should review these points individually as they pertain to their implementation.

PW

Dana L. Stern has logged in over 20 years in the data processing field & has been involved in major system development & conversion projects for EDS, PacTel, Allied Signal, AT&T & government agencies. His broad experience includes positions as MIS director and assignments designing and implementing large EDP systems.

Fault Tolerant Computing:

System Availability & Dependability for Critical Applications

by Michael Wintz

Fault tolerance. What is it and do *you* need it?

In general, fault tolerant computing refers to information processing systems where failures — although transparent to the user — are accurately recorded and automatically identified, isolated, and repaired.

That's the book definition. But computer users think of it in terms of benefits and usage. To the fault tolerant system user, it means safety, reliability, no downtime, continuously running, accurate data. A user of conventional computer systems may have the impression that it's only for applications like banking and the stock market; it may be the latest and greatest technology but it's expensive and not for him.

Do You Need Fault Tolerance?

When a computer is at the heart of a business, reliability and availability are essential. Imagine a system failure during a wire transfer of funds — money could just "disappear."

With the overall cost of computing declining and technology improving, fault tolerant, online systems aren't just for bankers — or the Fortune 500 — anymore. Because they insure higher levels of uptime, fault tolerant systems have become a leading choice for critical, online business applications for businesses of all sizes. Fault tolerant systems increasingly fulfill the demand for safety and dependability that is mandatory for businesses connecting more than 50 terminals or using a distributed network for critical applications.

Downtime used to mean added engineer or technician service charges and overtime pay to process the resulting backlog. With more businesses putting their critical applications online today, downtime costs could also mean loss of business — current and future — and loss of credibility, or worse. Credit union customers trying to withdraw funds at an ATM, guests calling for hotel reservations, and citizens calling 911 should never hear, "Sorry, we are unable to process your request now. Our computer is down."

If people are depending on you, you had better have a computer you can depend on.

What Is the Fault Tolerant Market?

A satisfied customer is one who has confidence in his computer system. Personal computers have put distributed processing and online transaction processing (OLTP) within the reach of more businesses, and now fault tolerance is more affordable — less than \$100,000 for an entry level system.

Fault tolerance is no longer restricted to its traditional large user market; mission critical applications now include OLTP where availability of the system is crucial to the smooth operation of business. [See accompanying "Market" chart.]

In manufacturing, Computer Integrated Manufacturing increases productivity and competitiveness. Applications are real-time processing of shop floor transactions, inventory management, automated warehousing and processing control. Candidates for fault tolerant distribution applications are phone order processing, automated warehousing and inventory management.

In the retail environment, fault tolerant OLTP solutions are applicable to point-of-sale, inventory and price checks, credit processing and merchandising.

The Fault Tolerant Market

TRADITIONAL FAULT TOLERANT COMPUTER APPLICATIONS	EMERGING FAULT TOLERANT COMPUTER APPLICATIONS
Military Installations	Air Traffic Control
911 Emergency Dispatch	Hospital Management Systems
Telecommunications	Manufacturing
Stock Market	Retail
Securities	Hotel Reservations
Banking	Distribution Networks
Airlines	Information Services

Current industry estimates show the potential of the OLTP market to be enormous, reaching about \$34 billion by the year 1991.

What Makes a System Fault Tolerant?

Early fault tolerant systems were basically 2 separate machines running independently with the capability to switch over if problems occurred. Complicated, custom software hitched the 2 systems together. This setup was too expensive for most applications; computers were far too costly to have a second system on standby.

From this original concept, single machine fault-tolerant systems emerged in the mid 70s. This generation used only one computer but ran with several independent processors linked by software.

These systems used software messages between processors to recover from faults. Through these messages, an inactive back-up program running on another processor could pick up the load if the primary processor failed. Messages, however, imposed system overhead; and when a processor took on the failed partner's workload, it then had to handle double the work — and system performance degraded.

What Is Fault Tolerant Computing Today?

When Stratus Computer, Inc. was launched in 1980, the company assessed the implications of several emerging trends: falling hardware costs, rocketing software/support costs, and the dire consequences and costs of downtime. In response, the company decided on a new

approach — fault tolerance built into the hardware itself. Thus applications would automatically have the benefits of fault tolerant operations.

Stratus designed a fault tolerant architecture with:

- (1) easier maintenance so problems could be diagnosed and resolved while the system kept running, and
- (2) continuous operation without performance degradation in the event of a component failure.

The system has 2 identical sets of circuitry on each central processing unit, memory and intelligent controller boards. In addition, each board has a twin; the computer actually has 4 levels of redundancy. Redundant circuits perform error checking, and redundant boards provide alternate data paths in the event of a failure. The synchronized processors perform every operation simultaneously. Onboard, error checking logic constantly monitors and compares processors. If a fault occurs, the system automatically uses the second board as an alternate data path; operations continue without interruption. Stratus' fault tolerant architecture immediately detects and isolates failures at the source and protects data integrity.

What happens when a fault occurs? From the user's viewpoint, nothing! The system continues uninterrupted. Without intervention from the user, the system automatically calls a Stratus Customer Assistance Center (CAC), which is connected to customer sites via a dial-up network (RSN) that can run diagnostics remotely. The CAC personnel analyze the problem and transmit fixes for software problems where applicable.

In the case of a hardware problem, a replacement part is sent overnight cour-

ier. The customer simply replaces the component and sends the original back to CAC. Stratus' easy maintenance architecture enables users to replace parts without tools. Meanwhile, processing carries on uninterrupted throughout the diagnosis and replacement stages.

All transmissions on the remote service network (RSN), whether automatic calls, user reports, diagnostics, software fixes, or simply electronic mail, are recorded and, when relevant, brought to the attention of CAC personnel. With the RSN, customer service is available 24 hours a day, 7 days a week.

When Is Fault Tolerance Cost Effective?

The combination of lower hardware costs and the rising costs of service, support, and downtime make the price of hardware based fault tolerant systems more competitive against traditional, non-fault tolerant computers. Design features and benefits (i.e., easy expansion, rapid response time, advanced networking, and simpler maintenance) increase the popularity of fault tolerant systems in online applications even when fault tolerance isn't the primary requirement.

As more users bring their critical applications online, there will be no substitute for computers that continuously keep the business up and running. You simply cannot put a price on availability and dependability...and customer satisfaction. **PW**

Michael Wintz is director of sales for the Pick Division of Stratus Computer, located in Laguna Hills, California. Stratus is a Pick licensee and manufacturer of fault tolerant systems running the Pick O/S.

Education & Training News

Advanced Pick Classes From JES

Beginning in January, JES & Associates starts instruction in Advanced Pick (AP), Pick Systems' latest release. This new JES workshop covers: development, creating AP applications, the update and output processors, processing codes, extended ACCESS, new Pick/BASIC capabilities, and AP's macro and menu utilities.

The workshop runs 4 days starting January 23 and will be held in Orange County, California. Contact JES at 714/548-2388 to register.

Pick Pocket Guide Found "Not Guilty"

Rosebank, SA—A shipment of the JES *Pick Pocket Guide* was "booked" and held for questioning by custom officials, who suspected the guides were imported to "aid and abet" crime.

The investigation led officials to Dave Shepherdson of Specialist Pick Solutions (SPS), who had ordered the books. Shepherdson testified as a character witness in defense of the *Pick Pocket Guide*. He proved beyond a doubt to custom officials that the guide is innocent of all charges and that its sole purpose is to "aid and abet" Pick computer users.

The *Pick Pocket Guides* were released on their own recognition and subsequently found not guilty and vindicated of any criminal charges.

Pick Book Used as College Text

Matthew Stern's book, *Pick: The Easy Way*, was used as the text for 2 college courses on the Pick Operating System this year. Upsala College in East Orange, New Jersey and Valencia Community College in Orlando, Florida offered Pick introductory classes on the Pick O/S with *Pick: The Easy Way* as the assigned textbook.

Both schools plan to include the Pick intro course in their 1989 class schedules.

JES '89 Training Schedule

The JES & Associates Pick System Education Series catalog and schedule for 1989 is out. JES, recently expanded its staff of instructors and added additional class locations and courses (including a new course specifically for Prime Information users) for 1989.

Next year JES will offer 26 classes in 16 U.S. cities; training sessions are also available in Australia.

For a copy of the 1989 catalog, contact JES at P.O. Box 19274, Irvine, California 92713, 714/548-2752.

(cont. on pg. 53)

\$ FREE \$

P1288

Pick File Management Program, valued at \$395, with your paid 10 issues subscription to LOGTO ZIRCON, the Pick users newsletter. Return this completed coupon today, along with your payment of \$60, or \$67 if you are a foreign subscriber, to receive your free hardcopy of LOGTO ZIRCON's Pick File Management Program, and begin receiving our newsletter, full of many more free programs, utilities and technical information.

Payment Enclosed ☐ CK ☐ MC ☐ VS ☐

CC# _____ Exp. Date _____

Company Name _____

Contact/Title _____

Address _____

Telephone _____ Computer Model _____

Signature _____

THE BOOKSTORE

Gardner Saunders & Associates

1650 South Amphlett Blvd., Suite 317, San Mateo, CA 94402 (415) 341-PICK • FAX (415) 341-5357

PICK® BOOKS

116	A PICK Handbook Every Managers Guide to the PICK OS by Wendy Richardson and Margaret Aldis	\$29.95
104	Exploring the PICK Operating System by J. Sisk and Steve Van Arsdaile	\$29.95
111	PICK OS Soft-cover Pocket Guide by J. Sisk	\$19.95
127	PICK: The Easy Way, Volume I, Database and Word Processing for New User by Matthew Stern and Betsy Pollack	\$26.95
105	PICK: The Easy Way, Volume II, Expanded Theory and Operation by Matthew Stern	\$23.95
103	PICK For Users by Martin Taylor	\$22.50
121	PICK-Your System by Nicola Kitt	\$24.95
125	PICK/BASIC: A Programmers Guide by J. Sisk	\$29.95
139	THE EDITOR: HOW TO by Harvey Rodstein	\$14.95
128	The PICK Operating System by Joseph St. John Bates and Michael Wyatt	\$24.95
102	The PICK OS: A Practical Guide by Roger Bourdon	\$29.95
101	Working with PICK by Walter Stagner	\$19.95

PICK TAPES

113	PICK OS Overview (2 cassette set) by Brock and Associates	\$29.95
114	File Structure, TCL and EDITOR (3 cassette set) by Brock and Associates	\$59.95

McDONNELL DOUGLAS BOOKS

112	REALITY Soft-cover pocket Guide by J. Sisk	\$19.95
117	The PICK Operating System by Malcolm Bull	\$29.95

PRIME INFORMATION BOOKS/MAGAZINES

115	Prime Information INFO/BASIC Guide	\$65.00
134	Infocus Magazine, 6 issues One year subscription	\$80.00*

REVELATION® BOOKS

109	Revelation Revealed by Hal Chapel and Richard Clark	\$45.00
-----	--	---------

ULTIMATE® BOOKS

110	Ultimate Pocket Guide by J. Sisk	\$19.95
107	Update language User Reference Manual by Chandru Murthi/OPSYS	\$29.95

SOFTWARE DIRECTORIES

106	EXPO guide to Software Products & Services	FREE
131	PICK HITS Software Directory	\$10.00
137	The Business Software Catalog - 7th edition	\$39.95
144	International Resource Guide Edited by Alan Prichard	\$45.00

PICK MAGAZINES

135	International Spectrum, 6 issues	\$40.00*
132	PICKWORLD, 4 issues	\$25.00*
133	SSelect, The Applications Journal, 6 issues	\$50.00*
136	Spectrum Tech, 12 issues	\$150.00*

*Magazine prices are for one year, U.S. subscriptions. (Canada and Europe slightly higher.) Please call, fax or write us for a complete list of books and more information on specific titles. PICK and PICK/BASIC are trademarks of Pick Systems, Inc. Other product names are trademarks or registered trademarks of their respective holders.

PLEASE MAKE CHECKS PAYABLE TO GARDNER SAUNDERS & ASSOCIATES.

NAME _____ COMPANY _____
 ADDRESS _____ PHONE _____
 CITY _____ STATE _____ ZIP _____ COUNTRY _____

SHIP TO (if different) _____

QTY	PRODUCT #	DESCRIPTION	UNIT PRICE	TOTAL PRICE

Shipping and Handling Charges:

1-2 Items \$3.25, 3-4 Items \$4.25, 5-6 Items \$6.00
 Continental U.S. freight only. For more than 6 items,
 Alaska, Hawaii, Air, International or Express orders,
 please contact us. Please use a street address.
 Foreign orders must be paid in U.S. funds only.

Subtotal _____

California Sales Tax _____

Shipping & Handling _____

Total _____

(CALIFORNIA RESIDENTS SUBJECT TO SALES TAX.)

Educators' Guide

For easier reference, we revised this directory of organizations who offer training for the Pick Operating System. We now indicate for each company one of these training categories:

1. All Pick Systems - Generic
2. Hardware/System Specific
3. Software/Program Specific
4. Online/Workbook Tutorials

Please contact these companies directly for schedules, training locations, and curriculums.

I. Classroom/Onsite Training

All Pick Systems - Generic

ABBA Computer Systems Orange, California	(714) 974-0650
Addept Systems Santa Clara, California	(408) 986-8550
Alcyona Computer Consultants, Inc. Hollywood, California	(213) 462-1549
Singapore	(65) 467-2080
American Computer Services, Inc. Malvern, Pennsylvania	(215) 644-2242
Brock & Associates San Leandro, California	(415) 351-2338
Complete Information Systems (CIS) Cleveland, Ohio	(216) 431-6800
Comprehensive Computer Services, Inc. East Islip, New York	(516) 581-7919
Continental Computer Services Fairfax, Virginia	(703) 273-0816
Crofton Educational Solutions Pt. Pleasant, New Jersey	(201) 892-2711
Diversified Computers Alpharetta, Georgia	(404) 475-4601
Gardner, Saunders & Associates San Mateo, California	(415) 341-PICK
Information Technology Fairfield, New Jersey	(201) 882-5049
JES & Associates, Inc. Irvine, California	(714) 548-2388
JES Affiliates:	
Datek, Inc. Concord, Massachusetts	(617) 369-0185
Oryx Corporation Portland, Oregon	(503) 620-3543
Pick Products Collaroy Plateau, NSW, Australia	011 61 2 957-2750
Saguaro Data Systems (Also Prime Classes) Scottsdale, Arizona	(602) 946-2983
KTS Business Systems, Inc. Toronto, Canada	(416) 483-2809
Newven Computer Systems Denver, Colorado	(303) 893-5554
Systems Solutions Inc. Phoenix, Arizona	(602) 242-2929
Telesis Consulting Denver, Colorado	(303) 757-2220
The Computer School Huntington Beach, California	(714) 897-5551
The Computer Works Emeryville, California	(415) 547-6565

The Softwise Company Cleveland, Ohio	(216) 835-5525
TRI-SYS Computer Corporation Milwaukee, Wisconsin	(414) 291-7979

Hardware/System Specific

Applied Digital Data Systems [ADDS Mentor] Hauppauge, New York	(516) 231-5400
Cogent Information Systems [Prime, Revelation] Hoboken, New Jersey	1 (800) 4-COGENT
Escom, Inc. [Turnkey] Kirkland, Washington	(206) 828-0995
Information Processing Company [ADDS Mentor] Alexandria, Virginia	(703) 683-8620
Keystone Information Systems [ADDS Mentor] Maple Shade, New Jersey	(215) 922-6776
Lorien Systems [Turnkey] Long Beach, California	(213) 438-9707
McDonnell Douglas Computer [Microdata] Irvine, California	(714) 250-1000
MetaStat Computer Systems [Turnkey] Cincinnati, Ohio	(513) 232-0788
SSelect Corporation [Prime/UniVerse] Wellesley, Massachusetts	(617) 444-8334
The Ultimate Corporation [Ultimate] East Hanover, New Jersey	(201) 887-9222

Software/Program Specific

Aurotech Inc. [Aurotech] Denver, Colorado	(303) 388-1612
Automation Technology [TotalWare] Elkins Park, Pennsylvania	(215) 885-4880
Baseline Services [CompuSheet, JET] Mission Viejo, California	(714) 859-1332
Brice Data Systems [DATAMAX Systems] Folsom, California	(916) 351-1229
Jet Software [JET Programs] Tustin, California	(714) 832-8822
KTS Business Systems, Inc. [KTS Systems] Toronto, Canada	(416) 483-2809
VEREX Corporation [Verex Programs] Culver City, California	(213) 306-0800
Wizard Software [Wizard Programs] Irvine, California	(714) 786-1111

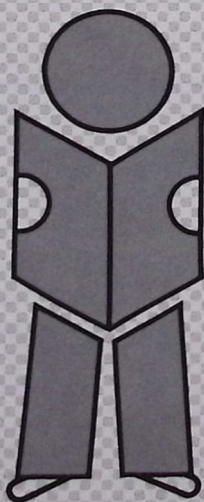
II. Online/Workbook Tutorials

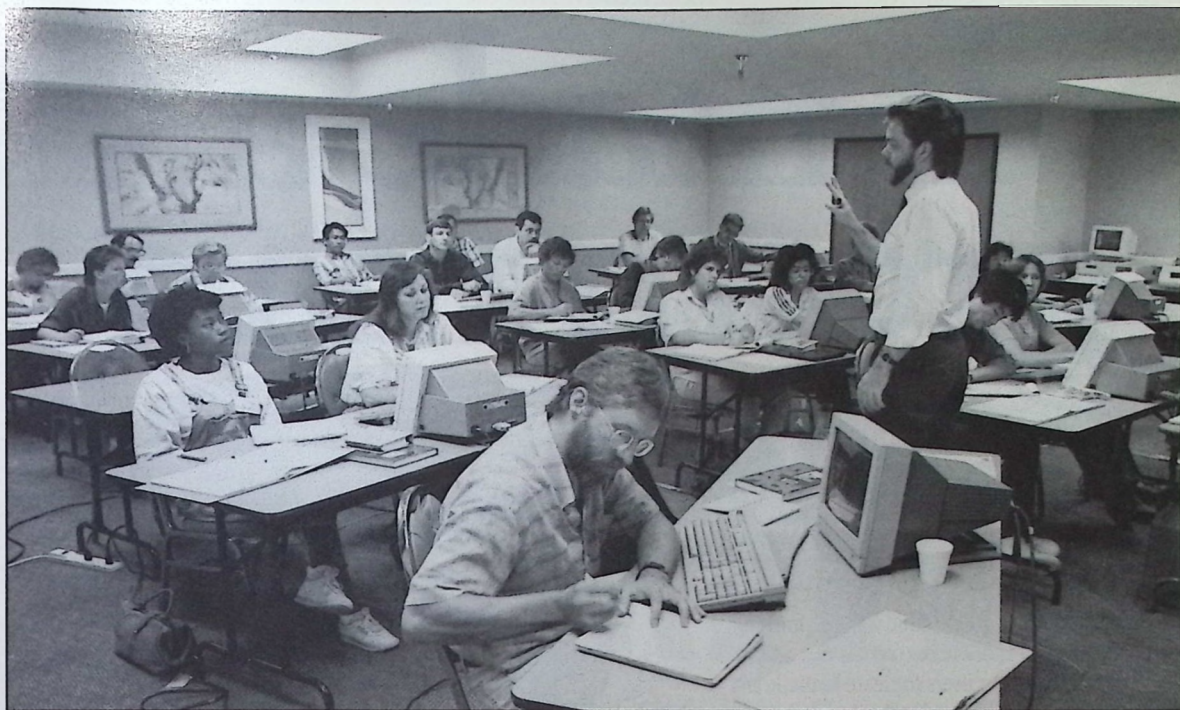
Brock & Associates [Classes on cassette, disk, tape] San Leandro, California	(415) 351-2338
Crescendo Associates [PROF, CompuSheet+ Tutorial & C.R. Teacher] Redford Township, Michigan	(313) 537-1919
Diversified Computers [VHS or Beta Training Tapes] Alpharetta, Georgia	(404) 475-4601
Interactive Systems [CompuSheet+ Tutorials] Colorado Springs, Colorado	(303) 579-6800
Management Information Services [Martin Self Study Course] La Jolla, California	(619) 274-3655

MICRU International (Microdata systems), TMS/EXPO, EuroPick and Spectrum offer educational and technical sessions at their conferences. Company and local user groups also offer seminars and workshops.

PW

Educators' Guide





TAKE OFF IN BUSINESS CLASS WITHOUT LEAVING THE GROUND.

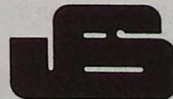
With a JES class on the Pick Operating System, your company can travel to new profit horizons. Our skill-building classes can boost system performance, maximize your investment and make your job easier.

Because we offer hands-on training, you're assured of a first-class experience. Our nonstop service begins with attentive instructors who can teach you everything from the fundamentals to system maintenance to programming. And when three people take a class, a fourth can be ticketed free. We also offer Continuing Education Units (CEU), textbooks, pocket guides and much more.

And not only do we have the best courses, but we have the best fares, schedules and destinations, too. Classes start at just \$95. Through 1989, make plans to take our classes at any of our sixteen scheduled locations in the United States, Canada and Australia.

For schedule information and reservations, call JES & Associates at (714) 548-2388. And prepare to take off in business class.

JES & Associates, Inc.
The Pick® Training Source.
P.O. Box 19274 • Irvine, CA 92713
(714) 548-2388
Telex 384365 (JES INC IRVINE)



ALCYONA

COMPUTER CONSULTANTS, INC.

#1 PICK Dealer
in the U.S.A. — 1985, 1986, and 1987.

Only America's Top Pick Dealer Can Combine Savings And Expertise!

Alcyona Computer Consultants, Inc., provided more hardware, PC software and information to PICK users in 1985, 1986, and 1987 than any other source. The reasons why they're No. 1 spell out exactly what you're looking for in a PICK dealer:

- **Big Savings**—see Special Offer below.
- **Expert Consultation**—President Brian C. Stone and staff will assist you.
- **Total Selection**—not aligned with any product or manufacturer.
- **Fast Delivery**—stock on hand.
- **Support**—The best in the Pick market for *everything* sold.
- **Accessibility**—America's top PICK dealer is always ready for your call.

Special Offer*

Buy a PICK PC Operating System and deduct the credit listed below from your next software purchase. *Save as much as \$250.00.* Valid for cash and C.O.D. orders received between July 15, 1988 and July 31, 1989.

All prices subject to change without notice.

PICK PC Operating Systems

PICK Operating Systems:	Price	Credit
80286: PC-AT, PS/2 Model 50/60		
2-users (R83 or Advanced O/A; 3-1/2" only)	495.00	50.00
3-users (R83 or Advanced O/A; 3-1/2" or 5-1/4")	795.00	100.00
6-users (R83 or Advanced O/A; 3-1/2" or 5-1/4")	995.00	125.00
10-users (R83 or Advanced O/A; 3-1/2" or 5-1/4")	1,295.00	150.00
80386: PC-386, PS/2 Model 70/80		
2-users (R83 or Advanced O/A; 3-1/2" only)	595.00	75.00
3-users (R83 or Advanced O/A; 3-1/2" or 5-1/4")	995.00	125.00
6-users (R83 or Advanced O/A; 3-1/2" or 5-1/4")	1,195.00	150.00
10-users (R83 or Advanced O/A; 3-1/2" or 5-1/4")	1,495.00	200.00
17-users (R83 or Advanced O/A; 3-1/2" or 5-1/4")	2,195.00	250.00
25-users	Call for availability	
33-users	Call for availability	
8088: PC-XT		
3-users (R83 only; 5-1/4" only)	495.00	50.00
UPGRADE 80286 or 80386 to RELEASE 2.2	200.00	20.00
286/386 Extended Memory Upgrade		Call
OTHER UPGRADES: From XT to 286 or 386, 286 to 386, to more users and to latest release . . .		Call

Word Processing / Editors

	PC-AT	PC-386
Jet "The Works"—Word Processing (Version 2.0)	345.00	345.00
Key Word—Full Function Word Processor	799.00	799.00
D-WORD—Windowed Memo Pad Editor Utility	195.00	195.00
EDP—Pick-like Editor for DOS	149.00	149.00

Non-Vertical Applications

AccuPlot—Graphics	295.00	295.00
Compusheet Plus—Spreadsheet	495.00	495.00
STAT-PAK—Statistical Analyzer	495.00	495.00
Print Bar II—Barcode printer software	395.00	395.00
Office Aide—Office Automation	149.00	149.00

Utilities

SUPER-STACK—TCL/Editor Command Stacker	149.00	149.00
Stack-On—TCL Command Stacker/Calculator	95.00	95.00
TANDEM—Phantom Processing Utility	100.00	100.00
Main-Point—Floating Decimal Math	395.00	395.00
140+—Wide Printer Output Utility	100.00	100.00
PC Cache—Disk Caching	195.00	195.00
AccuUtilities—ACCESS/BASIC Extensions	195.00	195.00
Eliminator—GPE Fixer	395.00	395.00
SOUNDEX—Phonetic Index/retrieval	75.00	75.00
Smart Tree—B-Tree index/retrieval	250.00	250.00
The File Resizer Tool—Calculates file modulus	149.00	149.00
EZ Spool—Spooler Front End	149.00	149.00

Accounting and Vertical Applications

	PC-AT	PC-386
Computer Assisted Sales—Marketing	2,995.00	2,995.00
Datamax Accounting—AR, AP and GL	1,495.00	1,495.00
Datamax DMS—Distribution with Accounting	2,995.00	2,995.00
Datamax JM—Jobshop/Manufacturing w/ Accounting	2,995.00	2,995.00
Datamax Payroll—(multi-state optional)	995.00	995.00
Preventative Maintenance	1,995.00	1,995.00
Key Pos—Point-of-sale (prices from)	1,495.00	1,495.00

Education / Documentation

PROF—On-Line PICK Tutorial	395.00	395.00
PICK Made Easy—Self-Study Course	149.00	149.00
CR Teacher—On-Line Authoring System	995.00	995.00
Compusheet Plus—On-Line Tutorial	295.00	295.00
Jet—On-Line Tutorial	295.00	295.00
PICK Demo Diskette (runs on DOS)	69.95	69.95

Application / Code Generators:

The Programmer's Helper—Basic Code Generator	795.00	795.00
Gourmet Menu Plus—Menus, Calculator, Calendar	195.00	195.00
Screen Gen—Application Generator	750.00	1,250.00
Full View—Pick Windows (w/B-Trees)(3-10 users)	500.00	500.00
System Builder—Application Generator (3 users)	695.00	995.00
Wizard IV GL—Instant/Custom/Adv. (all modules)	2,100.00	2,850.00
Forms Gen—Forms Generator	350.00	550.00

Communications:

Main-Link I—PICK/PICK transfers	395.00	395.00
Main-Link II—PICK/PICK/DOS transfers & network	495.00	495.00
PK Harmony—PICK/DOS transfers	595.00	595.00
Main-Link MS—PICK/DOS transfers	295.00	295.00
Comm-Terminal—PICK/Apple Macintosh transfers	300.00	300.00
COPYPICK—PICK/DOS partition transfers	15.00	15.00
Export—PICK/Non-Pick transfers	500.00	500.00
Main-Term—DOS terminal emulator	79.95	79.95
P-Modem—PICK/Non-Pick X-Modem communications	100.00	100.00

Books, Manuals and Cassettes:

PICK/BASIC (by Sisk)	29.95
PICK—Your System (by Kitt)	26.95
The Pick Operating System (by Bourdon)	29.95
Working with Pick (by Slagner)	19.95
PICK: The Easy Way (by Stern) Vol. I	26.95
PICK: The Easy Way (by Stern) Vol. II	23.95
PICK for Users (by Taylor)	22.50
A PICK Handbook (by Richardson)	29.95
Exploring The PICK O/S (by Sisk) Hardcover	29.95
Pick Resources Guide (by Pritchard)	44.95
Pick Pocket Guide (by Sisk)	19.95
Pick Hits—Software Applications & Resource Guide	10.00
Pick Reference Manual (R83 or Open Architecture)	60.00
Pick Assembler Manual	34.95
Cassette Tapes—ACCESS, TCL, PICK/BASIC, etc. (per subject)	59.95
Video Tapes—TCL, File Structure, PICK/BASIC, etc. (per subject)	99.95

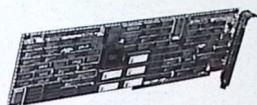
Terminals and Modems

Wyse terminals—Models: 30, 50 & 60	Call
Esprit terminals—Models: Opus 2 & Opus 4	Call
Falco dual port/windowing terminals—Models: 5500, 5600 & 5000	Call
IBM 3151 terminals (3 yr. warranty)—Models: 160 & 360	Call
Practical Peripherals 1200 baud modem (Hayes compatible)	199.00
Practical Peripherals 2400 baud modem (Hayes compatible)	239.00
Hayes 2400 baud modem	599.00
Hayes 9600 baud modem	1,299.00

Special Offer!* – Save up to \$250.00

Minicomputer Power For Your PC

CACHING DISK CONTROLLERS



With a 68000 CPU and on-board memory, this controller reduces disk access time 60% to 80% and improves throughput 50% to 100%. Allows Pick to support RLL and standard disk formats.

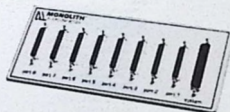
DPT Controller w/ 512 kb cache	\$ 1,150
2mb memory add-on (2.5mb total)	\$ 1,280
4mb memory add-on (4.5mb total)	\$ 2,440

HIGH CAPACITY DISK DRIVES

Fast drives with the following formatted capacities:

44 mb (25ms)		
71 mb (28ms)		
80 mb (22ms)		
110 mb (28ms)	RLL	Please
130 mb (28ms)		Call
204 mb (28ms)	RLL	for
338 mb (16ms)	ESDI	Prices

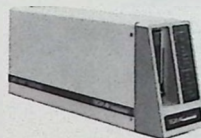
INTELLIGENT 8-WAY SERIAL PORTS



Improve system throughput up to 100%. Includes 8088 CPU, 16kb RAM, Pick Drivers and 4-foot extension cable.

DB25-Monolith 4-way	\$ 995
DB25-Monolith 8-way	\$ 1,295

1/4" TAPE DRIVES



Convenient and compact, these drives can be installed internally or externally.

60mb Internal	\$ 895
60mb External	\$ 995
125mb Internal	\$ 1,295
125mb External	\$ 1,395

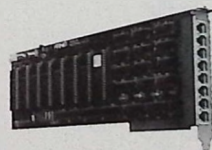
1/2" TAPE DRIVES



Fast, reliable, 9-track standard interchangeable. Store up to 250 mb on one 3600' reel. Prices include controller, cables, and Pick software.

1600/3200 bpi	\$ 4,295
1600/3200 bpi buffered	\$ 4,995
1600/6250 bpi GCR buffered	\$ 8,995
MT750 750mb 1/2" cartridge	\$13,995

RJ11 8-WAY SERIAL PORTS



Simplifies wiring at an economical price. DB25 ports also available.

PC-AT or PC-386

RJ11 Arnet 8-way Board	\$ 595
RJ11 Cable/Connector Kit	\$ 99
DB25-Monolith or Arnet 4-way Board	\$ 495
DB25-Monolith or Arnet 8-way Board	\$ 735

PC SOFTWARE GUARANTEE

If you are not satisfied with any PC software product you purchase from Aicyona Computer Consultants, Inc., please return it to us within 30 days from date of purchase in its original packaging, with all documentation and a letter stating that the software has been deleted from your system, and that you have not retained any copies. Your money will be fully refunded.

ORDERING

Domestic: Add 2% for shipping and handling — minimum \$10.00. California residents please add state sales tax. Foreign: Please call for rates.

FREE INFORMATION

Call or write for our Product Catalog and free Quarterly Newsletter (reviewing new PICK products and upgrades):

(213) 462-1549 USA

(65) 467-2080 Singapore

Aicyona Computer Consultants, Inc.,
7080 Hollywood Blvd., Suite 718, Hollywood, CA 90028-6933
(213) 462-1549 FAX: (213) 462-2006

Aicyona Pacific Basin
875, Bukit Timah Road, Singapore 1027
(65) 467-2080 FAX: (65) 467-9082

All prices are subject to change without notice. PICK is a registered trademark of PICK Systems, Inc., Irvine, CA

56

DOMESTIC DEALERS

Highland Park

Apple Computer, Inc.
315/959-5500

MINNESOTA

Edin Platts
Modern App Consultants, Inc.
812/941-7216
Minneapolis
Cedar Consultants, Inc.
812/941-1284
Palm Information Systems
812/939-2131
L22 Computer Systems Association
812/931-7878
Treasure Computer Systems
812/939-2131
Minneapolis
Garcia Systems, Inc.
812/934-2449

MISSOURI

St. Louis
DPL Consultants
314/684-5244
Chesterfield
Data Techniques
314/277-3951
Independence
BO EDP Services Inc.
816/234-7810

NEBRASKA

Lincoln
Liberty Data Services
817/881-0450
Chapel Hill
Chapel Hill
Management Techniques Inc.
314/687-1805
Matthews Book Co.
314/432-1405
The Software Exchange Inc.
314/713-7777
Bl. Omaha
Kaiser & Company, Inc.
314/447-8783

Omaha
Magna Systems, Inc.
816/848-4828
Ward Field
Morrison Corp.
800/235-7423

NEBRASKA

Lincoln
Magna Book Co. - CMIS Div.
800/664-8161

NEW HAMPSHIRE

Manchester
Virtual Software Services, Inc.
800/432-8183

NEW JERSEY

Bloomfield
Evergreen Financial Systems, Inc.
201/743-0040

NEW YORK

Albany
EDP of America Inc.
201/286-0300

NEW YORK

Albany
The System House, Inc.
201/777-8050

NEW YORK

Albany
East Brunswick
Frederic Data System
201/228-1278

NEW YORK

Albany
East Brunswick
Frederic Data System
201/228-1278

NEW YORK

Albany
East Brunswick
Frederic Data System
201/228-1278

NEW YORK

Albany
East Brunswick
Frederic Data System
201/228-1278

NEW YORK

Albany
East Brunswick
Frederic Data System
201/228-1278

NEW YORK

Albany
East Brunswick
Frederic Data System
201/228-1278

NEW YORK

Albany
East Brunswick
Frederic Data System
201/228-1278

NEW YORK

Albany
East Brunswick
Frederic Data System
201/228-1278

NEW YORK

Albany
East Brunswick
Frederic Data System
201/228-1278

NEW YORK

Albany
East Brunswick
Frederic Data System
201/228-1278

NEW YORK

Albany
East Brunswick
Frederic Data System
201/228-1278

NEW YORK

Albany
East Brunswick
Frederic Data System
201/228-1278

NEW YORK

Albany
East Brunswick
Frederic Data System
201/228-1278

NEW YORK

Albany
East Brunswick
Frederic Data System
201/228-1278

PHOENIX

Phoenix
Bentley Computer Services
315/886-2108

PHOENIX

Phoenix
The Software Answer, Inc.
718/881-0584

PHOENIX

Phoenix
Systems Computer Corporation
816/737-3400

PHOENIX

Phoenix
Educat Associates, Inc.
816/577-8828

PHOENIX

Phoenix
Compuser Computer Services, Inc.
718/873-1479

PHOENIX

Phoenix
Software City
718/231-9217

PHOENIX

Phoenix
Sunbeam Computer Systems
315/899-8051

PHOENIX

Phoenix
DMS, Inc.
315/432-0256

PHOENIX

Phoenix
Omni Business Systems, Inc.
315/479-2000

PHOENIX

Phoenix
Management Dynamics
814/793-7300

PHOENIX

Phoenix
Yorktown Heights
Performance Management
814/662-3508

PHOENIX

Phoenix
NORTH CAROLINA
Chapel Hill

PHOENIX

Phoenix
Chapel Hill
Triangle Computer
815/668-8732

PHOENIX

Phoenix
Durham
Small Business Systems
815/286-3445

PHOENIX

Phoenix
Greensboro
JF Systems
815/354-8700

PHOENIX

Phoenix
ORIG
Conestoga
Dedicated Corporation
813/781-8778

PHOENIX

Phoenix
Meriden
Meriden Computer Systems
813/232-0788

PHOENIX

Phoenix
Cleveland
Consulting Systems, Inc.
216/484-5424

PHOENIX

Phoenix
Cleveland
Keweenaw Data Systems Inc.
216/885-3300

PHOENIX

Phoenix
Columbus
EPF Computer Research, Inc.
814/864-8588

PHOENIX

Phoenix
Columbus
Advanced Business Concepts, Inc.
814/857-3733

PHOENIX

Phoenix
Dayton
Crescent Microsystems, Inc.
813/233-1122

PHOENIX

Phoenix
Marquette
Thomson Computer Mgmt. Systems Inc.
813/683-8100

PHOENIX

Phoenix
Marshall
Data Dynamics, Inc.
814/623-9500

PHOENIX

Phoenix
Mayfield Heights
RTD Systems Group
216/477-9938

PHOENIX

Phoenix
OLAHOLLA
Broken Arrow
New Century Communications
818/558-7014

PHOENIX

Phoenix
Edmond
The Software Firm, Inc.
805/269-1021

PHOENIX

Phoenix
Channahon City
Corporate Technology, Inc.
800/236-8508

PHOENIX

Phoenix
Tulsa
Data Processing Resources, Inc.
814/482-8673

PHOENIX

Phoenix
Tulsa
Master Software Design, Inc.
818/532-6700

PHOENIX

Phoenix
OREGON
Lake Oswego
Softex Corporation
803/306-4828

PHOENIX

Phoenix
Portland
Data Deserve, Inc.
803/238-8038

PHOENIX

Phoenix
Portland
Ory Corporation
803/820-8443

PHOENIX

Phoenix
Portland
Sotomayor, Inc.
803/820-2041

PHOENIX

Phoenix
Portland
Sotomayor, Inc.
803/279-8363

PHOENIX

Phoenix
PENNSYLVANIA
Allentown
Compuser
315/886-8330

PHOENIX

Phoenix
Allentown
Computer Resources Company
215/779-1334

PHOENIX

Phoenix
Bensalem
VP Software, Inc.
215/757-8785

PHOENIX

Phoenix
Cambridge
Sunrise Enterprises, Inc.
812/499-8555

PHOENIX

Phoenix
Evanston
Evanston
Automation Technology
215/885-4800

PHOENIX

Phoenix
Evanston
Johnson Computer
814/432-6745

PHOENIX

Phoenix
Glenview
Emergent Systems Corporation
315/886-5500

PHOENIX

Phoenix
Holliston
S & H Computer Systems, Inc.
215/874-5522

PHOENIX

Phoenix
Lancaster
Pent Computer Assoc.
215/874-1430

PHOENIX

Phoenix
Lancaster
The Office Works, Inc.
717/287-7721

PHOENIX

Phoenix
Norristown
Joe-Gene Inc.
215/265-0994

PHOENIX

Phoenix
Pittsburgh
Northern Health Systems Associates
412/687-3550

PHOENIX

Phoenix
Pittsburgh
On-Line Computers, Inc.
215/227-4000

PHOENIX

Phoenix
Rosemont
Thomson Data Systems
215/577-4930

PHOENIX

Phoenix
Schaumburg
Disaster Systems
815/712-8300

PHOENIX

Phoenix
Schaumburg
SWI
215/943-2222

WYOMING

Wilmington, DE
215/687-4700
Hobart Brothers International, Inc.
215/534-8518

PUERTO RICO

Puerto Rico
Ponce
Monroe Systems, Inc.
809/544-3020

PUERTO RICO

Puerto Rico
Ponce
Key Computer Systems
407/298-0290

PUERTO RICO

Puerto Rico
San Juan
Data Data Systems
815/271-1422

PUERTO RICO

Puerto Rico
San Juan
Data Data Systems, Inc.
815/282-8138

PUERTO RICO

Puerto Rico
San Juan
Innovative Technologies, Inc.
815/273-8444

PUERTO RICO

Puerto Rico
Texas
Comet Drive
Windows & Associates
817/854-4233

PUERTO RICO

Puerto Rico
Dallas
Corporate Systems, Inc.
214/981-1427

PUERTO RICO

Puerto Rico
Dallas
Data & Assoc.
214/940-9443

PUERTO RICO

Puerto Rico
Dallas
Pentagon Technologies, Inc.
214/991-8383

PUERTO RICO

Puerto Rico
Dallas
Quality Software
214/969-8244

PUERTO RICO

Puerto Rico
El Paso
Microdata Development Corp.
815/830-5184

PUERTO RICO

Puerto Rico
Garland
Computer Consulting Service
214/450-0566

PUERTO RICO

Puerto Rico
Houston
American Computer Enterprises
713/777-0900

PUERTO RICO

Puerto Rico
Houston
BPC Inc. Houston Data Center
713/885-0943

PUERTO RICO

Puerto Rico
Houston
Chemical Corporation
713/827-8018

PUERTO RICO

Puerto Rico
Houston
Datacube Corp.
713/483-8470

PUERTO RICO

Puerto Rico
Houston
Lower Price Technology
713/933-3475

PUERTO RICO

Puerto Rico
Houston
Lopez Systems, Inc.
713/777-8079

PUERTO RICO

Puerto Rico
Houston
Monroe Computer Systems, Inc.
713/778-8380

PUERTO RICO

Puerto Rico
Houston
Parsons Systems, Inc.
713/447-0722

PUERTO RICO

Puerto Rico
Houston
Parsons Systems, Inc.
713/447-0722

PUERTO RICO

Puerto Rico
Houston
Port Computer Systems
713/447-0722

PUERTO RICO

Puerto Rico
Houston
Service Automation, Inc.
713/447-0722

PUERTO RICO

Puerto Rico
Houston
Service Automation, Inc.
713/447-0722

PUERTO RICO

Puerto Rico
Houston
Service Automation, Inc.
713/447-0722

PUERTO RICO

Puerto Rico
Houston
Service Automation, Inc.
713/447-0722

PUERTO RICO

Puerto Rico
Houston
Service Automation, Inc.
713/447-0722

PUERTO RICO

Puerto Rico
Houston
Service Automation, Inc.
713/447-0722

PUERTO RICO

Puerto Rico
San Juan
KPS Computer Systems
215/683-0543

PUERTO RICO

Puerto Rico
San Juan
Data Enterprises, Inc.
215/684-7837

PUERTO RICO

Puerto Rico
San Juan
Data Enterprises, Inc.
215/684-7837

PUERTO RICO

Puerto Rico
San Juan
Data Enterprises, Inc.
215/684-7837

PUERTO RICO

Puerto Rico
San Juan
Data Enterprises, Inc.
215/684-7837

PUERTO RICO

Puerto Rico
San Juan
Data Enterprises, Inc.
215/684-7837

PUERTO RICO

Puerto Rico
San Juan
Data Enterprises, Inc.
215/684-7837

PUERTO RICO

Puerto Rico
San Juan
Data Enterprises, Inc.<

Finally! A Cure for Your PC Maintenance Problems



Who offers maintenance support for nearly every PICK-approved PC product? NCE, that's who!

For years NCE has been building a reputation for providing high quality maintenance support for PICK-based computer systems. Responsiveness, flexibility, and, above all, PICK expertise, have been the cornerstones of the NCE maintenance program.

Now, this service is available to PC users. NCE offers on-site maintenance agreements as well as mail-in and carry-in service for most common PC products. Terminals and printers are supported as well.

If you thought no one was available to provide the maintenance support for your PC, think again—then call NCE. Hardware maintenance support is available throughout North America.

NCE—Maintenance professionals for the PICK world.



6387 Nancy Ridge Drive • San Diego, CA 92121
In United States: 1-800-446-6456
In CA: 619-452-7974

INTERNATIONAL REPORT

Prime Acquires Spanish Distributor

In November Prime Computer signed an agreement to acquire its Spanish distributor, Prime Iberica. Prime Computer is merging the operations of Computervision de Espana (a Prime subsidiary) and Prime Iberica into a new company named Prime Computer Espana. From its Madrid central offices, Prime Computer Espana's 70 employees will handle marketing, service and training for Prime products throughout Spain.

Prime Computer is headquartered in Natick, Massachusetts and has subsidiaries and distributors in over 50 countries.

ALLM Expands Services

ALLM Books recently lengthened its name and its services. The organization's new name is ALLM Systems & Marketing; and as of November 1, ALLM became a full time enterprise.

Alan Pritchard, founder of ALLM, is the publisher of the *Pick Resources Guide/International* and is a U.K. based bookseller specializing in the distribution of Pick books and magazines. In addition to publishing, ALLM Systems & Marketing now offers these services to the Pick community:

- System evaluation, design, development & implementation
- Planning & development of MIS & statistical systems
- Market research, strategies, & evaluations
- New product design, development & introduction

Contact ALLM Systems & Marketing at 21 Beechcroft Road, Bushey, Herts, England WD2 2JU, (0923) 30150.

Resource Centre Opens in Dublin

The Pick Resource Centre, based in Dublin, Ireland, recently opened its doors to provide Pick specific services at the Centre or onsite at customer locations throughout the U.K. and Europe. The Centre specializes in software development; technical, applications, and hardware training; and communications and project management consulting.

The Pick Resource Center is at 29 Merion Square, Dublin 2, Ireland, phone 01-767988.

France Has 3 User Groups

Please note that the International User Group Directory now lists 3 users groups in France. *Tant Mieux!*

Although AFU-Pick has been around since 1985, we were unaware of its existence and therefore failed to include it in our directory.

The Association Francaise des Utilisateurs de Pick (French Association for Pick Users) or AFU-Pick has offices at 12 Rue Jacquemont, 75017 Paris, France, telephone 1-42 29 01 01. Contact Roland Briland, president, or Jean-Francois Racapé, vice president.

(More News on pg. 63)

Another Community Charge for Sanderson

Sanderson Computer of Sheffield, England reported that the Vale of White District Council is replacing its McDonnell Douglas computer system with Sanderson's Community Charge & Non-Domestic Rates System. A Sanderson Series 550 minicomputer with 32 ports and the Sanderson software will be installed in the Revenue Department.

The Vale of White system is the 3rd Community Charge contract awarded to Sanderson in recent months.

Video Sums Up Essence of Pick

A 30 minute video documentary from Computer Class Video Production Company presents the background, applications and benefits of the Pick Operating System. Philip Bailey, editor of *Multi-User Computing*, researched and wrote "The Pick Operating System" film which covers:

- History & background
- Applications (with user interviews)
- Benefits of the Pick O/S
- Selection & future trends

Sanderson Computers Ltd. sponsored the production of "The Pick Operating System" video. Contact Computer Class Video Production Company Limited, 63 Duke Street, Grosvenor Square, London W1M 5DH, telephone 01-949-2519 for more information.



The staff of PT Aditek, a Pick dealer in Jakarta, Indonesia get ready to demonstrate Pick solutions to IndoCom Computer Show attendees. IndoCom was held in Jakarta in September. Charlie Wongso is managing director of PT Aditek.

INTERNATIONAL USER GROUPS

AUSTRALIA

Australian Pick User Group

Meetings:
TBA
Contact:
c/o Canberra Accounting Services
(062) 312 304
GPO Box 2159
Canberra City A.C.T. 2601

N.S.W. Chapter - IPUA

Contact:
Mike Ferris
Apscore Pty Ltd.
49 Market Street, Suite 6
Sydney, NSW 2000
Tele: 267 7711

Victorian Chapter - IPUA

Contact:
Rob Coulson
Ideology Systems
229 Lower Dandenong Road
Mordialloc, Victoria 3195
Tele: 03 580 6997

BRAZIL

Pick Users of Brazil

Meetings:
TBA
Contact:
Jose Franco
31-224-3556
c/o Sistemas Inovativos
Belo Horizonte, MG

CANADA

Northern Alberta Pick Users

Meetings:
TBA - Now Forming Group

Contact:
Murray Hunter, president
Bill Jones, membership
(403) 468-5871
c/o CMI Rentals
8660 - 61st Avenue
Edmonton, Alberta T6E 5P6

Canadian Pick Users (CPU)

Meetings:
Every Odd Month, 3rd Wednesday
Annual General Meeting (Fall)
Contact:
John Hinkley, program director
(416) 483-2809
CPU
P.O. Box 876, Postal Station B
Willowdale, Ontario M2K 2R1
Lydia Whinton, editorial director
(416) 521-2100 Ext. 789

Manitoba Pick Users

Meetings:
Monthly
Contact:
Earl Ray
(204) 786-3358
c/o The McGill-Stephenson Co., Ltd.
276 Colony Street
Winnipeg, Manitoba, R3C 1W3

Pick Users Group of British Columbia

Meetings:
TBA
Contact:
Ralph Turfus, president
(604) 438-7361
Pick Users Group of B.C.
#618 - 4211 Kingsway
Burnaby, British Columbia V5H 1Z6

FRANCE

Association Francaise des Utilisateurs de Pick (AFU-Pick)

Meetings:
TBA

Contact:
Jean-Francois Racapé, vice president
1-42-290101
12 Rue Jacquemont
75017 Paris

Groupe de Promotion du Systeme Pick

Meetings:
TBA
Contact:
Pascal Guillaume, president
(86) 911270
Groupe de Promotion du Systeme Pick
Moulin du Four - Verlin
89330 Saint-Julien-du-Sault

Midi-Pick

Meetings:
TBA
Contact:
Bernard Chazelas
Midi-Pick
Rue de Professeur Barthe
31320 Castanet-Tolosan

INTERNATIONAL

International Pick Users Association (IPUA)

Meetings:
TBA
Contact:
Walter Nicholes, president
(801) 378-7139
B-251 ASB
BYU
Provo, Utah 84602

JAPAN

Japanese Pick Database Users

Meetings:
TBA & Annual Conference
Contact:
Hiroshi Nishikawa
c/o Tau Engineering
Daich: Fuji Building
2-15 Kanda Jinbo-cho
Chiyoda-Ku, Tokyo 101

INTERNATIONAL DEALERS

ARGENTINA

Buenos Aires
Elizalde/Valle Sistemas
933308
Sistram Consultores
043-9378
Buenos Aires, Capital Fed.
Siavork S.A.
027-2814

AUSTRALIA

Albion, Queensland
Jaystar Pty. Ltd.
07-264-1780
Brisbane, Queensland
Aust-Tech Computer Co.
61-73-91-3082
Crows Nest, Sydney, N.S.W.
Triad Software Pty. Ltd.
61-24-39-5488
Leedsville, Western Australia
Petroleum Systems Pty Ltd
09-344-3347
Malvern, Victoria
Tricom Corporation Limited
61-32-09-2266
N. Sydney, N.S.W.
AVA Computers
29-223-300
Neutral Bay Junc., N.S.W.
Pick Solutions Pty Ltd
908-2877
North Ryde, N.S.W.
Rome & Associates
28-879-333
South Perth, Western Australia
Redwood Computer Systems
09-368-2332
South Terra, Victoria
Robson Pty Ltd.
03-241-9545
Sydney, N.S.W.
S.B. Tech Pty. Ltd. c/o Corbett Customs
02-387-4644

BELGIUM

Brussels
Data Base Systems
23-440-751
DKEI
31-26-49-9991
Neupre, Belgique
SSCI
41-713-556

BRAZIL

Belo Horizonte, MG
Sistemas Inovativos, Ltda.
31-224-3556

CHILE

Santiago
International Data Mart
22-242-203

COLOMBIA

Bogota
DSOOGICA
257-4891
Proservidores Ltda.
214-4412

ECUADOR

Quito
EICA
252-1962

FR. V. INDONES

Le Lonnin, Fort de France
Data sacl
637959

FRANCE

Bereton
Clancy - RCM
3314109977
Boulogne
Sib - Departement Informatique
14-621-6767
Fagerabell
Generale de Service
88-685-070
Paris
Pigeonne S.A.R.L.
14-285-1017
TCI
14-526-4739
Rungis Cedex
Patio Informatique
14-686-5499

GREECE

Athens
Koropi, Athens
Inform S.A.
662-2112

GUAM

Agana, Guam
Quantum Software Systems
67-17-34-4931

HONG KONG

Sun Technology, Ltd.
37-392-828

INDONESIA

Jakarta
P.T. Aditak
581216

ITALY

Manzella (UD)
Fridolante SRL
04-32-53-5277

JAMAICA

Kingston
RCM, Ltd.
809-927-7788

JORDAN

Amman
Arab Consortium for Comp. & Elect. Industry
96-26-82-2074

LEBANON

Beirut
Business Machines Corp.
34-393-929

MALAYSIA

Kuala Lumpur
Business SEM BHD
03-781-4000

MEXICO

Mexico City, Distrito Federal
Sistemas de Decision, S.A. de CV
528-8610

NETHERLANDS

Amsterdam
Storage Data Systems
020-2513
JL Leusden
Computer Partner
03-394-3165

NEW ZEALAND

Ramsey, Auckland
The Number One Software Company
09-543-694
Auckland
Racine Systems Ltd.
64-979-6192

NORWAY

Oslo-C
Systemic AS
02-651-438

PERU

Lima
ENSTEC S.A.
51-14-42-3794

SOUTLAND

Edinburg
Sanderson Computers Ltd.
03-12-25-5977

SINGAPORE

Alexandra
General Automation Singapore PTE LTD
272-1611

SOUTH AFRICA

Johannesburg
Computermatic
483-9232
Ressbank, Cape
Real Software CC
21-694-966
Sandton
Marshall Info. Mgmt. Services
706-2878

SPAIN

Barcelona
Datos T Sistemas Informaticos, SA
33-210-246

SWITZERLAND

Zurich
Avatech System Builder, Ltd.
01-231-3113

TAIPEI

Taipei
PC Diffusion
422489

TAIWAN

Taipei
Top Business Machine Co. Ltd
07-561-2201

UNITED KINGDOM

Basingstoke, Hampshire
Intelligent Computer Services (Sales) Ltd.
23-646-9460
Birmingham
Aston Technology LTD
02-13-59-4861
Conventry
Computer Factors (Sales) Limited
02-03-55-5466
Kingswood, Bristol
Vise Systems Ltd.
02-72-57-5577
Leicester
Business Logic
05-33-74-2077
London
Universal Computers Ltd.
01-232-1155
Northampton
Xsoft Ltd.
04-04-70-0757
Sheffield
Sanderson Computers Ltd.
74-243-4373
Watford, England
Sanderson Computers Ltd.
92-234-441
Wiltshire
Kode Ltd.
02-49-81-3771
WVHZEURLA
Puerto Ordaz
Computer Services, S.A.
86-225-002
Valencia
KTC Sistemas, C.A.
41-223-344



Experience an experienced computer system...and save!

If you are considering the purchase of an experienced computer system, call us. It can save you a pile of money.

We have a variety of systems available for quick delivery. We also stock disk drives, tape subsystems, memory communications controllers and anything else you might need.

We can provide you with useful information on manufacturers' product lines, policies and license fees. And, we will take your existing system in trade, but let you keep it during your conversion.

Microdata
Ultimate
ADDS

General Automation
Pertec
C. ITOH

Pick™ Systems
Fujitsu
and other Pick™-type systems

Also Printronix printers and others

CRTS — ADDS - Wyse - and others

Our technical staff is available to help you with any particular application.

New systems also available.

CARGILE & ASSOCIATES, INC.

783 Old Hickory Blvd., Suite 255A

Brentwood, TN 37027

(615) 373-2570

Where someone else's experience saves you money!



Power never looked so good.

POWER.

Clean, efficient, simple. VIA Vision™ puts the power of PICK™ into the hands of new users while expanding the creative horizons of masters. Power to explore new concepts and ideas. Power to bring your visions to life.

LOOKS.

VIA Vision™ maximizes the visual capability of any terminal... windows, graphics, pull down menus, colors - the choice is yours. You'll have the ability to quickly and efficiently design with a full palette of visual effects. Watch your applications come alive as never before.

INTELLIGENCE.

VIA Vision's™ common sense approach to systems design results in a solution that is both easy to understand and utilize. New applications can be readily enhanced. All of your work will be given an exciting new visual dimension.

GUARANTEED RESULTS.

We're so confident that VIA Vision™ will provide the ease of use and power you require, that we're offering a free 21-day trial offer. Take advantage of this opportunity to discover a new dimension to the power of PICK™.

VIA Vision

a new dimension to the power of PICK™
VIA Vision™ is a Trademark of Interactive Systems



INTERACTIVE SYSTEMS 655 Southpointe Ct., Ste. 110, Colorado Springs, CO 80906 (719) 579-6800 FAX (719) 576-7246

Come see us at Comdex, November 14th-18th in the Pick Pavillion, booth #C 27.

(continued from page 60)

SOUTH AFRICA

Pick User Group of SA

Meetings:
Monthly, Last Wednesday, 5:30 p.m.
Contact:
Simon May, chairman
(011) 705-2000
P.O. Box 1499
Johannesburg 2000

SPAIN

Pick Users Association

Meetings:
TBA
Contact:
Dyssa
321-02-68
Conde Borrell, 201. Entresuelo
08029 Barcelona

UNITED KINGDOM

United Kingdom Pick Users' Association

Meetings:
Alternate Months, 1st Tuesday
Contact:
Alan Pritchard
01-283-1030
City of London Polytechnic
139 Minories
London EC3N 1NL
Hugh Kelly, secretary
01-954-8822

NEW ZEALAND

New Zealand Pick Users

Meetings:
TBA
Contact:
New Zealand Pick Users
P.O. Box 3818
Auckland, New Zealand

Prime & Wild Leitz Plan Joint Venture

Last month Prime Computer and the Wild Leitz Group signed a letter of intent for a joint venture to develop and market Wild's System 9 geographic information system (GIS) worldwide and to enact a technology exchange agreement. The companies will form a new corporation to develop and market products and the sales forces of both companies will sell System 9.

Wild Leitz Group of Switzerland, noted as experts in photogrammetry and surveying, is the world's leading supplier of microscopy, surveying and mapping equipment. Its System 9 division has sales and R&D facilities in Zurich, Switzerland; Toronto, Canada; and Denver, Colorado. The GIS is a geoprocessing system used primarily by government agencies and public utilities to collect and analyze geographic information. System 9 uses a 3 dimensional database that stores and models geographic features.

PW

Transporter™

The PICK to DOS and DOS to PICK file conversion/transfer system

You talked and we listened. Transporter version 3.0 now includes batch processing commands, an increased file transfer speed, and more data conversion formats. One command can download PICK data to a PC so that it can be used in LOTUS 123, dBASE, or R:BASE. Download names and addresses to create a mailing list for your DOS word processor's letter merge function. No more re-keying data. Upload and download data to FIXED LENGTH or ASCII DELIMITED records and share your PICK files with other DOS programs and other computers.

You choose the files and fields to use, *even multi-valued and sub-valued fields*, and the order in which to use them. Our proprietary CHKSUM7 protocol insures fast error-free file transfers. And when you order Transporter, you receive Timeslice™ — the terminal emulation program that turns a PC into a WYSE, ADDS, DEC, or almost any other asynchronous terminal.

New PICK users enjoy Transporter's easy to follow menus. Others may prefer Transporter's command/batch mode and PROC interface. Whether your PICK host is a main frame, a mini computer, or PICK on a PC, Transporter and Timeslice make the connection and get valuable data where you need it most. Call us today for more information or to place an order. List price: \$249.00

PERIPHERAL CONTROL CORPORATION

500 West Rosedale, P. O. Box 2286,
West Chester, PA 19380
(215) 696-4296

creating Timeslice™ and Transporter™ to make the connection

Transporter and Timeslice are trademarks of Peripheral Control Corporation.
LOTUS is a trademark of LOTUS Development Corporation. R:BASE is a trademark of Microrim.
dBASE is a trademark of Ashton-Tate. PICK is a registered trademark of PICK Systems.
© 1988 Peripheral Control Corporation. ALL RIGHTS RESERVED.

PRODUCT NEWS

Dial VIP for Smart Call

Want to get a line on your phone costs? Use the Smart Call phone accounting and management program with your Pick system to ring up savings and put a hold on costs for only \$495 for up to 100 lines.

Smart Call helps optimize network facilities, control misuse and personal calls, diagnose and allocate usage, verify long distance calls and more.

Contact: VIP Software, 140 Forest Avenue, Glen Ridge, New Jersey 07028, 201/429-8833.

Accolades for Accu/Plot II

Accu/Plot II Release 3.2b includes 4 new enhancements for Pick graphics users:

- Full IBM international character set support
- Expanded output device support (Xerox & Canon lasers, HP PaintJet & Hercules graphics)
- Data value handling for 14 significant digits
- More detailed error message & troubleshooting explanations

Current Accu/Plot users can purchase the upgrade kit for Release 3.2b for \$100 from AccuSoft or its dealers. For new installations, AccuSoft reduced the price of its Accu/Plot II software from \$995 to \$695.

Contact: AccuSoft, Mike Schellenbach, 8041 Foothill Boulevard, Sunland, California 91040, 818/951-1891.

Added Goodies for Transporter

Version 3.0 of Transporter is out with loads of enhancements such as: batch processing mode, faster file transfer speed, more data conversion formats, and compatibility with all Pick hosts.

Users can now follow menus or upload/download with batch commands and call Transporter import and export PROCs from their own programs and menus. Transporter 3.0 costs \$249.

Contact: Peripheral Control Corporation, 500 West Rosedale, Selwyn Building C3, P.O. Box 2286, West Chester, Pennsylvania 19380, 215/696-4296.

Latest Upgrade of PRO:MAN

The 2.0 version of the PRO:MAN manufacturer and job shop system has a lot of pros: OA and R83 capability; windows; support for multiple sales tax/cash accounts, foreign currency, check reconciliation and 1099 reporting; and other optional features.

PRO:MAN is a closed-loop, net-change MRP II system and starts at \$11,000. The system runs on micro, minis and mainframes.

Contact: PRO:MAN, 14040 N.E. 8th Street, Bellevue, Washington 98007, 206/451-0404.

C-MAX for Video Disk FAX

Climax introduced a new laser/video disk linked, full color FAX transmission unit for its Fashion Modeling System to transmit color images anywhere over standard telephone communications lines. C-MAX features auto send/receive, polling, resolution of 512 x 480 pixels x 8 bits, built-in standard color bar for color matching, and automatic image error correction.

Contact: Climax Computer, 2332 Madero, Suite A, Mission Viejo, California 92691, 714/859-7094.

CSI Markets New Link Video

Computer Source International now offers the Link Technologies MC5 VDT which features: VLSI electronics for increased performance, a 12 integrated circuit design, a 14" flat screen and 78 Hz refresh rate.

Contact: Computer Source International, 3124 Expressway Drive South, Central Islip, New York 11722, 516/348-7474 or 800/222-5022.

Cogent Has Exec Info for Prime

Cogent.EIS is an executive information system for the Prime 50 Series (running INFORMATION 6.1 or higher). The EIS requires no programming and generates reports and models of database information to facilitate strategic planning and objective/performance comparisons.

Contact: Cogent Information Systems, Inc., 70 Hudson Street, Hoboken, New Jersey 07030, 201/795-4003.

PC POS Available Nationwide

Perflexion recently expanded into national markets with its Pick PC Point-of-Sale package. This PC system is used for a variety of POS applications — rentals, serialized items, special orders, bids, and counter sales — and has cash terminal or cash register configurations.

The system has capabilities for barcoding, A/R, purchasing, online help/color selection, and customer/vendor databases. Multiple store inventory and integrated accounting modules are optional. Dealer inquiries welcomed.

Contact: Perflexion Software, Inc., 2472 Eastman Avenue, Suite 33, Ventura, California 93003, 805/644-2064.

Delta Manager Keeps Users on Course

This software improves planning and communication within organizations and departments. Delta Manager is a tool to help manage time, track projects and messages, and provide problem-solving support.

This program includes Time Manager, Project Manager, ListPad, NotePad, and help screens and is easily integrated with many vertical applications for Pick. The PC version is \$595; site licenses are also available.

Contact: Microplan Development Corporation, 465 North Resler, Suite B-2, El Paso, Texas 79912, 915/833-5184.

E-I/O for Altos 3068s

Tri-Sys recently ported its communication and productivity software onto Altos 3068 computers: E-I/O Xmodem,

Ymodem and Kermit; Envision 4th G/L with office automation; Express Lane POS software; and The P Center productivity tool.

Contact: Tri-Sys Computer Corporation, 207 East Buffalo, Suite 600, Milwaukee, Wisconsin 53202, 414/291-7979.

CIE O/S & System Enhancements

Just out is CIE's Version 7.0 of the Pick Operating System (designed for the new CIES 680/750 and compatible on all CIE systems) with these enhancements: background processing, unlimited item size, console facility for all system/runtime errors, calling BASIC subroutines from dictionary definitions, menu-driven spooler, a REVF verb to recalculate the overflow table, a RESIZE FILE verb, and B-TREE capability.

The new CIES 680/750 with the Version 7.0 O/S is a high-end addition to CIES supermicro line. The 512-user 680/750 has the CIES 68030 CPU, a dual-SCSI bus architecture with up to 66MB RAM and 48MB of disk cache memory, remote terminal subsystems, and online UPS. Availability is 1st quarter 1989.

Also CIE introduced the CIES Turbo/E30 CPU module. This dual-bus CPU has a cache burst read mode which doubles execution speed and 2MB of onboard 45ns SRAM (up from 1MB) for processing twice as fast.

Contact: CIE Systems, Inc., 2515 McCabe Way, Irvine, California 92714, 714/660-1800.

KEY-POS With SETUP Menu

Version 1.2 of the KEY-POS Retail Management System for point-of-sale applications incorporates these enhancements:

- SETUP menu makes learning & using it faster & easier
- Improved software security
- Numerous inventory master file improvements, including support for apparel matrix & multiple pricing
- Additional POS functions (subtotal discount, auto authorization log for charge sales, etc.)

A special version of KEY-POS fully integrates into the Datamax Accounting System, and all versions are available from ADS or dealers nationwide.

Contact: Access Data Systems, 10831 Capital, Oak Park, Michigan 48237, 313/546-0360. ➤

TELEPHONE SECURITY ISN'T WHAT IT USED TO BE

Protect your dial-in lines with SKP ELECTRONICS' unique PORT GUARD Security System. The PORT GUARD is a virtually impregnable hardware/software system designed exclusively for the PICK* family of computers.

The PORT GUARD Security System

- CALL-BACK BY USER
- COMPLETE BREAK KEY CONTROL
- IDLE TIMER
- DISCONNECT AND LOG-OFF
- ACCOUNT CONTROL
- CALL ACCOUNTING
- UNLIMITED NUMBER OF USERS
- HUNDREDS OF SYSTEMS INSTALLED

**DON'T BE CAUGHT WITH A
STRANGER IN YOUR DATA BASE.**

"The PICK Peripheral Specialists since 1980"*



SKP ELECTRONICS

1232-E South Village Way
Santa Ana, CA 92705
(714) 972-1727
Telex: 140476

WE SUPPORT OUR PRODUCTS. All SKP products come with a 30 day money back guarantee and include a 6 month warranty for parts and labor.

*PICK is a trademark of PICK Systems, Irvine, CA

PRODUCT NEWS

ADDS (Video) Has the Touch

ADDS announced that it is adding general-purpose VDTs with touch-screen interface and keyboard to its product line. The 2020 TOUCH adds a touch-sensitive screen overlay to the ADDS 2020 terminals to provide a faster, more accurate data entry method. ADDS also introduced Models 3320 and 3320 TOUCH, a compatible enhancement of the DEC VT320.

The ADDS 2020 TOUCH video terminal sells for \$1,595.

Contact: Applied Digital Data Systems, Inc., Gordon Hope, 100 Marcus Boulevard, Hauppauge, New York 11788, 516/231-5400.

Fujitsu Brings Out 2 More Systems

The new Model 60 of Fujitsu's System 2200 has a 16.67 MHz clock rate, 2MB standard random access memory (expandable to 6MB), support for up to 4 formatted 139MB hard disk drives, a 60MB ¼" cartridge tape drive, and an optional UPS. Base price is \$19,750.

The System 2100's new Model 50 entry-level system offers a larger hard disk drive. The standard configuration has a 67MB disk drive (139MB available) and costs \$12,000.

Contact: Fujitsu Microsystems of America, Inc., 3025 Orchard Parkway, San Jose, California 95134, 800/874-9927.

Color Your Pick Computer Safe

PSS Minder is a menu driven security system which supports the use of colors and provides a common user interface to any Pick application. With PSS Minder, you can use ACCESS while maintaining system security and create or modify individual menus with its menu generator.

Use PSS Minder to add color to or develop new or existing applications. Price ranges from \$500 for an AT to \$3,200 for mainframe systems.

Contact: IIS Technologies Inc., 275 Matheson Boulevard East, Mississauga, Ontario, Canada L4Z 1X8, 416/890-2773 or 800/263-9673.

PW

PICK LICENSEES

Archford Computer International
London, England
01-482-4411

System: Excalibur M-68020
Pinnacle M-68000
Pinnacle M-68020

Altos Computer Systems
San Jose, California
(408) 946-6700, Ext. 4935
System: ALTOS 586 microcomputer
ALTOS 3068 microcomputer

Applied Digital Data Systems (ADDS)
Hauppauge, New York
(516) 231-5400

System: ADDS Mentor 68020
CIE Systems/BONNECO
Irvine, California
(714) 660-1800

System: CIE 680 Series
Climax Corporation
Mission Viejo, California
(714) 859-7094

System: Climax Sunshine MC68020 Series
Edgecore Technology, Inc.
Scottsdale, Arizona
(602) 951-2020

System: Edge High Performance Computer
Electronique Serge Dassault
Cedex, France
(1) 46 02 50 00, Telex 250787

System: C900 M-68010 microcomputer
Fujitsu Australia Ltd.
Chatswood, N.S.W., Australia
(61) 410-4555

System: M68000 microcomputer
Fujitsu Espana, S.A.
Madrid, Spain
341-581-8400

System: Intel 80186 microcomputer
Fujitsu Microsystems of America
San Jose, California
(408) 946-8777

System: Fujitsu 2020
General Automation, Inc.
Anaheim, California
(714) 778-4800

System: ZEBRA M68020 microcomputers
IBC Technologies, Inc.
Santa Ana, California
(714) 261-5504

System: IBC MC68010
ICON Systems & Software, Inc.
Orem, Utah
(801) 225-6888

System: Sanyo/Icon MPS 0202
Inter technique (IN2)
Paris, France
(1) 30.55.81.81

System: Multi-6 minicomputer
Nixdorf Computer Corporation
Burlington, Massachusetts
(617) 890-3600

System: Nixdorf 8890 VM mainframe
Rexon Business Machines
Culver City, California
(213) 641-7110

System: Intel 80286/80386 microcomputer
Scan-Optics, Inc.
Irvine, California
(714) 660-0488

System: Sabre M68020 microcomputers
Seattle O/S
Kirkland, Washington
(206) 455-5117

System: IBM PC/RT
Sequoia Systems Inc.
Newport Beach, California
(714) 476-1122

System: Sequoia Fault-Tolerant System
Standard Telephones & Cables Pty. Ltd.
North Sydney, NSW, Australia
02-92-7272

System: CCI 6/32 Series
Stratus Computer, Inc. (Pick Division)
Laguna Hills, California
(714) 770-1304

System: XA2000 fault tolerant minicomputers
Systems Management, Inc. (SMI)
Rosemont, Illinois
(312) 698-4000

System: IBM CS9000
Tau Engineering, Inc.
Tokyo, Japan
(03) 234-2711

System: TAU M-6800
The Ultimate Corporation
East Hanover, New Jersey
(201) 887-9222

System: Honeywell Level 6 minicomputer
DEC LSI 11, DEC VAX, IBM 4300, IBM 9370
XMARK Corporation
Costa Mesa, California
(714) 556-9210

System: I 80286/80386 microcomputer
RELATED PICK LICENSEES
Revelation Technologies
Seattle, Washington
(206) 643-9898

System: Revelation
Prime Computer, Inc.
Natick, Massachusetts
(617) 655-8000

System: Information
V-Mark Corporation
Natick, Massachusetts
(617) 655-4506

System: Uni-verse

Product Profile: Vive VIA Vision

It's easy to dazzle people with Pick. It's a superior relational DBMS... multiuser... a real business system with some of the best applications software around. But first impressions count & now with VIA Vision, Pick's look has as much pizzazz as it has performance!!

An enormous variety of applications software exists for the Pick Operating System. Despite the superiority of Pick software programs, they can't match Macintosh or DOS for visual appeal. For Pick systems to compete more effectively in the general PC market, software solutions must project the image of DOS programs and simplify operational ease.

When Pick migrated to microcomputers, Pick vendors found themselves competing against DOS and Macintosh LAN systems. Pick is vastly superior in file structure and database management facilities, but DOS and Macintosh excel in user interface and visual style. Users often select applications based on perceived functionality, and the program's look influences their perception of the software — and thus their choice.

Because many Pick applications were written 10 to 15 years ago, they lack the "look and feel" (i.e., the user interface) of newer PC programs. It wasn't until the PC boom that CRT manufacturers began adding sufficient memory and functions to support visual attributes, graphics, and page memory. Terminals had limited features and, in many cases, had only upper case characters.

Today's sophisticated terminals sport cursor-addressing schemes, myriad visual attributes, line graphic characters for printing boxes and other geometric forms, color combination options for foreground/background, split-screening and multiple page memory, protected and nonprotected fields, smooth and jump scrolling, etc. (For example, Esprit has models with virtual windowing capabilities that rival those for DOS).

With the recent advancements in CRT hardware, vendors and programmers can vastly improve the appearance of Pick programs but they must also address the

issue of software design. DOS and Macintosh programs are recognizable for their cosmetics of screen displays and simplification of screen control and prompting methods. Users expect this look and the operational ease of windowing environments and pull-down menu structures.

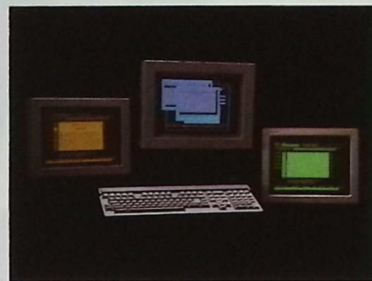
Many enhanced software designs employ graphic interfaces foreign to ASCII terminals. Applying conventional programming techniques to implement such interfaces into existing Pick applications can be a major investment and effort. But VIA Vision, a new development concept from Interactive Systems, not only resolves this upgrade problem [without having to redesign the file or report structures] but also provides design tools to create and develop new applications with the visual dimensions and simplicity of popular PC programs.

VIA Vision incorporates new software development, presentation, and user interface techniques. This powerful tool for designing, developing, and documenting complete high performance applications includes facilities for integrating all system functions, using either traditional full-screen menus or new pull-down menu structures similar to those used in DOS programs. VIA Vision has facilities for system/application security and online help and uses the latest screen control methods and prompting techniques to create a user environment that is not only visually exciting but easy to understand and operate.

VIA Vision's simplistic terminal definition process supports any terminal compatible with Pick; the driver supports general terminal characteristics (i.e., clear-screen and clear-to-end-of-line) and more complex functions such as window-addressing. Included in these functions are:

- Visual attribute usage (embedded or non-embedded)
- Color definitions with multiple foreground/background combinations
- Keyboard layout definitions for text processing functions
- Function key controls
- Line graphic character definitions (including the IBM character set)
- True virtual windowing operation command structure
- Capability to maintain 300 individual parameters for any terminal type in one maintenance program

The VIA Vision screen editor defines and maintains screen and menu programs



and provides full use of all terminal capabilities. With the screen editor, you can create or enhance software with such visual attributes as reverse video, intensity, colors, line graphics, multiple screens, split screens, windowing structures, and so on. Once you define an application or menu process, VIA Vision automatically takes full advantage of the technology of the terminal in use.

You can use VIA Vision to rewrite existing applications and menu processes *without changing the file or report structure*. Upgrading is fast and inexpensive because you don't have to write applications from scratch. For new development, VIA Vision's structured approach lets you create complete advanced software designs in record time.

The Pick Operating System is an unmatched environment for developing applications...and now it can look the part. VIA Vision adds a new dimension to Pick with its ability to design, develop, and upgrade applications with the image, flair and usability that today's users demand. Vive VIA Vision!

PRODUCT PROFILE FACT SHEET

Product:	VIA Vision
Company:	Interactive Systems 635 Southpointe Court, Suite 110 Colorado Springs, CO 80906 719/579-6800
Price:	\$495 (XT) to \$4,995 (main-frame). Call for pricing for specific hardware.
Requirements:	Pick Operating System (of course); Hardware (none)
Availability:	1st quarter 1989 from Interactive Systems or its domestic & international dealers

PW

Editor's Note: VIA Vision is a new product from Interactive Systems which replaces its SCREEN-GEN program, the predecessor of VIA Vision. Although these products have some features in common, VIA Vision is a totally new product and a much more comprehensive design tool with numerous advanced development capabilities not available when SCREEN-GEN was originally developed.

1985



1986



1987



1988



WE'RE HELPING GROW INTO A

Ten years ago, WearGuard was a small store selling work clothes and uniforms in Cambridge, Massachusetts.

But then they had a big idea. Grow aggressively by applying high-tech solutions to their low-tech industry.

Of course, this meant major alterations. And for that, they needed the right computer system.

After trying a few on for size, they



chose Prime. And added PICK®-based Priced INFORMATION™ data management and application development software.

It was a perfect fit.

We gave WearGuard the capacity to develop new applications fast. Applications like the one that enabled them to respond quickly to more than 1.6 million catalog customers last year alone. And as WearGuard grew, we grew with them.



WEARGUARD BIGGER OUTFIT.

Today, their Prime® system is perfectly tailored to manage practically every phase of the business. Inventory. Direct mail. Customer service. The list is almost endless.

With projected sales of \$500 million by 1993, WearGuard shows every sign of growing into an extra-large player in their market.

And Prime is a Fortune 500 company with yearly revenues of over \$1.5 billion. If you'd like to know more about how Prime could help your outfit, call us

at 1-800-343-2540 (In Canada, 1-800-268-4700).

Prime. The computer company you won't outgrow.



Prime Computer, Inc.

Prime and the Johnson & Johnson family of companies are proud co-sponsors of the PBS series NOVA.

QuickWriter

by Brian C. Stone

The QuickWriter word processing package was developed by System Solutions of Phoenix, Arizona. Its first release in 1986 was in response to client requests for an alternative word processor incorporating several features unavailable on other packages.

Over the years, QuickWriter has been enhanced and, most recently, speed improvements have been made to answer one of the strongest criticism of the product. Although written entirely in Pick/BASIC, the speed of the current version (claimed to be 70% faster than prior versions) is acceptable on an 80286 or 80386 PC and most minicomputers. It is not, however, nearly as fast as assembler implemented Pick word processors.

Menu System

Most functions in QuickWriter are handled through its menu system. The menus let you ADD/EDIT a document, print a document, maintain "Quick Document" formats, maintain names and addresses, print envelopes, etc. Using the Utilities Menu, for example, you can maintain dictionary and thesaurus entries, delete unwanted files, define function keys, set printer and terminal parameters, convert JET documents to QuickWriter format, and so on.

Word Processor

The QuickWriter word processor has 3 modes: VIEW, INSERT and REPLACE.

In VIEW mode, you can "view" the document, move the cursor throughout the document, and perform some editing functions. VIEW is the default mode when entering a document.

INSERT mode, used to "insert" text into a document, is activated by typing an "I" from the VIEW mode. With REPLACE mode you can "replace" or type over existing text. To switch to REPLACE, simply

QuickWriter

Summary of Features

- Menu-driven front-end
- Global search & replace
- Split screens for dual editing
- Multi-column formatting
- Printing preview option
- Multiple text widths within document
- Automatic word wrap or hyphenation
- Right justification print option
- Automatic page numbering
- Page headers/footers
- Variable page lengths
- Online help
- Status line
- Spelling checker & thesaurus
- Automatic merging of data from database
- Indexing
- Pick/BASIC subroutine calls

type an "R" from the VIEW mode. To return to VIEW mode from INSERT or REPLACE modes, use the toggle key (').

Deleting text is done in the VIEW mode, and a delete can be recovered by typing a U. You can also call up the online help screen by typing a "?" while in VIEW mode.

Cursor movement is also done in the VIEW mode. You can use the numeric key pad or cursor pad as well as the QWERTY pad for paragraph, sentence, page and screen movements.

Document Setup

You use the Setup Menu when creating a new document. This screen prompts for the document password; description; page length, width and margins; page numbering; and data merging. A nice feature is that each document can be password protected.

Entry Screen

After the setup data has been entered, the QuickWriter Entry Screen appears. The heading displays the screen number, page number, document name, current date and time on Line 1. Line 2 indicates if auto word wrap and interactive spelling checker are active and shows document width and column numbers. The status of reformatting (the terminal bell/beep can be disabled if desired) is also displayed on Line 2. The third line of the heading shows the mode (ADD, VIEW, REPLACE or INSERT), column number and tab stops.

Text Entry

Text entry is accomplished in the customary manner. A RETURN key indicates a "hard return" and words at the end of the line automatically "wrap" to the next

line or, if set, prompt for hyphenation. A document is automatically right justified when it is printed. Justification options are controlled from the Utilities Menu. "Hard page breaks" may be inserted into the document as desired or QuickWriter can automatically paginate the document.

Editing a Document

To edit a document, enter the filename, document name and then the password or type "???" to search for the file and document.

When a block of text is reformatted, block markers highlight the text that was changed so the operator can verify that the intended change was made. Hitting the "*" key clears the block markers.

Printing a Document

To print a document, you call up the Print Menu to select number of copies, left margin, manual page feed, line spacing, beginning/ending print page, page to begin page numbering, widow/orphan prevention (for paragraphs beginning at the end of a page), right justification, index selection and initial form feed.

Split Screen Editing

One of QuickWriter's most unique features is the ability to split the screen and edit 2 documents simultaneously. Split screen divides the terminal screen horizontally with one document on top; the other at the bottom. This feature is a time-saver, especially when merging or comparing 2 documents.

Spelling Checker/Thesaurus

Users can activate the spelling checker while text is entered or afterwards. You can check the entire document for spelling errors or any selected portion. The thesaurus option lists synonyms, antonyms or homonyms for a specified word in the

document. This feature makes it easy to vary the vocabulary in a document and prevent multiple repetitions.

Documentation

QuickWriter comes with 2 hardcover manuals and a spiral bound quick reference guide. The first manual covers installation and gives new users information to get started with QuickWriter; the second is for the advanced user.

The biggest shortcoming of the manuals is the lack of an index. You have to scan the table of contents to try to locate a certain section. Although the trouble shooting section in the second manual is helpful, it should be much more extensive. Overall, the documentation is clearly written and easy to read.

Another suggestion to improve QuickWriter: It would be nice to have a tutorial with sample documents; a tutorial would be a "quick" way for the new user to learn QuickWriter.

Copy Protection

QuickWriter requires PC users to insert a key diskette with an authorization code while the START-UP program is run. The minicomputer version does not. Does this mean that PC users are less honest than mini users?

My view is well known. Copy protection schemes only inconvenience the honest user who paid for the software. The pirate who wants to steal software will always find a way around any copy protection. Vendors don't need honest users telling other potential users how they could not get the software running because of some copy protection glitch.

Additional Features

QuickWriter features that users will really appreciate include: pop-up calculator (with the results inserted into the document), columnar math (addition, sub-

traction, division, multiplication), TCL access while editing, and print input prompt (allows text to be entered at print time). As an alternative to the Pick Editor, QuickWriter can be used to edit a Pick/BASIC program.

Another handy feature is the ability to call QuickWriter as a subroutine from a Pick/BASIC program; thus you can enter text fields from a window using the word processor.

What's Missing?

Features missing from QuickWriter are cut-and-paste, column sorting, graphic/font commands, outlining, horizontal scrolling, and superscripts/subscripts. While these features are not necessary for word processing, they are becoming standard features for word processors.

Conclusion

QuickWriter has several unique features (such as its split screen editing and Pick/BASIC subroutine interface) which users will find most useful. My overall impression is that this product has a way to go; however, it deserves consideration by Pick users looking for a word processor. QuickWriter has a definite JET "look and feel." This makes it an easy transition from JET to QuickWriter but fails to fulfill the demand for a word processor more like programs for MS-DOS.

The documentation, though clear and easy to read, needs the addition of an index and tutorial. The \$595.00 price for the PC versions is competitive with other word processors.

PW

Brian C. Stone is president of Alcyona Computer Consultants, Inc., Hollywood, California & Singapore. He is a prolific writer of Pick technical material, president of Los Angeles Pick Users Group, & a regular contributor to PickWorld.

Power Preparedness:

Power Protection for PC Systems

In the best tradition of closing the barn door after the cows have escaped, most of us don't do much thinking about our electrical power until we've crashed a computer system. That applies across the board to users and resellers.

by *Stephen C. Setzman*

Stephen Setzman is president of Automation Technology (Elkins Park, Pennsylvania), which developed and markets the TotalWare office automation series and other products for Pick systems.

Sure, we talk about clean, dedicated lines when we're planning an install. We may even buy an uninterruptible power supply (UPS) if we're really concerned, but we seldom consider all the exposures we have.

In the Northeast Region of the United States, this past summer was the hottest on record. As a result, air conditioning usage increased dramatically and the power companies had to deal with incredibly high demand problems. They responded by "browning out" (reducing the power level from 115 volts to under 100 volts) certain areas within their region.

Brownouts are not a new problem, but artificially created ones do pose significant threats to computer users. To understand

the danger, you must first understand how a UPS works.

There are 2 basic UPS types. The first kind is an online unit. Online units require users to plug their computer directly into the electrical outlet in the UPS and pass all power through an AC/DC converter. This transformation of power "smoothes" out power surges and valleys providing a steady flow of electricity to the system.

The main problem with online units is that they wear out their batteries. Because the batteries are used constantly, they wear down and may fail you at the most critical time. They also tend to cost significantly more than the second kind of UPS, the standby type.

Standby UPSs have been around for many years, but recently have become increasingly popular. A standby unit does

Manufacturers Respond to Power Problems

Several manufacturers have taken steps to resolve the power supply problem. ADDS and Ultimate for instance, include a battery backup unit (provides power to the RAM memory to prevent data loss in the event of a system shutdown).

Unfortunately, some users assume that these battery backup units protect the entire system. Not so! The memory backups became popular as a result of the substantially increased main memory available on the newer systems. With over 1MB of main memory, the user is exposed to a considerable loss of data in a power failure. The old Microdata machines used "core" memory which did not lose data when it lost power. New systems do not have this capability; thus the battery backup became necessary. If the user has updated data and it has not been written (flushed) from memory to disk, a power

outage will cause a disastrous loss of data.

ADDS is developing an even more sophisticated scheme to protect their users:

The ADDS Model 6000 includes battery backup for memory. The battery is sufficient to hold 4MB for 1 hour, 8MB for 1/2 hour or 16MB for 1/4 hour. The system will close disk I/O before failure and will continue processing when power resumes.

Power conditioners aid this by keeping the system off the batteries during brownouts (it takes 24 hours to fully charge the batteries) and protect the system and batteries against over voltage and spikes. The power conditioners, due to the transformers and circuitry used, will actually cover a power loss of up to 3 milliseconds as the collapse of the transformers will generate voltage for a short period of time.

The ADDS optional Source Power Module (SPM) and advanced battery system is presently in beta test and is due for release soon. The system will reserve 4, 8 or 16MB of space on the embedded 5¼" drive in the 6000.

If power fails, the batteries in the SPM will be able to run the entire main system cabinet and memory will flush to the hard drive in the reserved area. The memory dump will include all pending I/Os.

The system doesn't have to depend on the battery backup in the main unit for recovery and restart. When power is restored, the system will reload memory from the hard drive and resume processing exactly where it left off before the dump and shutdown. The SPM is expected to add less than \$3,000 to the cost of the system.

not provide any significant "smoothing" of power. It is designed to kick in at certain predefined levels of power. If the power coming from the wall drops below a certain point, the UPS kicks in and the system runs on batteries.

Until recently, standby units were not well thought of due to the delays inherent in their design. Although the batteries theoretically are available immediately, in actual practice, there is some delay before they actually come online. This delay in response can cause a computer crash.

The latest standby UPSs shorten this delay to an acceptable amount of time (short enough to prevent system crashes). This has led to a dramatic increase in the sale of standby units because they are substantially less expensive than the online models. Unfortunately, most purchasers are not aware that the standby unit does nothing in the way of power conditioning. They are also unaware of the tendency for standby units to "kick in" frequently during peak demand periods. This "in and out" tends to run down the batteries and causes — you guessed it — failure to respond when you really need it.

This exact problem became more evident during the past summer and another problem also came to light. A standby UPS does not supply "fill in" power (i.e., raising 95 to 100 volts up to 115). When the utility companies browned out power, most computers continued to run (the newer systems are surprisingly tolerant and can run on under 100 volts); but the disk drives took a real beating. Disk drive motors were terribly overworked and frequently failed.

All is not lost however. The cost of power conditioning equipment has dropped dramatically due to the increased demand. Power conditioners that handle over 1,000 volt-amperes (1KVA) are now generally priced under \$300 (compared to over \$1,000 a year ago). You should install a power conditioner between the standby UPS and the wall plug. This provides a steady supply flow of regulated current to the UPS and protects the batteries and disk drive motors.

I'm sure you feel a lot better now, but I've got more to say. If you get the right power conditioning equipment to protect your computer, you should also consider the other exposures. Don't forget that your ter-

minals, printers and modems are also connected to the computer. Each one of those cables readily acts as a conduit for power surges and can blow out an 8 or 16 way, or in some cases, the complete CPU.

If you string cables over long distances, you've also created an inviting target for lightning strikes. All of this sounds like an unlikely event, but it has happened several times.

The solution: protect your RS232 cables just like you protect the electrical wires. RS232 surge suppressors are available in single units or in racks to support multiple lines. You may opt to protect both the CPU and peripheral end, or accept the nominal exposure at the peripheral device only. Surge suppressors are relatively inexpensive and complete the power protection scheme for your site.

As always, caveat emptor (let the buyer beware). Lots of cheap "surge suppressors" are on the market. Your best bet is to buy from a reputable dealer. Most of you have become more aware of the dangers by experiencing a system crash. Don't be short sighted and wait 'til your cows have escaped again.

PW

How Does a UPS Work With Your Computer?

What happens when you have a UPS and your power fails? It depends on which Pick box you have.

When the power fails, the UPS kicks in automatically. Assuming you are in the office when the failure occurs, you will then go to the computer room and using the system console (which has to be running on the UPS), you'll do an orderly shutdown of your computer. An orderly shutdown means logging off all the users, flushing memory to disk and powering off the computer.

All well and good if you're in the office. But what happens if the power outage occurs in the middle of the night or if you have an overnight process active when the power fails? Worst of all, what happens if you typically "sleep" your FILE-SAVE process?

Obviously, these situations can create a major problem. If no one is at the office when the power fails, the system will simply run on the UPS batteries till they fail (typically less than one hour)

and then crash. If there's nothing active on the system, there probably won't be any problem at all. You'll simply reboot in the morning and be on your merry way. If you had an overnight process running, you'll probably have a big mess to clean up.

More enhanced implementations of Pick take this kind of exposure into consideration. As explained in this article, ADDS is developing a sophisticated solution, but several others have made adequate provisions for such an episode. The key is to have a "hook" in the operating system that will accept a signal from the UPS indicating a power failure has occurred. Once that signal is received, the system will automatically log off all the users and do an orderly shutdown.

Typically the signal comes over a cable running from the UPS to the computer. In some cases a receptacle is built into the back of the system; in others a Y cable replaces the standard

RS232 cable running to Port 0. Either way, the computer is made aware of the failure and responds appropriately.

One UPS vendor has gone even further. If you think about it, most power outages are of very short duration. In the Northeast Region, it's not unusual to have a 5 to 10 minute outage almost every week. If you have a UPS, the only problem you face is rebooting when power is restored.

E. A. Crowell and Associates (North Carolina) gave some thought to the problem of frequent short duration outages and came up with an excellent solution. They have a microprocessor built into the cable that runs from the UPS to the computer. They program this device to permit the system to run on the UPS batteries until they begin to fail. Of course, if the outage lasts longer than the batteries, the system still has to do a shutdown. Surprisingly few do, and avoiding the shutdown and reboot more than justifies the small charge for this intelligent cable.

ADVERTISERS' PRODUCT INDEX

COMPANY	PRODUCT	PAGE	COMPANY	PRODUCT	PAGE
Application Generators/Aids/4GL			Education/Training/Books		
Houston Data Center	Program Generator	27	Comprehensive Computer Services	Training & Textbooks	53
Interactive Systems	VIA Vision	62	Crescendo Associates	Courseware Tutorials	44
System Builder Technologies	System Builder	52	Gardner & Saunders	The Bookstore	49
Wizard Software	The Wizard	35	JES & Associates	Training & Textbooks	51
			Zircon	Newsletter	48
Communications/Micro-Mainframe Links			Services/Conferences		
Laguna Software	Laguna Connection	24	Alcyona Computer Consultants	Product List / Mail Order	54, 55
Peripheral Control	Transporter	63	National Customer Engineering	Computer Maintenance	58
Synex Systems	PK Harmony	15	The Software Consortium	Consulting	33
			TMS/EXPO	EXPO Conference	30
Computers & Peripherals			Software Programs/Systems		
ADDS	Mentor Computers	75	AccuSoft Enterprises	AccuLoad Utility	19
Alcyona Computer Consultants	MiniSlayer	20	Interactive Systems	CompuSheet+ Spreadsheet	12
Baseline	Modular Adaptor	43	Modular Systems	Utility/ Productivity Tools	42
Bayside Computer Corporation	Micro & Minicomputers	21	SKP Electronics	Phone Utility	65
Cargile & Associates	New & Used Computers	61	The Software Consortium	Programmer's Helper	33
CIE Systems	CIES Computers	2	Triadyne Software	Autosize Utility	25
Eastcomp II	Used Computers	Back Cover			
Fujitsu Microsystems	Series 2000 Computers	8, 9			
Prime Computer	Computer Systems	68, 69			
SKP Electronics	Expansion port	13			
Stratus Computer	Fault Tolerant Computers	37, 38, 39			

(continued from page 41)

Another important aspect of NCE's sales strategy is marketing and advertising. Being a focused organization is not only beneficial from an operational standpoint but also from a marketing standpoint.

The friendly nature of the Pick marketplace again comes into play. VanEpps said everyone in the Pick industry knows each other.

"There are about a half a dozen trade journals that everybody reads and a couple of trade shows that everybody goes to. They are a very close-knit group," he said. "We have, in the last few years, marketed heavily to that group. We advertise in those trade journals and we go to all those trade shows."

NCE also makes presentations to the user groups and has become recognized as the leading third party maintenance company in the marketplace. Even some manufacturers who do their own repairs don't have a very good grasp on both software and hardware. "When we compete against the manufacturers' organizations, in almost every case, we're considered to offer the higher level of service."

NCE developed an ad campaign to illustrate this idea. The magazine ad featured a man holding up a globe with the names of

Pick manufacturers written all over it. Next to the picture is written "We support the Pick world." VanEpps said the ad sums up the company's philosophy — if you want someone that understands both the hardware and the software and is interested in Pick, NCE is your best bet.

Changing Times

With all the changes the computer industry is undergoing, service organizations are bound to be affected. The advent of high-performance PCs is taking its toll on the service industry. VanEpps reported that the average monthly maintenance charge in NCE's customer base has gone from \$700 3 years ago to about \$200 now. In response to this, NCE has created a computer repair division in addition to the field service division. The company has begun acquiring PC repair depots. It has 3 of them now and hopes to have a network of them as large as its field service network.

"We feel that there are a number of people who are going to want onsite service for PCs, particularly multiuser PCs," VanEpps said. "Single user PCs and smaller peripherals just aren't going to require on site service."

NCE has acquired 9 small service organizations over the years, including the recent acquisition of RC Data, a repair depot in San Jose. Further expansion is a goal of NCE.

VanEpps said, "There is always a tug-of-war in this company between expanding and retaining the quality aspects that have made our reputation what it is."

In spite of this, NCE is currently working on the acquisition of a UNIX repair organization. The company plans to use the same total support philosophy that has been so successful in the Pick market. Based on the market surveys, NCE sees the need for this type of service.

If this goes through, the acquisition would be the largest in the company's history. Considering the changing environment of service and the [multiple O/S trend in] Pick marketplace, a move into the UNIX market would be a logical step for NCE.

PW

Lisa Martin is the associate editor of MSM, the magazine for computer service managers, published by Intertec Publishing, Overland, Kansas. ©1988 by Intertec Publishing & reprinted with permission from the September 88 issue of MSM.

With the Mentor 6000

behind you,

all the pieces

just fall

into place.

First consider a solid company backed by the strength of a multi-billion dollar corporation. That's support.

Next consider a dedication to value-added system resellers (VARs) that enables them to create the very best solutions for you. That's commitment.

Then consider a family of computers designed to grow along with your business. That's power.

When they come together, that's ADDS.

Developed from an NCR technology platform, the modular Mentor 6000™ uses the ADDS Multi-User O/S—the most reliable and enhanced implementation of the SMA™ standard PICK O/S®. Employing 32-bit technology on high-performance hardware, the Mentor family's multi-processor design can support from 8 to over 250 users.

Because we are a part of NCR and their ongoing commitment to information technology, you receive the benefit of their huge R&D program and extensive service capabilities. And you still get the high level of personal support you expect from a smaller company.

As a single-source company for computers and peripheral equipment, we work with our VARs to help put together the perfect system for your needs.

ADDS

Applied Digital Data Systems Inc.
A Subsidiary of NCR Corporation

100 Marcus Boulevard
Hauppauge, NY 11788 USA
Tel. 1-800-231-5445, Ext. 517
In New York, (516) 231-5400, Ext. 517

PICK is a registered trademark of PICK Systems, Inc.
Mentor 6000 and ADDS Mentor Operating System
are registered trademarks of Applied
Digital Data Systems.

SMA is a trademark of The Spectrum
Manufacturers Association.

sma A member of The SPECTRUM
MANUFACTURERS ASSOCIATION

IT ALL ADDS UP.™

RDBM
computing

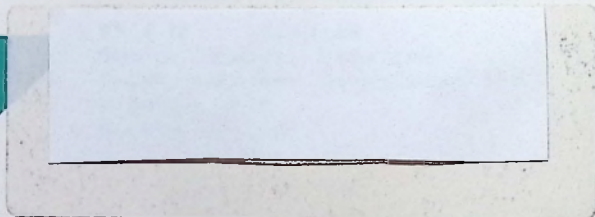
P.O. Box 9539
Fountain Valley,
California 92728-9539 U.S.A.
(714) 839-6708

BULK RATE
U.S. POSTAGE
PAID
SANTA ANA, CA
PERMIT NO. 1244

ADDRESS CORRECTION REQUESTED

**SUBSCRIBERS:
Check Renewal Date!**

Please check the date on your mailing label. If the date on the top line is before March 1, 1989, it's time to renew. Simply send your label along with your check to RDBMcomputing and you won't miss the next issue.



WE SPECIALIZE IN USED

BUY - SELL

Microdata Upgrades

CALL 1-800-ME 4-USED

SEQUEL M9000-M9250

1MB • 2MB • 4MB MEMORY
ALC AND ALC1
MTU/PTR CONTROLLERS
TAPE DRIVES
DISC DRIVES
COMPLETE SYSTEMS

SPIRIT M6000-M6600

512K MEMORY
1MB MEMORY
2MB MEMORY
75 MB DISC DRIVES
COMPLETE SYSTEMS

REALITY

128K MOS MEMORY
INTELLIGENT 8-WAYS
128MB REFLEX II
TAPE DRIVES
PEP UPGRADES

EASTCOMP II INC.

REALITY, SPIRIT AND SEQUEL ARE TRADEMARKS OF McDONNELL DOUGLAS CORPORATION

Call **CHUCK HAAS**
For Competitive Prices
1-800-634-8733
IN OHIO 513-528-5400