US NEWS AND REPORT

- Ramdisk Interaction
- ASE Column #3: Using ASE Function Keys
- Enhanced 68000 Native Code Operation
- MUSUS: What It Is, How It Can Help You?

. . . and much, much, more.

Issue Number
12
JULY, 1984

USUS News And Report

July, 1984 Number 12

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PRODUCT ANNOUNCEMENTS

SIG REPORTS

USUS SOFTWARE LIBRARY

MEETING ANNOUNCEMENTS

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Sendagaya, Shibuya–ku
Tokyo, 151, JAPAN
03/404–2221

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Moffett Field, CA 94035

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Editorial

by: **Keith Shillington**

Happy New Year. Well, apologies all around, I am in part, at least, responsible for the delay of this one. Somehow the Christmas rush always gets in the way of my generating this newsletter.

Number 12 (that's this issue, if I am counting correctly) is dedicated to David Ramsey. I admire his courage and persistence in demanding that I retract the articles on the Corvus Concept. I have introduced so many errors in the last few newsletters that I think I have enough data to create a "retractions" section.

I have been particularly bad in getting back to folk that send US Mail with complaints about not getting their newsletters. I realize that this is probably a poor forum for this announcement, however, I am NOT in charge of the circulation of the newsletter.

So, here it is, 1984, and Orwells book has hit #1 on the bestseller list. Oh well, I guess no one will ever think of user documentation as nighttime pulp reading. The stuff sure works as a sleeper though ...

I, in unusual form, have no heavy topic for this editorial, so I shall take advantage of the moment, and free associate for a while. All the news that's fit to eat. Metamorphic Systems and Osborne seem to be sharing a section of the market. Julie Erwin was reported to be on vacation last I heard. Carolyn Chase has started her own consulting business, and Nancy Lanning has gone into hiding. I bumped into John Brackett on the street in La Jolla just after Thanksgiving, he didn't recognize me right off, I guess I am changing with age. He looked cheerful enough; Haagen–Daz will brighten anyones day. Roger Sumner is worker harder than I have ever not seen him for months before. Joel McCormack will probably never change. I overhear Mark Overgaard's name in conversation from time to time, but always seem to miss the context. Bill Franks and Co. seem to be doing fine, I notice that Dave Berger is back from Italy! Barry Demchak has asked me to change his TeleMail name from DTRUCK to BDEMCHAK. This will have happened by the time you read this note. I got a note from Lucia Bennett informing me that Andra Marynowski is still alive and kicking at NCR. We all know, of course, where George Symons is. And Bruce Sherman is here making TeleSoft tick. I have not heard from the following folk from the UCSD support, development and maintenance teams in quite some time: Bill Koch, Owen Hampton, David Steinore, Tim Coad, Bill Raggio, Leani Teschmaker, Mary Kroening, Keith Copenhagen, Burt Cummings, Charles "Chip" Chapin; among others who either have skipped my mind due to the lapse, or something else. If anyone knows of their whereabouts and well–being: please drop me a line.

Enough free association, now for some charge association: Master Card, Visa, American Excess, Access Eurocard.

Well kids, so far, its been real. Real what, I am never quite certain, however, I need to get back on the campaign trail. Remember: vote Big Brother in '84.

Keith "I'll print anything" Shillington

Your loving editor.

Letters

From: SBASSETT
Subj: Real Programmers...

_A_A_R_R_G_G_H_H_!_

"Real Programmers..." in Issue #11 is **NOT** "by" me! I did **NOT** write it. What I did was download it from CompuServe, then pass it to the Editor for his amusement.

As a matter of fact, I think it may have been published in Datamation, and it is certainly well–known in programming circles!

Please publish this in **BOLD FACE** type in the very next newsletter...

– S Basset

USUS:

The subject article appears in NL#11 with Sam'l's byline. Knowing that Sam'l is both a gentleman and an author, I'm sure he never claimed to have written the article. I think he found it on CompuServe, and transferred it to TeleMule, where Keith *assumed* that Sam'l was the author. Due to this innocent misunderstanding, we have done an injustice to the actual author. I have softcopy of the article under a slightly different title, with a copyright notice.

I believe the author is a Charles Post of Tektronix. I will check the name and address of the author, and post a followup message Monday evening.

I would suggest that George send the author a copy of NL#11 and a letter of explanation and apology, requesting "ex post facto" permission for the reprinting of his work, and that the Keith include the letter in NL#12.

Tektronix, Inc.
PO Box 1000 M/S 63–205
Wilsonville, OR 97070

Copyright 1982 by Ed Post

– Chris Jewel

Re: UCSD p–Systems Editor

I have found the UCSD P–systems Editor to be fairly good indeed. I have a few complaints, some of which I have been able to fix. (Since I am a student at UCSD, all I had to do was sign my life away, I got access to the sources— I regret that this modified form of the editor cannot be distributed legally). Some of the modifications included:

- Extension of the screen movement commands; the commands w)ordmove, b)egin line, e)nd line, o)ther page, and g)et char— a single char find.
- Modification of the exchange command to allow full cursor movement. In other words you could exchange off the end of a line, and use control key forms of most of the cusor movement comment command (like ^p, ^w, or ^e, for example).
- Delete was modified to use all of the cursor movement commands—so you could now delete a word by typing *dw^c,* or the second word after the next parenthesis by typing *dg(2w^c*. The single char g)et command turns out to be very usefull.. it only deletes up to the character just before the match (it works globaly, unlike *f*in vi).
- Zap was removed because you could now jump to a marker in delete mode— which was what zap was primarily used for anyway.
- The old system of the work file was removed— it was found not be very useful. In q)uit mode we added the u)pdate command, which would save the file under the current name.
- The buffering scheme was changed to allow the editing of arbitraily large files... the old maximum was about 23 blocks with the added commands.

There were lots of other changes but I cannot remember them all...I was involved in some of the changes (basically ones which provided a more symmetric user interface—i.e., allowed all cursor movement commands to be used in all modes; insert and exchange with the control versions and delete and normal with the non control versions).

I would be interested in hearing from anybody with experience on an editor as simple and yet as powerfull as this editor.

– Donald Coleman

Corrections to Newsletter #9/10

On Page 4, the Advanced Planning Committee should now be referred to as the Technical Issues Committee.

Also on Page 4, the address given for me is EXTREMELY old (almost two years old). Please correct my address to be Jon Bondy, Box 148, Ardmore, PA, 19003.

Finally on Page 4, the Software Exchange Library is co–chaired by Jon Bondy (Library Distribution) and George Schreyer (Library Editor).

On Page 31 and there abouts, references to the mysterious "Jim Bondy" are incorrect. As far as I can recall, it was Jim Bandy who made those remarks.

Thank you! – Jon Bondy

APC := TIC; Moving on. Well Staffed. Oops, wouldn't want to confuse the illustrious with the mysterious, nor the industrious with the nefarious.

– Keith

Keith:

Howcum whenever I get an article published in the USUS rag me name is never on it? Huh? Howcum?

Love & XXX – David Ramsey

P.S. Stupid article's over a year out of date anyhow. And your reply to my question on an SVS Pascal review was incoherent!

David:

I am, for the most part incoherent. This is why no–one has ever been able to understand the documentation for the UCSD Pascal system. Even after the great Mr. Clark spent the better year of his life correcting all my silly mistakes, (and others...) it still is incomprehensible. No amount of good documentation can make up for amorphous software. David, I think I will dedicate #12 to you; the mistreated USUS member.

– Keith

Keith:

It's too late on the moldy Concept article; everyone knows my writing style by now. Fortunately (unfortunately?), Concept sales to folks who'd read such articles in the first place are so tiny as to be nonexistent—the bulk of the maligned machines go to universities and businesses, rather than USUS–type folks.

Go ahead and print the credits, and (for my own peace of mind), mention that the Concept article was old and grungy. Try to avoid the phrase "Ramsey sold out" or anything like that, OK?

– jdr

Well, I most certainly do owe you an apology or two! Seems that I have not quite got the knack of editing down this electronic stuff, seems that I get in quite a bit of flaming from a variety of folk though.

– Keith

Keith:

The double address is to make sure you get this one way or the other...

Not only did you print ANOTHER article without crediting me (the Concept review in 9/10), but (sputter, choke) the article was over a YEAR OLD when it saw print, and (he said with great restraint) no longer accurately reflected the state of the system.

Of course, the fact that I now work for Corvus is probably in some way responsible for my reaction to seeing said review which might best be described as "lukewarm"), but to publish ANYTHING that old in the computer field!

And I have still NEVER, EVER gotten an issue of the double–damned newsletter!

You DIE in Reno. Or, if you can point a trembling finger at someone else, THEY die.

Love and xxx, DRamsey

Well. My fingers rarely tremble when they point, however, they have been known to smoke. What I send out is ususually fresh enough, worst case is stuff that got delayed in the US Mail, or hung up in the PO Box, or lost in the shuffle from the large variety of addresses folk send stuff to. Congratulations on getting the job at Corvus, maybe you would like to submit a product announcement to make up for old wounds?

– Keith

Chicken talk, an amusing anecdote ...

*We recently purchased the new Votrax Personal Speech System. This is a low cost voice synthesizer. We originally had the older Votrax synthesizer. The older unit could pronounce only a few words well. After hours of experimentation by some of the best minds in computer science it was unanimously decided that "chickensh*t" was the best word to demonstrate the capabilities of the unit.*

Upon receiving the new Votrax we tested it on (what else) the best word. You can imagine our surprise on hearing the word "chickensugar" spoken back at us. The only surprising thing is that this is from a company that used to be (still is?) called the "Federal Screw Works".

Vendor Directory

by: **Eli Willner**

Submitted by:
Eliacomputer
1510 East 4th Street
Brooklyn, New York 11230

Latest update: 12/10/83

Aardvark Software
783 N Water St
Milwaukee WI 53202
(800) 558–1538

- p–System for large PDP–11s using RSTS/E
- Estate Tax Plan
- Professional Tax Plan
- Personal Tax Plan

ACT (Microsoft) Ltd
111 Hagley Rd
Edgbaston Birmingham England
B168LB

- Micromodeler; financial modeling

A.D.I. America
1010 Hurley Way #300
Sacramento CA 95825
(916) 925–2229

- Aladin Relational Problem Solver with program generator
- Aladi–Stat; statistical evaluation
- Aladi–Calc; spread sheet with Aladin interface
- Aladi–Write; management information system/text editor
- Aladi–Net; database networking
- Program Genie; applications interface and customizer
- Video Advisor; video cassette rentals
- UNIX/p; p–System under UNIX
- p/DOS; p–System under MS–DOS

Addison–Wesley Publishing Co
Jacob Way
Reading MA 01867

- Micro–Dynamo; model–building language

Advanced Business Technology
12333 Saratoga–Sunnyvale Rd.
Saratoga CA 95070
(408) 446–2013

- Pascal Tools I II (Apple)

Advanced Computer Design
7584 Trade St
San Diego CA 92121
(714) 578–9620

- p–System for PDQ–3
- Utility units pkg.
- Ada compiler

Advanced Technology Devices
85 Carmelite
Merville Park Paranque Metro
Manila Philippines 3117
827–32–36 828–59–97

- USORT; sort/merge util.

American Software Corp
600 W Gray #211
Houston TX 77019
(713) 528–1889

- Word Exec; word processing system
- Spell Whiz; spelling checker
- Med Exec; medical system
- File Tracker; file directory management
- Hard Back; hard disk backup to floppy

AMS–Realstar
POB 22415
Denver CO 80222
(303) 695–1300

- Integrated Accounting System
- Client Follow–up System
- Realstar–100; real estate package
- Loan Amortization
- Real Estate Investment

Analytic Solutions
POB 13091
Research Triangle Park NC 27709

- Bridge; p–System <–––> Apple DOS

Analytical Engines
Austin TX

- p–System for Saybrook 68000 for Apple
- Saybrook Applications Package; spreadsheet, database, comm, word processing

Analytical Numerical Systems
192 Fleetwood Dr
Saunderstown RI 02874
(401) 294–3035

- Meal Magic; cookbook and menu manager

Analog Design
7108 Via Carmela
San Jose CA 95139
(408) 629–1251

- Apple Plotstuff
- CADette; computer assisted design

Anatron
202 W Bennett St
Saline MI 48176
(313) 429–2678

- Ed–Word; word processing system

Anderson, Alan and Associates
14902 Preston Rd #212
Dallas TX 75240

- p–Form; video forms system

Antech
788 Myrtle St
Roswell GA 30075
(404) 993–7270

- operations planning spreadsheet

Apparat
4401 S Tamarac Parkway
Denver CO 80237
(303) 741–1778

- Pascal General Ledger

Apple Computer Inc.
10260 Bandley Dr
Cupertino CA 95014
(408) 996–1010

- p–System for Apple II
- PSort; sort package
- QuickFile; database

- Apple Speller
- Record Processing Services
- Pascal Utility Library

Applied Software Technology
15985 Greenwood Rd.
Monte Sereno CA 95030
(408) 395–1541

- VersaForm; business forms processor
- Invoicing Application Template; for above
- OEM Pascal Interface; for above
- QBase; personal database

Arisbe Communications
10935 Peninsula Dr
Traverse City MI 49684
(616) 947–0651

- Passage; communications software (Sage)

Arizona Computer Systems
POB 40878
Tucson AZ 85717
(602)623–5976

- Big Match; real estate package
- Datatree; database pkg
- Filetree; file management system
- Prettyprinter; text formatter
- Student Record & Scheduling
- Pascal Utility Disk; includes source
- fig–FORTH; in p–System 68000 Assembler

Arkansas Systems
8901 Kanis Rd. #206
Little Rock AR 72205
(501) 227–8471

- ASI Business Software; acctng. system

Arnould & Associates
POB 6748
Charlottsville VA 22906
(804) 823–2124

- Compass Business Accounting

ASE
5212 Inglewood Ln
Raleigh NC 27609
(919) 787–3509

- QText; text formatter

ASOLV Ltd
12–14 Church St
Basingstoke Hants. RG21–1QH
England
0256–79–5746

- p–System for various hardware

Associated Computer Industries
17751 Sky Park Circle # G
Irvine CA 92714
(714) 557–0560

- Accounting System; pay. ledger rec. inventory

Atlantic Software
1695 W Henderson Rd
Columbus OH 43220

- Pascalisam Super DB; database package
- Pascalform; keyboard, screen, printer control

ATX Computer
(800) 858–4620

- Keyed File Handler

Automated Management Services
2260 S Xanadu Way
Aurora CO 80014
(303) 695–1300

- Realstar 100; Real estate broker mngmnt.

Automation Products Int
Fifth Ave & Ninth St
New Kensington PA 15068
(412) 337–6080

- Communications software

Barnette, Claude
Physics Dept, Walla Walla College
College Pl WA 99324
(509) 527–2881

- Micro–PASSIM; discrete event simulation

Basic Business Computer
415 Cambridge Ave #22
Palo Alto CA 94306
(415) 322–0402

- Client Accounting System; ledger, payroll, scheduling and billing, depreciation, loan analysis and amortization

Beamon Porter
Pleasant Ridge Rd.
Harrison NY 10528
(914) 967–3504

- Power Text; word processing pkg.
- Power Net; Apple communications

BecTerm Inc
(418) 837–5894

- BC–INET Support system; LAN for OSI

Belanger, R F
7122 Cather Ct
San Diego CA 92122

- p–Comm; communications s/w for IBM PC

Bellesoft
2127 Bellevue Way SE
Bellevue WA 98004
(206) 451–9788

- Entry System for Programmers; development tool

Biomatic Gmbh
Carl–Mez St 81–83
D–7800 Freiburg i. Br. West Germany
0761–43045

- PASRO; robot programming language

Blaha, Michael R.
1561 Rishon Hill Dr
St Louis MO 63141
(314) 567–4659

- Polyfit; fits data to polynomials

Blaise Computing Inc
1465 17th Ave
San Francisco CA 94122
(415) 665–4711

- Pascal Tools; logical and arithmetic procs, random number generator, screen handler, string procs

Blyth Computers Ltd
Wenhaston, Halesworth
Suffolk En England IP19 9DH
050 270 565

- Omnis; database package

BPI Systems
3423 Guadalupe
Austin TX 78705
(512) 454–2801

- General Accounting System; complete, integrated accounting system

Broderbund Software
San Rafael CA

- Accounting s/w; gen ledg., accs. pay., payroll

Bulrich Corporation1
Bulrich Corporation2
256 Kipling St
Denver CO 80215
(303) 237–6321

- Retail Inventory System

Bus Pascal Software
c/o D.P.I. 1850 Union St #272
San Francisco CA 94123
(415) 931–7000

- PascalForm; screen util.
- Pascallsam; ISAM pkg.

Business & Professional Software
143 Binney St
Cambridge MA 02142
(617) 491–3377

- Screen Projector; graphics display
- BPS Business Graphics
- Target Image Maker; image communication
- PIK; produce hard copy graphics

Business Computer Systems Inc
3431 Pomona Blvd, Suite F
Pomona CA 91768
(714) 594–5776

- Flexware; Pascal program generator

Business Information Products
6626 Convoy Ct
San Diego CA 92111

- Micro–Forsight; financial modeling with communications

Business Planning Systems
Two N State St
Dover DE 19901
(302) 674–5500

- Plan80; Financial planning tool

Business Solutions Inc
60 E Main St
Kings Park NY
(516) 269–1120

- Incredible Jack; database/spreadsheet/mailer
- Senior Analyst; business planning

Cambridge Development Laboratory
39 Pleasant St
Watertown MA 02172
(617) 926–0869

- Molec; graphic chemistry modeling

Cambridge Information International
283 Main St
Cambridge MA 02142
(617) 354–0199

- Analysis Environment 1; application generator

Carroll, Joseph A
421 Westbourne St
La Jolla CA 92037
(714) 459–7437

- Justify; text justification for daisywheel
- Typewriter; smart typewriter program

Cascade Graphics Developement
1700 E Winston Rd
Anaheim CA 92808
(714) 778–6651

- Cascade II; CAD package
- Support routines for Apple 68000 board
- Debugger for above board

Cavri Systems
26 Trumbull St
New Haven CT 06511
(203) 562–4979

- Ghostwriter; prepares interactive video lessons

Cdex Corp
5050 El Camino Real #200
Los Altos CA 94022

- Training for Wordstar, Visicalc, SuperCalc, MultiPlan, 1–2–3
- Training for IBM PC, Apple II, IIe; tutorial software

CDS Electronics
Fultonstraat 7
3133 KH Vlaardingen Netherlands

- p–System for IMC–400

Chapin Associates
11568 Sorrento Valley Rd. #11
San Diego CA 92121
(714) 452–9340

- p–System for Z8000
- CPR; Text formatter

Chas Scribner & Sons Publishing Co, College Book Division
597 5th Ave
New York NY
(212) 486–2700

- Homer; writers' tool

Comcomp Industries
8338 Center Dr
La Mesa CA 92041
(714) 464–6373

- Pascalc; electronic worksheet

Commodore
7681 Moore Rd
King of Prussia PA 19406
(215) 337–7100

- p–System for CBM 8032, 8096, 64

Compu–Law
3520 Wesley St
Culver City CA 90230
(213) 996–1810

- Client Management System 3.0; law office billing & management control

Computer Options
142 Crest St
Brockton MA 02402
(617) 583–5495

- Patient Billing System
- On–line documentation pkg.
- DDT; day date time functions
- MaskIO; automatic screen I/O

Computer Station
Saint Louis MO

- Pascal Graphics Software; for Apple II & Paper Tiger (& other) printers

Computer Task Group
800 Delaware Ave
Buffalo NY 14209
(716) 882–8000

- VMRS; Vehicle Maintenance & Reporting System

Comshare
Ann Arbor MI
(313) 994–4800

- Micro–W; decision support system

Conceptual Instruments
4730 Warrington Ave
Philadelphia PA 19143
(215) 726–7856

- The Desk Organizer; scheduling, database

Context Management Systems
23864 Hawthorne Blvd. #101
Torrance CA 90505
(213) 378–8277

- The MBA; decision support system

Control Systems
1317 Central Ave
Kansas City KS 66102

- p–System for 68000

Corvus Systems
2029 O'Toole Ave
San Jose CA 95131

- p–System for Concept

Countryside Data
718 N Skyline #201
Idaho Falls ID 83402
(208) 529–8576

- Agricultural accounting package

Cox Lawrence & Associates
POB 130
Jamison ACT 2614 Australia

- Colaforms; screen util.
- Colafiles; ISAM pkg.

CP&A Microsystems
3300 Northeast Expwy #1C
Atlanta GA 30341
(404) 458–1145

- Software Solution System; real estate package

CSI Microsystems
1317 Central
Kansas City KS 66102
(800) 255–4411

- p–System for SWTP computer

Cybertronics International
999 Mount Kemble Ave
Morristown NJ 07960
(212) 532–3089

- Karel Simulator; video "robot control" language for teaching programming

D&L Computing
1201 Lincoln Ave
New Castle IN 47362

- Professional Unit; utilities

DATALEX Company
650 Fifth St #406
San Francisco CA 94107
(415) 541–0780

- REMOTE/M; asysnchronous communication
- DATALEX/M; data entry system
- p–System for Intertec Superbrain

Datamed Research
1433 Roscomare Rd.
Los Angeles CA 90077
(213) 472–8825

- Incredible Text Printer
- Pascal Data Management System

Datamost
9748 Cozycroft Ave
Chatsworth CA 91311
(213) 366–7160

- B–Fast; B–tree file access

Davidson Colleagues
40 S 8th St
Tatamy PA 18085
(215) 252–2120

- Color 2; color formulation program for Spectro photometer

Deloitte Haskins & Sells
New York NY

- ALAMO; asset/liability modeling for banks requires DSS/Finance from Addison–Wesley

Denver Software Company
36 Steele St # 19
Denver CO 80206
(303) 321–4551

- Financial Partner
- Pascal Tutor
- Pascal Programmer; utilities
- PERT/CPM; project mngmnt.
- Pascal Designer; advan. utilities
- EASY; executive accounting system
- ServiceManager; s/w for repair shops
- Accounting Tutor

DeskTop Software Corp
228 Alexander St
Princeton NJ 08540
(609) 924–7111

- NPL; Non–Procedural Language

Destek
830 E Evelyn Ave
Sunnyvale CA 94086
(408) 737–7211

- Desnet; LAN for Sage

DDD Software
Beverly Hills CA

- DDD Graph; 3–D business graphics

Dicoll Datasystems
Basingstoke England

- p–System under RSX–11

Digicomp Research
Terrace Hill
Ithaca NY 14850
(800) 457–6000

- Version III p–System for Digicomp
- Gensoft STC–Ada compiler

Digital Equipment Co
Maynard MA

- p–System for Professional 300 series

Dilthium Press
POB 606
Beaverton OR 97075
(800) 547–1842

- MicroBook; database management
- TeloFacts; automates questionnaires and polls

Docutel/Olivetti Corp
1909 E Cornell St
Peoria IL 61614

- p–System for Olivetti M20

DSN Datasystems
Section 338 CIT, JPL
Pasadena CA 91103

- p–System for MODCOMP II & IV

Duosoft Corp.
POB 1827
Champaign IL 61820
(217) 356–7542

- Business Planner (Apple)

Dynamic Control Systems
Ste. 204 13662–104A Ave.
Surrey B.C. Canada
(604) 585–0655

- Multi–user p–System for Altos computers
- Application Developement System; for PDP–11
- Ledger–Calc; Accounting System

Dynamic Microdata
131 Thorndike St
Brookline MA 02146
(617) 232–7158

- Checkmaster; checkbook management
- Datacomm; terminal emulation
- Munchit; Pacman–like game

Earthware/Geocomp
POB 30039
Eugene OR 97403
(503) 344–3383

- Electric Semicolon; program formatter

Eastern Illinois University1
Eastern Illinois University2
S.K. Dey
Charleston

- fluid–dynamic modeling software

Ecotope
2328 E Madison
Seattle WA 98112
(206) 322–3753

- Sunday; building load simulation program

Educational Technology Center
University of California
Irvine CA 92717
(714) 833–7452

- CAI utilities

EMS Computer Applications
5496 Haussner Dr
Concord CA 94521
(415) 672–0455

- Ksam80; ISAM pkg.
- The Connections; automatically port p–System applications to CP/M environment
- Business Accounting System
- InSyst; insurance agency management system

Enercom
3225 S Hardy Dr #101
Tempe AZ 85282
(602) 894–2279

- CPA; energy audit system

Energy Data Systems Inc
1275 Drummer Lane
Wayne PA 19087–1591
(215) 964–1170

- GAP; General Accounting Package
- ADAM; travel agency system
- TULIP; database development language

Enhancement Technology
Pittsfield MA

- p–System for PDQ–II 68000 for Apple

Entropy Ltd
Box 34126, Station D
Vancouver Canada V6J 4M1
(604) 228–0011

- p–System for NS16000

Equinox Computer Services Pty Ltd
POB 547
N Rockhampton Queensland 4701
Australia
(079) 275642

- Commercial file extension; filer enhancements and KSAM file system

ErgoSoft
7122 Cather Ct
San Diego CA 92122
(619) 450–1108

- p–Comm; communications software

Escape Ltd.
POB 18797
Atlanta GA 30326
(404) 255–0404

- Daisywheel Plotting Software

Euroka Oy
Veneentekijantie 18
00210 Helsinki 21 Finland
(09) 6922566

- p–System for Eurosys (6809 microcomputer)

Far Field Software
1031 Rue Verand
Slidell LA 70458
(504) 641–3741

- Graphic s/w for Heath H8/89

Ferox Microsystems
1701 N Fort Meyer Dr #611
Arlington VA 22209
(703) 841–0800

- Encore!; financial modeling system
- Micro/DSS Finance; decision support system
- Micro/DSS Analysis; statistics
- GraphPower; graphing pkg. for above
- Consultant's Edge; menu generator for above
- LogOn; remote communications

First Systems Corporation
865 Manhattan Beach Blvd
Manhattan Beach CA 90266
(213) 546–5581

- PTrace; preprocessor for debugging
- PMacro; preprocessor for macro facility
- PAdapt; preprocessor for Ada extensions

FMG Corp.
POB 16020
Fort Worth TX 76133
(817) 294–2510

- p–System for TRS–80

Formula Computer Systems
731 S Hwy 101 #2F
Solana Beach CA 92075
(619) 481–3542

- Construction Job Cost System

Franklin Institute Research Labs1
Franklin Institute Research Labs2
Benjamin Franklin Parkway
Philadelphia PA 19103
(215) 448–1485

- Ol' Sam; bibliographic system

G&J Associates
689 Lofstrand
Rockville MD 20850
(301) 340–7644

- VSM; video store management

Gavilian Computer Corporation
240 E Hacienda
Campbell CA 95008
(408) 379–8005

- p–System for Gavilian
- Capsule Builder; development tool
- Message Builder; help facility development

Graphic Communications
200 Fifth Ave
Waltham MA 02254
(617) 890–8778

- Graphwriter; business graphics

Graphic Software Systems
POB 673
Wilsonville OR 97070
(503) 682–1606

- GSS–Plot; graphics util.
- GSS–Core; graphics util.

Great Plains Computers
113 Broadway
Fargo ND 58102
(701) 293–8483

- Hardisk acctng. pkg.
- Hardisk inventory pkg.

Great Western Software
412 N Maria Ave
Redondo Beach CA 90277
(213) 376–9348

- Peruse; disk scanning util.
- Writer; printer driver
- Modem; asynchronous communication package
- Download & Inhale; file transfer
- Crumble; textfile segmentor
- Fileunit & Screenunit; terminal independence & error–free file I/O
- KEYunit; indexed file management
- Point of Sale order entry package
- Small Business Package; accs. pay rec ledger order

Gregg/McGraw Hill Publishing
1221 Ave of the Americas 29th Floor
New York NY 10020
(212) 997–4799

- Computer Power; Pascal tutorial pkg.
- HyperGraphics; graphics package

Griffith Lucas & Associates
11601 Katy Freeway #224
Houston TX 77070
(713) 531–6980

- Construction Accounting Management System

Gryphon Microproducts
POB 6543
Silver Springs MD 20906
(301) 946–2585

- p–System <–––> Apple DOS conversion
- Pascal utilities 12 (Apple)
- Pascal database util.

Gryphon Systems
922 Grange Hall Rd POB 755
Cardiff–by–the–Sea CA 92007
(714) 436–1455

- Pfas; ISAM util.
- Phosform; Screen format system
- Post–Haste; mailing list
- Fas–File; database

Harris Labs
624 Peach St
Lincoln NE 68508

- Agdisk Financial Management
- Agdisk Corn/Soybean Management
- Agdisk Swine Management
- Agdisk Machinery Management
- Agdisk Market Charting
- Agdisk Farm Accounting
- Agdisk Enterprise Analysis Extension

Harris Technical Systems
645 Peach St POB 80837
Lincoln NE 68501
(402) 476–2811

- Financial Management Series I; for agriculture
- Corn/Soybean Management series I
- Machinery Management Series I
- Commodity Market Access & Charting System
- Farm Accounting Package

Harvard Law School
Cambridge MA 02138
(617) 495–5425

- The Socratic Method; text, natural language analysis

Hayes Microcomputer Products
5835 Peachtree Corners E
Norcross GA 30092
(404) 449–8791

- SmartCom I; terminal program for Apple/MicroModem

HDP
222 E Anapamu St
Santa Barbara CA 93101
(805) 965–4477

- Screen Handler
- Output Formatter
- Forms Generator
- Medical Office Management System

Helmers & Associates
POB 41
Hancock NH 03449
(603) 525–4038

- Pascal 407; unit–record accounting

HELU Corp
1149 Conalilo Home Rd
Honolulu HI 96825
(808) 395–2400

- Property Management System
- Accounting System

Hewlett–Packard Co
1820 Embarcadero Rd
Palo Alto CA 94303

- p–System for HP–86, 87

High Technology Software
POB 14665 2201 NE 63rd
Oklahoma City OK 73113
(405) 478–2105

- Job Control System
- Gusher; accounting for oil and gas wells
- P.A.C.E.; repetitive unit cost estimation

H.J. Hansen Company
701 Lee St
Des Plaines IL 60016
(312) 824–6601

- Data Accumulation & Retrieval Times; work measurement system

Horizon Software
9162 Fermi Ave
San Diego CA 92123
(619) 565–1513

- Protime; time and billing software

IBC Computer Systems
Sunderland House Sunderland St
Macclesfield Cheshire England
(0625) 616399

- Master Planner; critical path analysis

Independent Business Systems
5915 Graham Ct
Livermore CA 94550
(415) 443–3131

- Multi–user p–System for Z80
- p–Net; Network p–System for Z80

Intelligence (UK) Limited
2630 Fountain View #222
Houston TX 77057
(713) 780–7201

- Micro–Modeler; decision support system
- Micro–Linkline; data extraction from mainframe

International Medical Systems
190 S King St #1990
Honolulu HI 96813
(808) 536–1041

- Smart Chart; medical system

Informatics General Corp
Commercial Information Systems
Dallas TX

- The Top Producer; point–of–sale system for life insurance agencies

Inmos
Whitefriars, Lewin's Mead
Bristol BS21 2NP England
(0272) 298061

(also in Colorado Springs CO)
- p–System for DEC VAX
- Occam; concurrent programming language

INRIA–KAYAK
B.P. 105
Le Chesnay France 78150
954.90.20

- Unit Graphics; low–res graphics (Apple)

Instrumentation Laboratory1
Instrumentation Laboratory2
One Burtt Rd
Andover MA 01810

- multi–user p–System for 68000
- Runoff; output formatter
- Word Processor
- FORMS package; screen generator
- Pixel Spreadsheet
- Relational Database System
- COMMJOB; communications package

Intelligent Computer Systems
Arlington VA

- Ms.Speller; spelling checker (Apple)
- QText; word processing pkg. with mailing list

IBM Co
White Plains NY

- p–System for IBM PC, XT, DisplayWriter

IOTC
910 Sully
Laramie WY 82070
(307) 721–5818

- PDBASE; relational database
- DISPEL; spelling checker
- INTELLECT–UL; Lisp interpreter

Irvine Computer Sciences Corp.
18021 Sky Park Circle # L
Irvine CA 92714
(714) 754–6684

- Ada compiler

ISIS Systems, Ltd
11 Oakdene Rd
Redhill, Surrey United Kingdom
RH1 6BT
44–737–71327

- p–System for N* Horizon
- Decision support system

Ithaca College
David Rosenthal
Ithaca NY
(607) 274–3107

- Logo; graphics language

ITT Consumer Products Ltd.
Chester Hall Lane
Basildon Essex United Kingdom
TLX: 85199101

- 2020 Accountant; small business acctng.

Ivory Consulting
180 Grand Ave #900
Oakland CA 94612
(415) 465–0888

- Trump; tax–oriented level leveraged lease analysis

Japan Business Automation Company Ltd
3–50–11 Sendagaya
Shibuyaku Tokyo 151 Japan

- Diet System
- PDBS; database system
- Documex; document index database
- p–System for AD–4344, Packet II, AP990M, Fujitsu FM–11, Mitsubishi Multi–16, NCR 9005, all NEC machines, Sandec 80 and 86, Sord M343, Taiko, Toshiba, Yamaha, YE Data

Jarman Systems Ltd
6A Dolphin Sq
Tring Hertfordshire HP32 5BW
England

- Accounting System; ledger, invoicing, payroll and personnel, purchase accounting
- Stock control

J–Ph Carillon
44 Rue Ginoux
75015 Paris France

- Gened; text formatter

Keystone Data Consultants
24 E Princess St
York PA 17401
(717) 848–5666

- Accounting package
- Industrial control s/w

Kingdom Computer Concepts
POB 182
Saint Johnsbury Center VT 05863

- Debugger for Apple II p–System Assembler

Learning Tools
4 Washburn Place
Brookline MA 02146
(617) 566–7585

- Administrative Planning System; includes two packages below plus
- Curriculum Management System
- Teacher Planning System
- Softdoc; online documentation system

Legend Industries
2220 Scott Lake Rd
Pontiac MI 48056
(313) 674–0953

- Pascal Soft Disk Emulator; RAM–based virtual disk for Apple

Lifeboat Associates
1651 Third Ave
New York NY 10028
(212) 860–0300

- Plan 80; financial modeling

Link Systems
1655 26th St
Santa Monica CA 90404
(213) 453–1851

- Link Video; screen IO util.
- Link Disk; disk control util.
- Data Link; communications pack.
- Link Index; ISAM pkg.
- Link Sampler 1; tutorial pgms.
- Datafax; database

Linnton Electronic Systems
POB 17612
Portland OR 97217
(503) 286–0459

- Pasdos; p–System <--> Apple DOS

Little Genius
504 Albany House
324 Regent St London England

- Pascal tutorial s/w

Living Vidoetext Inc
450 San Antonio Rd #56
Palo Alto CA 94306
(415) 857–0511

- ThinkTank; outline organizer

Living Vidoetext Inc
960 Alice Lane
Menlo Park CA 94025

- BBS; s/w for host system
- FYI; loosely structured database

Logica Inc
666 Third Avenue
New York NY 10017
(212) 599–0828

- Appletel; Videotex communications

Logos Information Systems
Rd 5 Box 114B
Flemington NJ 08822
(201) 782–1533

- Turtlegraphics for Sage
- File Transfer Utility
- FORmath; technical document preparation

Lytron Systems
POB 533 820 W Arapaho
Richardson TX 75080
(214) 644–6204

- Micro–Life; software for insurance agents

Management Analytic Support
6826 Dean Dr
McLean VA 22101
(202) 293–1624

- Vault; data protection and encryption

Management Blueprint Software
11 Montebello Way
Los Gatos CA 95030
(408) 395–1715

- A President's War Plan; decision support system

McCreary Dan Software
San Diego CA

- Disk–O–Tape/Pascal; transfers Pascal diskettes to cassette

Mechansoft
1132 W Peachtree St #220
Atlanta GA 30309
(404) 433–7028

- General Accounting System
- Personal Bill Payer

Megahouse Corp
5703 Oberlin Dr #209
San Diego CA 92121

- MegaWriter; word processing
- MegaSpell; spelling checker
- Megafile; file management
- p–Print; text formatter

Merrimack Systems
POB 5218
Redwood City CA 94063

- Moonshadow Text Formatter

Metacomet Software
POB 31337
Hartford CT 06103

- The Programmable Cube; Rubik's cube game

Microfinancial Corp
15404 E Valley Blvd
City of Industry CA 91746
(213) 961–0237

- Flexware Financial Reporting & General Ledger
- Flexware Accounts Receivable
- Flexware Accounts Payable
- Flexware Order Processing
- Flexware Inventory
- Flexware Purchasing
- Flexware Payroll
- Flexware Sales Analysis
- Flexware Job Costing
- Flexware Application Development System

Microlog
164 Jefferson Dr
Guilford CT 06437
(203) 453–4223

- p–System for Kaypro 2 and 4

MicroPi
POB 5524
Bellingham WA 98227
(206) 733–9625

- Pilot; CAI language (source)

Micro Solutions
6305 Arizona Ave
Los Angeles CA 90045

- Caltax; California income tax

MicroStrategies
359 Village St
Millis MA 02054
(617) 376–4526

- Essential Pascal Aids; useful units
- ComLink; communications software

Micro Technology Unlimited
2806 Hillsboro St #12106
Raleigh NC 27607
(919) 833–1458

- p–System for MTU–130

Mindex Infosystems
81 Centennial Loop # A
Eugene OR 97401
(503) 485–5827

- System 1; database pkg.

Mitsubishi Electric Corp
Central Research Laboratory
Amagasaki Hyogo Japan

- Hardware (PLA) Pascal compiler

Molten Lava Software
POB 61024
Honolulu HI 96822
(808) 836–7844

- Accounting System; ledger, payables, receivables, payroll
- Inventory Management
- Property Management

Moose Systems
Steenbargkoppel 21
D–2000 Hamburg 65 Germany

- Moose; chess pgm
- MUXA68; 68000 Assembler
- 68TICID; Debugger
- PCON68; p–System interface for DTACK board

Morgan–Fairchild Graphics
4224–A University Way NE
Seattle WA 98105
(206) 632–1374

- Raven; aerial geographic graphics
- Ibis; video illustration system
- Eagle; video slide system
- ABC's Font Editor
- Micro Map II; map–making system

M.O.S.
484 Lover's Lane
Vacaville CA 95688
(707) 448–0592

- Text Formatter

Narragansett Software
40 Westminster St
Providence RI 02903
(401) 751–1000

- IBM PC <--> Apple file transfer

NEC Information Systems
Lexington MA
(617) 862–3121

- p–System for NEC APC

Network Consulting Company
A106–1093 W Broadway
Vancouver Canada V6H 1E2
(604) 738–3500

- p–System for Altos 8000, 8010 N* Horizon & Advantage, IBM PC, Victor 9000, Columbia Data, Compaq

Noesis Computing Company
615 Third St
San Francisco CA 94107
(415) 495–7440

- p–System for Intertec Superbrain
- Data entry application system

NorSoft Consultants
Veungsdalvsveien 1
3600 Kongsberg Norway
(03) 73–49–60

- M68000 disassembler

N American Technology
174 Concord St Strand Building
Peterborough NH 03458
(603) 924–7136

- Directory util.; (source text)
- Incremental backup system; (same)
- Report generator; (same)
- Communications utilities; (same)
- Graphics utilities; (same)
- Text editor; (same)
- Bar code util.; (same)

NMP
136 E South Temple St #900
Salt Lake City UT 84111
(801) 328–3200

- Timedate; intervals between dates & times

NorthWest ComputerWorks
2731 77 Ave SE
Mercer Island WA 98040
(206) 232–6343

- MONEYWORKS/GL; general ledger
- MONEYWORKS/AP; accounts payable
- MONEYWORKS/AR; accounts receivable
- MONEYWORKS/PR; payroll
- MONEYWORKS/IC; inventory control
- TALK; comm program with auto dial and answer
- A LA CARTE; menu generator for turnkey applications
- LISTING; Pascal pgm listing utility with indexing

NorthStar
1440 North St
Berkeley CA 94710

- p–System for NorthStar

Novar Associates
POB 265
Wallingford PA 19086

- p–System for Intel MDS

Oblong Software Products
19 Cedarleigh Rd.
Kenmore Queensland Australia

- Psort; sort/merge pkg.

Ohio Scientific

- p–System for C2, C3, C4

Open University Mathematics Computing Group
Darrel C. Ince Walton Hall
Milton Keynes Bucks. MK7 6AA
England

- SOLO; tool for maintaining module compatibility for separate compilations

Open University Mathematics Computing Group
Mark Woodman Walton Hall
Milton Keynes Bucks. MK7 6AA
England

- p–System for DEC System–20

Orbax Associates
2463 Old Washington Rd
Pittsburgh PA 15241
(412) 831–9216

- Interactive Computer Graphics; teaches physics

Organic Software
6049 Douglas Blvd #13
Roseville CA 95678
(916) 791–4747

- Datebook II; appointment scheduler
- Milestone; CPM project mngmnt.

Osborne Computer Corp
26500 Corporate Ave
Hayward CA 94545

- p–System for Osborne I, II, Executive

Osborne/McGraw–Hill
630 Bancroft Way
Berkeley CA 94710
(415) 548–2805

- MicroFinesse; financial modeling

Oshikiri, M.
Toyohashi University of Technology
Japan

- Switch–level simulator for MOS circuits

Owl Micro–Communications
The Maltings Station Rd
Sawbridgeworth Herts, CM21 9L4
England
(0279) 723848

- A.P.E.S; Viewdata frame editing
- Owl–Sycn 3780; or IBM 2780 emulation
- Owl–Term; terminal emulator
- Owl–Tel; Viewdata help facility
- Overview; Nestar networked Viewdata

Pacific Data Systems
6090 Sepulveda Blvd. #330
Culver City CA 90230
(213) 559–8713

- Personal Accounting System

Pantuc
POB 267
D 3392 Clansthal Germany
05323/7878

- p–System for Kontron PSI–80

Pascal & Associates
135 East Rosemary St
Chapel Hill NC 27514
(919) 942–1411

- Pascal Data Management System
- Scintilla; curve–fitting program for radio– immunologic data; for above
- ZED; full screen editor
- TPL; word processing
- MINT; terminal emulation
- CHROME; chromatography analysis
- PLANE; planimetry program
- DBX; single–level ISAM

==>> (all programs include source)

Pascal Designs
1415 W Casino Rd #111
Everett WA 98204

- PP; program formatter
- XREF; Pascal cross–referencer

Pascal Systems Inc
830 Menlo Ave #109
Menlo Park CA 94025
(415) 321–0761

- TDM; data management system
- TPG; program generator for TDM

Pascal Development
10381 S DeAnza Blvd
Cupertino CA 95014
(408) 357–4352

- p–System for Tektronix 8002(A)

Patient Care Data Systems
418 N Main St
Penn Yann NY 14527
(315) 536–7428

- Medoffice; medical office system

Paul Friday
3822 Gramercy St NW
Washington DC 20016
(202) 363–1897

- Hash File Handler; file access method

Paul L. Juell
1502 Symons
Laramie WY 82070
(307) 766–4226 742–8551

- Spell5; spelling checker

PCD Systems
POB 143
Penn Yann NY 14527
(315) 536–7428

- p–System for Terak, DEC MINC, LSI–11, PDP–11PDT, Altos 8000, TRS–80, KayPro
- CP/M <--> p–System file transfer
- TRSDOS --> p–System file transfer
- IBM 3741 --> p–System file transfer
- MicroEngine --> p–System file transfer
- Mailer; mailing list utility
- IMP; mathematical programming language
- NutriCalc; nutritional planning
- Disassemblers package; Z80, 6502, 68000
- PC–DOS Bubble; p–System under and PC–DOS file structure

P.C. Ware & Co
6947 Starstone Dr
Rancho Palos Verdes CA 90274
(213) 377–6316

- Discat; disk library manager

P–E Consulting Group, Ltd
Park House
Egham Surrey United Kingdom

- MicroFinesse; financial modeling

Pegasus Systems
8730 Flower Court
Arvada CO 80005

- Treedex; ISAM util.
- Accounting System

Peterborough Book Services
POB 458
Peterborough NH 03458
(603) 924–3843

- Pascal–S compiler/interpreter; with source

Philips Industrie GMBH
Triester Strasse 64
A–1100 Wien 43 222 645511
Holland

- p–System for Philips P2000/2500

Philips Laboratories
345 Scarborough Rd.
Briarcliff Manor NY 10510
(914) 762–0300

- Modula compiler

Pickles & Trout
POB 1206
Goleta CA 93017

- Formout; output formatter

PicoTera Systems
POB 1631
Corvallis OR 97339
(503) 754–0237

- TeraComp; 64–bit math library withtrig, matrix & dynamic arrays for Apple

Pinnacle Systems
620 Easy St
Garland TX 75042
(214) 341–8850

- p–System for Pinnacle

Poltrock, Dr. Steven E.1
Poltrock, Dr. Steven E.2
Department of Psychology
University Park
Denver CO 80208

- Apple Pascal Tester; psychological testing

Powersoft
POB 157
Pitman NJ 08071

- Pegasus; Database mngmnt. system

Pratt Medical Group Division of Clinical Decision Making
171 Harrison Ave
Boston MA 02111
(617) 956–5910

- Decision–Maker 3.0; advanced decision support system

Prentice–Hall
Englewood Cliffs NJ 07632

- Pascal for the Apple; tutorial software

Professional Data Services
70 Stetson Rd.
Ringwood NJ 07456
(201) 962–4875

- PDSRAM; keyed file access method

Professional Business Software
119 Fremont St
San Francisco CA 94105
(415) 546–1596

- Softcare; medical office pkg.
- Crank; convert CP/M BIOS to UCSD
- p–System for various hardware

Professional Software Associates
N 9515 Division
Spokane WA 99218
(509) 466–0396

- Practice Management System; for medical specialties

Proteus Design Corp
7510 Holly Hills #144
Dallas TX 75231
(214) 696–0568

- p–System for Intertec Superbrain

Ramtek Corp
2211 Lawson Lane
Santa Clara CA 95050
(408) 988–2211

- p–System for Ramtek
- Grafpro; graphics package for Ramtek systems

Relational Systems International Corp
5002 Commercial St SE
Salem OR 97306
(503) 370–8653

- Personal Pearl; application generator

Resource Systems Group
157 Thirteenth St
Del Mar CA 92014
(619) 755–1626

- Protime; client management system
- Financial Planners' Client Profile Program

Responsive Computer Systems
620 Haggard #612
Plano TX 75074
(214) 424–9990

- Client Accounting System

Reveal Software
380 N Broadway
Jericho NY 11753
(516) 935–2000

- Reveal Portfolio and Client Managment System

Sage Computer Technology
35 N Edison Way #4
Reno NV 89502
(702) 322–6868

- Multi–user p–System for Sage IV

Sage Software
1322 La Loma Ave
Berkeley CA 94708
(415) 843–0863

- Diff–Eq; uses graphics (Apple)

Savant Systems
3100 Airway Ave #103
Costa Mesa CA 92626
(714) 751–7081

- Loan Solution; amortize, compare, consolidate loans
- PV/IRR Solution; cash flow evaluation

SBProgramming
1615 Olive St
Santa Barbara CA 93101
(805) 965–1107

- Sprinter; s/w print spooler (Apple)

Scenic Computer Systems Corporation
14852 N.E. 31st Circle
Redmond WA 98020
(206) 885–5500

- SPRINTER–2; text formatter for daisy–wheel printers
- SPRINTER–3; text composition software for laser printers and phototypesetters
- SPELL; spelling checker with 40,000 word dictionary
- LaserText; turnkey text composition system
- ScenicMenu; interactive user definable menu(s)
- p–System for Scenic–ONE/68K computer

Schmidt, Ulrich
An Der Junkersmuehle 33/35
5100 Aachen West Germany

- Inter68; Version II.1 interpreter for DTACK 68000 board

Scholar Computer
POB 2204
Princeton NJ 08540

- Fermat; Lisp–like language

Sensible Software
6619 Pelham Dr
W Bloomfield MI 48033
(313) 399–8877

- Sensible Speller; spelling checker

Shai Microcomputers Ltd.
POB 3405
Jerusalem Israel
02–521111

- Miniac; Pascal code generator

Shakti Systems
POB 94543
Schaumburg IL 60194
(312) 885–0831

- Pegasus; database

Silent Butler
1423 E Alameda Ave
Burbank CA 91501

- Silent Butler; personal management system

SingleSourceSolution
2699 Clayton Road
Concord CA 94519
(415) 680–0202

- Student Record System

Sirius Software
2011 Arden Way #2
Sacramento CA 95825
(916) 920–1939

- Pascal Graphics Editor; (Apple)

Siro–Tech
6 Main St
Ogdensburg NY 13669

- Infotree; information mngmnt. util.
- Knights of Diamonds; game
- Star Maze; game
- Galactic Attack; game
- Wizardry; game
- Police Artist; game

Six 'S' Business Advisory Pty. Ltd.
30 Gheringhap St
Geelong 3220 Victoria Australia
(052) 222844

- Creditors & General Ledger
- Debtors & Inventory
- General Payroll
- Pascal Letter Setter; word processor
- Accounting for Medical Practices
- Insurance Brokers Management & Information System

Smart Software
9560 Black Mountain Rd
San Diego CA 92126
(619) 578–1058

- Turtlegraphics for Sage; with hardware

Smart Systems
499 Sulky Lane
Frederick MD 21701
(301) 694–8307

- SmartScreen; screen generator
- ScreenPrinter; screen –––> printer

SofTech MicroSystems
16885 W. Bernardo Drive
San Diego CA 92127
(619) 571–7181

- p–System – Universal Operating System
- UCSD Pascal
- Liaison – Network–enhanced p–System
- Insight Window Designer
- p–System for various hardware
- SofTeach; p–System tutorial

SofThink
400 N Washington St #208
Falls Church VA 22046
(703) 241–7761

- TurtleVectrix; turtlegraphics for Vectrix terminal
- S–Util; file handling utilities

SoftPak Associates
626 Venice Blvd.
Marina Del Rey CA 90291
(213) 822–1830

- Pascal Programming Tool

Software Connections
1800 Wyatt Dr #17
Santa Clara CA 95054
(408) 988–3704

- LAN: DataStore; networked database
- LAN: DataCore; Pascal interface for above
- Mail Monitor; networked electronic mail
- CEO/Timekeeper; appointment scheduling
- Classroom Monitor; multi–user teaching

Software Construction
10653 Caminito Memosac
San Diego CA 92131

- Native Code Generators for various CPUs

Software Consulting Services
901 Whittier Dr
Allentown PA 18103
(215) 797–9690

- EPICS; Executive Personal Information Computing S/W
- Bibliographic information system
- Personnel Analysis & Management System
- Personal Scheduler
- Document Tracking System
- Indexing Scheme; data retrieval
- Questab; research data tabulation
- Project Planning Tool
- Name & Address File
- Pascal Validation Suite

Software Express
2615 Miller Ave
Mt. View CA 94041
(415) 949–1118

- Pascal Utility Express Package; tutorial utilities

Software Institute
POB 2700
Huntington Beach CA 92647
(714) 268–4346

- The Mail System; form letters
- Compare & Update; file compare util.
- Fsearch; Hex search routine
- Crossref; for Pascal programs
- Compress; data compression
- Filedump; dumps file in hex and ASCII
- Scribe; text formatter

Software Products Int
5482 Complex St # 115
San Diego CA 92123
(714) 450–1526

- Open Access; integrated wp, dss, comm, scheduling, graphics
- Quest; database mngmnt. system
- Clothing Store Accounting System
- University Management System
- Medical Billing System
- Logicalc; interactive financial modeling
- ProCalc; advanced financial modeling
- ProGraph
- ProOp
- Database tool
- Advanced Database Tool
- Accounting system; ledger accs. pay. accs. rec. contracts rec. inventory

Software Publishing Corp
2021 Landings Dr
Mountain View CA 94043
(415) 962–8910

- Pfs; personal database (Apple)
- Pfs–Report; Pfs report generator
- Pfs–School Recordkeeper
- Pfs–Write; word processor
- Pfs–Graph; graphs for Pfs

Software Resources
186 Alewife Brook Pkwy
Cambridge MA 02138
(617) 497–5900

- Portfolio Accounting & Reporting System

Software Solutions
POB 301
Muscatine IA 52761
(319) 264–1384

- Medical Practice Billing System
- Accounting System; payable, receivable, payroll ledger, inventory
- Income Property Manager; cash management
- Real estate office software

Software Sorcery
7927 Jones Beach Dr # 400
McLean VA 22102
(703) 385–2944

- PITS; communications pkg. (Apple)
- PUMP; unit to control MicroModem
- Magus; electronic mail and bulletin board system

Solaster Corp
POB 16216
Seattle WA 98115
(206) 524–4287

- Spell; spelling checker

Sord Computer

- p–System for Sord M23

Sorrento Valley Association
11722 Sorrento Valley Rd
San Diego CA 92121
(619) 452–0101

- Application Protection System; piracy protection

Sorites Group
POB 340
Springfield VA 22150
(703) 569–1400

- Soritec Econometric Models
- MulitStat; statistical analysis

Southern Center for Research & Innovation
POB 1713
Hattiesburg MI 39403
(601) 545–1680

- Computer Assisted Order System
- Voter Management System
- Municipal Utility Billing System

Southwest Data Systems
POB 582–S
Santee CA 92071
(714) 562–6370

- P–Term; communication pkg.
- Utilities for Apple III

Statcom Corp.
5766 Balcones # 202
Austin TX 78731
(512) 451–0221

- CRTForm; screen format system
- InfoMgr; data entry and retrieval

State of the Art
3183–A Airway Ave
Costa Mesa CA 92626
(714) 850–0111

- Accounting package
- Sales Invoicing Module; for above
- Professional time and billing software
- Word processing package

Statistical Consultants of Lexington
462 E High St
Lexington KY 40508
(606) 252–3890

- STAN; statistical package

Steketee, Scot
High School of Science & Engineering
Philadelphia PA

- Pascal Maze; tutorial software for p–System Editor

Stellation Two
POB 2342–C5
Santa Barbara CA 93120
(805) 966–1140

- p–System for 6809; special Apple board
- Spooler; print spooler for above board
- A.S.A.P.; allows run–time packages to benefit from above board

Sterrett Consulting Inc
176 Broadway
New York NY 10038
(212) 619–3346

- footPRINT!; text formatter with footnotes

Stoneware Inc
50 Belvedere St
San Rafael CA 94901
(415) 454–6500

- DB Master; advanced database

Structural Programming
83 Boston Post Rd.
Sudbury MA 01776
(617) 443–5366

- Project mngmnt. system

Sunrise Software
1056 Chestnut St
San Francisco CA 94109
(415) 441–2351

- Tax Mini–Miser; tax planning (Apple)

Southwestern University Regional
Computing Centre (SWURCC)
Bath England

- p–System interpreter in C
- p–System under UNIX

SWI International Systems
7741 E Gray Rd #2
Scottsdale AZ 85260
(602) 998–3986

- multiuser p–System for Apple

Synergistic Systems Software
Cobble Hill Road
East Thetford VT 05043
(802) 785–4121

- Calendar; generates calendars
- Word–990; "boilerplate" document preparation
- Mail–990; mailing list s/w
- Credit–990; credit reporting for retailers
- Resort–990; short–term rental of resort properties
- Adapt–990; BASIC program generator
- Index–990; ISAM for BASIC programs
- Info–990; database system

Systemetrics
104 W Anapamu
Santa Barbara CA 93101
(805) 963–1268

- MMAS; McGraw–Hill medical accounting system

Tallgrass Technologies

- p–System interpreter for 68000

T&W Systems
18437 Mt Langley #B
Fountain Valley CA 92708
(714) 963–3913

- The T–Square; Computer aided design & drafting
- CAD Apple; graphics, training for above

T.C.C.
POB 9241
N Hollywood CA 91609

- H19 screen control unit

Terak
14151 N 76th
Scottsdale AZ 85260
(602) 991–1580

- p–System for Terak

TDI Ltd
620 Hungerford Dr #33
Rockville MD 20850
(301) 340–8700

- p–System for Victor 9000, Kaypro

Technical Data Corp
1 Post Office Sq
Boston MA 02109
(800) 343–7745

- Yield Calculator; for securities
- Fixed Income Portfolio Manager
- Rate of Return Analyzer
- Yield Curve Analyzer
- Bond Swap Analyzer

TeleSoft
10639 Roselle St
San Diego CA 92121
(714) 457–2700

- Ada compiler
- Embedded Systems Kit
- ROS; p–like system

Texas Instruments1
Texas Instruments2
POB 226015 M.S. 439
Dallas TX 75266
(214) 995–0614

- p–System for most TI machines
- FreeForm; interactive modeling

Thompson, JJ
281 Warren Ave
Kenmore NY 14217
(716) 873–0380

- UCSCOPY; UCSD <–––> CP/M under CP/M

Ticom Systems
13470 Washington Blvd
Marina Del Rey CA 20291
(213) 827–7118

- p–System for DEC Professional & Rainbow, TI, NEC, Xerox 820
- Office Management System
- Business Accounting System
- Construction Management Package
- Final Copy; text editor/formatter/report generator/calculator
- Dynaform; data entry/management and file access method
- Remcom; communications package

Timberline Systems Inc1
Timberline Systems Inc2
10550 SW Allen Blvd #114
Beaverton OR 97005
(503) 644–8155

- General Ledger
- Payroll
- Accounts Payable
- Accounts Receivable
- Inventory
- Spreadsheet Calculator
- ComputerActive Video; dealer package

Toolsmith, The
POB 22511
San Francisco CA 94122
(415) 665–1330

- Conversion programs between RT–11, HT–11, CP/M and p–System

Tom Gilb
Iver Holters Vei 2
N–1410 Kolbotn Norway
(472) 80 16 97

- Design by Objectives; design specification

Tronix/Monogram

- Dollars and Sense

202 Data Systems
1275 Drummer Ln
Wayne PA 19087
(215) 964–1170

- Tulip; database development environment
- Adam; travel agency software
- GAP; general ledger, payable, receivable, payroll, inventory

Type III
3021 Germantown Pike
Norristown PA 19403
(215) 539–0122

- Reps; record keeping for salesmen
- Wics; warehouse inventory and billing

United Telecom Computer Group
Information Products Division
San Diego CA

- Micro–Foresight; financial analysis

University of Edinburgh
England

- ENUF; relational database

University of Utah

- VCIS; Video Courseware Implementation System

University of York Department of Computer Science
Maureen Bulmer
Heslington York Y01 5DD England
0904 59861

- Prolog; predicate calculus language

U.P.P.E.R.
1372 E 52nd St
Chicago IL 60615

- Routines for business programs

Vermaak, Desire'
POB 3274
Pretoria 0001 South Africa

- PROLAN; block–structured language
- PROGEN; programming environment for above

VIMA Inc.
1305 Tompkins Dr
Madison WI 53716

- The Bibliofile; Bibliography card manager (Apple)

Visicorp Personal Software
2895 Zanker Rd
San Jose CA 95134
(408) 946–9000

- VisiSchedule; appointment scheduling
- VisiAnswer; terminal emulation

Visual Engineering
502 Mace Blvd #1
Davis CA 95616
(916) 756–6582

- 3–D graphics for Watanabe plotter
- AIP; Workstation communication s/w
- Graphics Development Kernel; ANSI GKS graphics
- ProChart; business graphics

Volition Systems
POB 1236
Del Mar CA 92014
(619) 481–2286

- Advanced System Editor
- Modula–2 Compiler
- p–System for MicroEngine

Wade, Dr Robert A
315 SE Valley Dr
College Place WA 99324
(509) 529–7165

- Grafpak; GKS–standard graphics software

Wadsworth Electronic Publishing Co
20 Park Plaza
Boston MA 02116
(800) 322–2208

- Statpro; Research statistics
- Plotmod; Statistical plotting

Wang Laboratories
Bethesda MD

- p–System for Wang Professional

Watson, Mark
535 Mar Vista Dr
Solana Beach CA 92075

- Pascal utilities
- Assorted games

Western Digital Corp.
2445 McCabe Way
Irvine CA 92714
(714) 557–3550

- p–System for MicroEngine
- MicroAda compiler

Western Software Developement
POB 953
Woodland Park CO 80863
(303) 953–9456

- Statpack; statistics and math utilities
- Spellpack; spelling checker

Westware
2455 SW 4th Ave
Ontario OR 97914
(503) 881–1477

- The Ledger
- Payroll

Wheaton Info Mgmt Systems
6723 E 66th Place
Tulsa OK 74133

- Antfarm; game for teaching programming

Wilbur–Systems Enterprises
5212 Inglewood Lane
Raleigh NC 27609
(919) 787–3509

- QText; text formatter

Wintek Corp
1801 South St
Lafayette IN 47904
(317) 742–8424

- p–System for Sprint–68

Wisconsin Microware
One South Park Street #220
Madison WI 53715
(608) 255–9020

- AgPac; agricultural s/w

Wize Buys
POB 1588
Orem UT 84057

- The Pascal Toolkit; graphics utilities

XIPHIAS
233 Wilshire Blvd. #900
Santa Monica CA 90401
(213) 399–3283

- Videograph; TV and slide illustration system

Xycom
750 N Maple Rd.
Saline MI 48176
(313) 429–4971

- Industrial control applications

Zenith Data Systems
Hilltop Rd
St Joseph MI 49085
(616) 982–3650

- p–System for Heath/Zenith H8, Z89, Z100

Ramdisk Interaction

by: **Herman Euwema**

DTruck introduced a simple benchmark on us.us Tmail, 10/28/83, that measures "interactiveness" or, simply, interaction, including memavail, the shortage of which results in excessive swapping at best, and blown stacks as the nastiest interaction imaginable. For software system comparisons that could be applied to prospective hardwares and their bios systems, it would be useful also to state the latter as:

```
Pas_bytes = Bios_address - (2 * memavail), rounded.
```

DTruck's comparison actually seems between the whole II system of Volition Modula 2 and the whole various IBM PC IV.1s having the NCI interpreter and bios, so he was asked if had ramdisk. On 11/3 he reasserted the system software used and stated that there were no II interpreters for ramdisk to compare. But by that time I did have II up on ramdisk, and I've been integrating it into my whole system and thinking out the general implicationss since, whence this article.

I entered his program into standard editor, rather than his ASE, then Quit to Update it to a System.Wrk.Text and then Xecuted i="e,qur," if IV.1 else e q u r by hand in II. Time integers, taken from a digital watch, are 1 more than the smallest commonly observed.

for II

```
program test;
begin
  writeln (memavail);
end.
```

for IV.1:

```
program test;
begin
  writeln(varavail(''));
end.
```

The Scholar Computer:	Edit	Edit-Compile-Run	Pas-bytes	Mem/Var_avail words
8" Single Density (SD)				
2:1 skew 6 format (UCSD_SD)				
II	11 sec.	23 sec.	17400	22000
IV.1	79	243	20600	20400
6:1 skew 0 format (CPM)				
IV.1	34	102	18900	20500
8" or Sony, Double Density (DD)				
II	10	20	17500	21200
IV.1	20	62	20500	19700
Ramdisk, 4 Mhz.				
II	2 (1.2est.)	4	17700	22100
IV.1	7	22	20900	19500

200 block file Transfer:

Ramdisk to DD disk	
II	13 sec.
IV.1	16

Ramdisk to Console	
II	31 sec
IV.1	51

Observations

Neither IV.1's state of memavail, if measured, nor size of Interp or Pascal, nor Quiet, affected any readings predictably.

The bios used for SD 2:1 is stripped down for maximum speed.

A 3.5" Sony has the same 62.5K bytes/sec transfer rate as 8" disk, twice that of DD 5" drives and other Sony and similar "5 plug– compatibles". For an individual bringing up IV.1 on any CPM machine, the important finding is that SD can run IV.1 about as fast as DD in spite of this, if the DD uses a CPM type complex deblocking bios (in the SC in order to be CPM 2.2 compatible and to get message size Pascal Physical Sectors). (62.5K matters for the large ram/disk moves at power up/down, to give speeds about 5 times the DD shown). So DD has just the (considerable) convenience of denser storage, which is not measured here, and not determined merely by being DD, as in the Sony.

That means the IV.1 can be run on the many powerful CPM 2.2 machines if running in the SD mode that they all provide in order to communicate files using the CPM standard 6:1 skew 0 standard. Their bios will generally not be fast enough to handle university UCSD 2:1 skew 6, but is sure to handle 6:1, whose 95 seconds is only a little more than the 80 seconds DTruck reports of the NCI optimized 64K IBM PC. If the individual bringing up IV.1 uses the Softech supplied DISKCHANGE program on the IV.1 files supplied as 1:1 and tests 5:1, 4:1, etc., he

will very likely find that his bios will do somewhat better than 6:1. Then his data in the above test would look like this:

```
                Edit                Edit-Compile-Run
-------------------------------------------------------------------
    x:1 skew 0 format, SD
      IV.1    (x/6)(20-7)+7     (x/6)(95-22)+22 for some x =3,4,5,6
```

I haven't tried this on various other machines, but actually it is just what Softech instructions say to do. CPMers who have IV.1, and only think in terms of DD, and found that too much trouble, might come to appreciate the many resourses of IV.1 if good SD interaction were reported by some comparison measure such as DTruck's benchmark.

Ramdisk is so much faster than disk, relative the ratio shown above, that ramdisk timings can be considered to be residual Pascal execution time (PEXEC), and can then be subtracted from those above them to yield bios hardware disking time (HDSK), and so effect a separation of the two for analysis.

To the separation idea (SEPR), and to the fact that IV.1 is just about as fast as II in ramdisk big block transfers (BBT) to DD, I want to add the unexpected evidence that IV.1's Z80 Interp actually RUNS faster, i.e. fetches faster, and executes at least some p_code as fast or faster, than II's Interp (called Micro in II). From this we can try to figure out where the slow interaction of IV.1 comes from, and if it a limitation for future ramdisking.

Any mostly–executing benchmark would do, so I'll do the 9/81 Byte Sieve again and keep the same method and format, one test each:

```
The Scholar Computer:
              Edit          Compile        Run
-------------------------------------------------------------------
8" Single Density (SD)
   2:1 skew 6 format (UCSD_SD)
     II         12 sec.       12 sec.      183 sec. (Byte gave 239)

8" or Sony, Double Density (DD)
     II           9             11           182
     IV.1        18             42           161

Ramdisk, 4 Mhz.
     II           3              4           183
     IV.1         9             26           163
```

So, of course, ramdisking has no effect on pure computing execution, but we have a little more information about how ramdisking affects jobs of a little more substance.

Overall, we see that we have got to break PEXEC down, i.e. into at least two parts, to start, so the whole is:

A. The SEPR idea that puts HDSK apart

B. The PEXEC that needs to be subdivided:
   1. CPMIO, of the Interp that computes and orders Track and Sector
   2. RUN, which fetches p–code and interprets it in Z80 language.

We see from BBT that IV.1 does about as well as II in the inner loop where it has starting Track and Sector and just must increment sector until secs/trk and then increment Track until done. So the next thing for the SC to test is to break up the 200 blocks into smaller and smaller unitwrites so those starting computations are multiplied, until at some level between CPMIO amd RUN, we will see that 6* decrease in speed occur.

Then, when we look at how II differs from IV.1, we see it is the ADAP *to any parameters* passed of IV.1, that Softech also added to II about 2/80, according to an article in Microsystems magazine of 9,10/82, p64+. It would be interesting to learn if that slowed II down as much.

Softech makes provision for overcoming this. For only about two or three times the cost of a IV.1 system, one can buy the source for Interp and, I believe, based on this evidence, reduces the interaction of IV.1 to that of II for a specific machine (except for a factor of two for the compiler, always swapping in IV.1, but always not–swapping in II unless one wants it).

In order to populate all the wide spaces of memory opening up, we need to communicate across them. On the one hand we have IV.1 which clearly never forsaw ramdisking and has a monstrous ADAP to waste time at every Move, and on the other a dead language, II. Actually, we need a global language and local languages.

II seems a tremendous waste of an educational and experimental resource. I called Softech several months ago to ask if CPMADAP was available, since it was only experimental in 2/80. I went through several layers of tech support people, all, as always, trying to be helpful. Finally, the last person said, "No one can remember II, it's just .... (long pause for the right word).. gone".

The strangest notion I had in ramdisking II was that it might be "wasted FAST". After all, we are talking about user interaction, not machine speed. How are they different? Ramdisk doesn't make a Z80 RUN any faster.

What can we trade "excess FAST" off for?

In making VI.1 reach, say, II's 2 second interaction at 8 Mhz, with not much difference in varavail from the various brute cpu, the Z80 still holds most of the promise of super machines via simultaneous processing. It is of a size that can be imagined in, and dealt with experimentally. In addition, one wants, in order to deal with complexity, as in Lisp, the smallest fully functional unit to be the unit replicated.

ASE Column #3: Using ASE Function Keys

by: **Richard Karpinski**

Transpose, upDate, Citation

Volition's Advanced System Editor (ASE) is a descendent of the popular screen editor native to UCSD Pascal. In addition to handling files of unlimited size, ASE exhibits many other improvements. Perhaps the most interesting new feature is the provision for user defined function keys. When a function key is loaded with a sequence of ASE commands and data to be executed by a single command, it is said to hold a macro–instruction. These macros are the subject of this series of columns.

Column # 2 reviewed the text form of macros at some length, suggesting a style of documenting macros for publication. This column brings you a few ASE macros, collected from here and there, with commentary written in that style. The first line of each macro, for example, shows resources used, ASE version, macro author, and date, all within the comment marks used for ASE macros.

This following macro (Figure 1) is not supposed to make sense, but rather to tabulate and illustrate some features of text forms used in today's column. Each line has a single macro construct on the left and a large comment on the right.

```
                |{  uses f2  ASE 0.9e  R. Karpinski  13 Nov 83  (standard header info) }
|s~             |{ Real spaces will be shown as "~" so that they can be seen easily     }
                |{ A real space; other spaces merely aid readers, use them freely       }
|{x}            |{ A comment for human readers; think of those who have to make changes  }
|"T"            |{ Title; shows in a prompt line, hints about the purpose of the macro  }
|x              |{ Auto execute; invoke this macro as soon as it is taken up into a key }
|e              |{ <etx>, now <acc>, the ASE <accept> key; completes an insert/delete   }
|!              |{ <esc> (leaves copy buffer filled); avoids the insert or delete       }
|*              |{ Takeup the (text form) macro at cursor into a function key for use   }
|n              |{ Newline (or carriage return); used in entering file or marker names  }
|b              |{ Backspace moves one space backwards                                  }
|f2             |{ Function key 2; used for invoking its macro or selecting <f2>        }
|.          <-- End of macro, don't use comment here (see, below).
```

Table of Terms

In using any macro, one usually loads it into a function key with the <takeup> command. Some constructs like the spaces specifier (|s~) and title (|"Name") have their effect here at takeup time. The others become characters (or character sequences) in the function key. Then when the function key is used, by hitting a key if your keyboard has enough, or by hitting a sequence of keys, or by use from another function key, those characters come tumbling out. Some are seen to be commands, some become the data sought by find or entered with insert.

Since clarity is the issue in presenting macros, the first rule is to use all available effective means to show what is going on. Comments can help both novices and experts. They take no room in the function key so you may be as expressive as you like, without penalty. The takeup process ignores comments.

The title is another kind of comment which can suggest when to use the macro. It shows up on the fifth or sixth variant of the main prompt line, when you hit "?" often enough. Titles are otherwise ignored at takeup time, leaving no further trace. Still, the title remains in the text form of the macro in your document. At the front, it serves as a label here too.

Spaces, on the other hand, are considered significant unless the space specifier has already appeared. This applies to spaces between other characters on a line, not to the indenting spaces at the front of each line. Thus another rule is to use "|s~" early in each macro. The cost of breaking this rule is seen in odd "off by a little" confusions and/or macros that are hard to read.

Even when you follow the rule, you must not comment a terminator (|.). Someday, it will be followed by another macro to be taken up next. When that day comes, the comment will be seen for the first time and will be ignored, but any spaces between the terminator and the comment will be significant! They will become the first characters of the next macro.

The last construct to discuss here is the auto–execute flag (|x). If this appears anywhere in a macro, the macro will be invoked as soon as it has been taken up. Auto–execute is used to extend the utility of two other ASE features. By default, the function keys are preloaded with [TakeUp] [F1] and so forth. Thus, when you use [F1] at

the beginning of a macro with an auto–execute flag, the macro can take off and accomplish some task without further user action.

The mere presence of a marker named $PROFILE is enough to trigger the automatic takeup of F1. Therefore, one sets that marker at the front of some macro, if one sets it at all. Often, the macro uses the auto–execute flag to proceed to load up several other macros into function keys. Another use, automatic date maintenance, appears in the upDate macro below.

Enough of this talk about macros, let's see some.

Transpose

The idea of macros is to make life easy for ourselves. First, a nice one just contributed (in a slightly different form) by Max Nareff. He attributes the idea to Beaman Porter's "Powertext" word processing program.

```
                        |{          uses: copy buffer   ASE 0.9  M. Nareff  1 Nov 83 }
|"Transpose"|s~          |{ Correct transposition error like "thne" or "teh"          }
d ~ |e                   |{ Delete one char & accept; gone from text, in copy buffer }
~ cb                     |{ Forward one space, copy buffer (puts deleted char back)  }
|.
```

Transpose macro

Notice that the first thing actually loaded into the function key is the d to start a delete command. The space (~) moves forward, deleting the character at the cursor, and the Acc, (|e) completes the deletion. The character deleted is now in the copy buffer. The next space (~) moves forward again, and the "cb" inserts the contents of the copy buffer back into the text being edited. Perhaps one day the Acc will be represented by "|a", but Acc used to be Etx until quite recently so "|e" made good sense.

upDate

Now, a favorite of mine from Randy Bush. This remembers to change the date each time the document is modified. Because this one should be automatic, we set the marker $PROFILE at its start. Thus, the text form will automatically be taken up into function key 1. When this happens, the auto–execute flag (|x) makes it execute too.

The general idea is to go to the place where the date is recorded in this document and write the new date over the old. Since F8 has today's date, we need only use exchange mode and invoke F8 once we get to the right place. To make things easy, a marker ($D) is presumed to be set at the first character of the old date.

```
                        |{   uses Tag, <f8>, <f1>      ASE 0.9  R. Bush   1982        }
|"upDate"|s~            |{ Title the key, tilde for real spaces                        }
|x st                   |{ Execute on takeup, set tag (easy marker) to jump back here }
jm $d |n                |{ Jump to marker $D where date is kept (newline ends name)   }
x |f8 |e                |{ Exchange, today, accept (today is in <f8> on entry to ASE) }
jt |* |f1                |{ Jump to tag (after "." below), takeup <f1> from next lines }
|.

                        |{          ASE 0.9  R. Bush   1982        }
|"jb"|s~                |{ Title it, tilde for space                }
|x jb                   |{ Auto execute, jump beginning             }
|.
```

Macros upDate and jb

When the document containing this macro is edited, and $PROFILE marks the start of the upDate macro, the cursor is automatically moved there and TakeUp F1 is executed. This loads up F1 with the upDate macro leaving the cursor just past the "|." which terminates the text form. At this time, beca use of the "|x", the macro is executed.

The first real action of the macro is to set the tag where the cursor is, just after the "|." since the macro has just been taken up. The tag is just a convenient marker, like any other except that it takes only two keystrokes to set it. Then the macro jumps to the marker $D already set at the front of the old date.

To change the date, first we enter exchange mode. This lets us type right over old text, replacing it thereby. Now we can just invoke F8 which holds today's date (we presume that the system date is kept current). Now the characters in F8 slip silently into place where the old date used to be. The deed is done; only "|e" is needed to accept the alteration.

Having changed the date, we enter into the realm of the polite goodbye. This macro is expected to be executed at start of edit for some document. There might be other things to execute in turn or other macros which would be more useful in F1. To be polite, and thus immediately useful in several contexts, this macro returns to its own tail and takes up F1. Since the macro itself resided in F1, it has now gracefully passed into history, leaving no trace but the newer date at $D.

Already, there may be problems. This use of $PROFILE can be annoying the third or fourth time it does this little dance on the same day. When you know it's about to happen again, because you just selected the file on another trip into ASE land, you can put ASE at ease by adding an equal sign to the name of the file. This is really

just the short form of specifying the marker to use instead of $PROFILE. Giving no name aborts the automatic [TakeUp] before it begins. Ahhhh.

Getting back to the macros themselves, you may notice that these text forms are designed to instruct readers. The same macros could be written rather more briefly if designed only for personal use. Note, however, "publication form" costs very little and helps a bunch. Think of relearning some macro to modify it a year or so later. Even so, let's look at a more compact representation. The minumum form with exactly the same meaning would be shown as:

```
|xstjm$d|nx|f8|ejt|*|f1|.|xjb|.
```

If you were to put the cursor at the beginning of this minimal form and takeup [F1], the first macro would be loaded into function key 1 and then it would invoke the macro once, as if you had typed in the commands yourself. This would change the date at marker $D and then load up the second macro into the same function key.

So if you want to see this macro while it is loaded into a function key, you can put the cursor in the same place and takeup [F2] instead. Then both [F1] and [F2] will have new values. The copy command followed by [F1] and repeated with [F2] (the first [F1] in normal use) gives:

```
jb|.

stjm$d|n
x|f8|e
jt|*|f1|.
```

ASE puts in newlines at |e = [Acc], |! = [Esc], and |n = [Ret]. The results look surprisingly like the left sides of the publication forms of these macros. Feel free to use the copy command with any function key to help make sense of a macro. Even macro jocks do it just to check on the status of macros being built. I use it as a start toward making a publishable macro.

Citation

This next one from Randy uses the nested edit feature of ASE to take you on a predetermined ride to another file. You're supposed to be able to get back on your own. You could use a macro to reduce the task to a single command by setting [F4] to "QEY", but the point of diminishing returns draws nigh.

Again the copy buffer is used, here to load a function key to remember the name of the file to edit. (ASE text never dies, its just in the copy buffer.) Anyhow, the copy buffer is a valuable resource for macros. Use it often.

```
|"Citation"|s~

st l i ~ |e
jt d g ~ |!
|* c |f7
l d |b |e jt
e |f7 |n
|.
```

```
{ uses cb, <f7>      ASE 0.9  R. Bush  1982   }
{ Citation E(dit Invocation                   }
{ E(dits file at whose name the cursor rests  }
{ Set tag, lineend, insert a space, accept    }
{ Jump tag, delete to space, escape           }
{ Takeup copy buffer into <f7>                }
{ Lineend, delete previous, accept, jump tag  }
{ Edit the file whose name we have captured   }
```

Citation follower macro

First, we take note of where we are with set tag. Then we prepare the line by adding a blank at its end. Returning to the place of the tag, we grab the citation into the copy buffer by pretending to delete every character up to the first blank, but escaping instead. Now we transfer the citation to [F7] and clean out the space we inserted before.

Returning for the last time to the front of the citation, we issue the edit command, using [F7] to supply the name of the file to edit and supplying the newline explicitly. This allows the citation to give (or skip) a volume name for the file and even to specify what marker to use for the automatic takeup function.

Naturally, when you finish making a macro like this, you get to build documents that refer to any number of other documents. As long as the references are phrased with legitimate file names, and the cursor is at one, a single command will take you to the file. Thus whole libraries of related files can be organized with a "smart" table of contents.

HINT A filer list command "L#4,list.text" is a quick way to build a correctly spelled collection of file names. In a later column, you may see a variation on this for organizing large libraries of macros.

Enough. The next column will show an actual example of a macro used in ASE source code itself. It updates a whole list of constants using an adjacent table where each column represents a different version of UCSD Pascal.

These columns are written to assist and amuse you. Without your feedback, you can be assured that they will wither and pall. Please, therefore, send your comments, questions, suggestions and your favorite function key definitions to me at:

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Enhanced 68000 Native Code Operation

by: **Bill Bonham, SAGE Computer Technology**

Jon Bondy has written an excellent paper entitled "Native Code Generators Evaluated" which was posted on the Telemail (US.US) Bulletin Board and will probably appear in the USUS Newsletter. He observed a previously expected fact that some p–codes actually cause a program to slow down rather than speed up when they are converted to native code. The new information that Jon's study provided was that the extent of the slow down exceeded the expected degradation which should have occured when switching back and forth between p–code and native code.

Jon's interactions with Steven Pickett uncovered a probable cause which indeed turned out to be the culprit in the excessive slow down problem. The saving of register A5 and the associated Quiet and Enable operations were the major cause of the overhead in switching back and forth between p–code and native code.

Steven speculated that A5 was probably unused and that it did not need to be saved. A check with Softech and with the author of the Native Code Generator software confirmed the speculation. Also several other instructions were found to be unnecessary in the native to p–code switching sequence. Measurements have been taken on a newly modified interpreter which implements the discovered simplifications. Below are shown the results for the benchmark routines in which the native code previously took longer than the p–code. Note that in many cases the New Native code results are now faster than the interpreter. The worst case is a 14% time increase for a procedure call.

	Interp	Old Native	New Native	New Native vs Interp
9. real increments.	0.188	0.291	0.176	0.94
10. real adds.	0.189	0.417	0.187	0.99
11. real multiplies.	0.208	0.436	0.206	0.99
12. real divides.	0.232	0.459	0.230	0.99
15. real transfers.	0.054	0.163	0.047	0.87
18. real record transfers.	0.063	0.163	0.047	0.75
20. real if comparisons.	0.132	0.360	0.130	0.98
22. procedure calls.	0.115	0.245	0.130	1.13
23. procedure calls integer parameter.	0.124	0.247	0.133	1.07
24. procedure calls real parameter.	0.141	0.260	0.145	1.03
25. procedure calls a local variable.	0.114	0.245	0.130	1.14
26. set unions.	0.382	0.727	0.382	1.00
27. set differences	0.382	0.729	0.383	1.00
28. set IN's.	0.184	0.394	0.164	0.89

Measurements were made with 2 word reals as per Jon Bondy's previous data. Instruction time values are in milliseconds.

Another observation that I have made is that Range Checking causes a drop back into p–code to use the CHK p–code instruction. Range Checking is always used on array accesses to check the index value unless the {$R–} option is used. Following are results for the integer and real array tranfer benchmarks.

	Interp {$R+}	Interp {$R–}	Native {$R+}	Native {$R–}
14. Integer array transfers	0.189	0.118	0.018	0.010
16. Real array transfers	0.202	0.130	0.180	0.059

SAGE expects to release the enhanced 68000 interpreter in October 1983. Note that the actual Native Code Generator program (CG.68000.CODE) has not been changed.

I would like to thank Jon Bondy and Steven Pickett for their help in identifying the Native Code performance problem. Due to their persistence the p–System community now has a better product.

– B. Bonham, Sage

What we should be doing to take the p–System into 1984

by: **Stephen Pickett, Network Consulting Inc.**

USUS meeting, Washington, D.C, 12–16th Oct.

This is not intended to be a blow–by–blow account of the above meeting, which will be available no doubt from Winsor Brown's transcripts, I hope, but rather just a few ideas and impressions from one attendee. (blah blah blah not intended as a statement of NCI or editorial policy, no references to persons alive or dead blah blah blah).

One of the depressing facts for me at any rate, at the USUS meeting was the complete preponderance of Sage users in the meeting. (I always like to be contro– versial, so here goes...) Please don't misunderstand me, anyone from Sage, you gave the other folks a standard of excellence to aim at. But the vast majority of p–System actual users are IBM PC– based. This seemed fairly reflected at the last USUS general meeting in San Diego. Is this because IBM users have grown tired of waiting for USUS to produce the goods? Or have they simply all bought Sages? I am eager and waiting to hear from everyone on this score.

An unnamed acquaintance of mine remarked perhaps that the Sage might turn out to have sounded the death–knell of the p–System. Before you strangle me, read on to find out the intent of his point rather than take its topsy–turvy meaning too literally. The p–System was designed specifically with the aim of allowing programmers with limited access to hardware, to perform six impossible things before breakfast(namely cramming several gallons into a pint pot). Indeed, the same friend was told by his Computing Science prof that "there's no way you'll ever get Pascal onto one of these microcomputers". And this in 1977, barely months before UCSD's principal achievement, namely doing precisely that. What has happened recently is that many people, INCLUDING THOSE AT SOFTECH, have gotten so tired of waiting around for their Prune II's that they have all gone out and bought Sages.

Now a Sage is very nice. In fact extremely nice. Let it be said that the "NCI" fast interpreter only got written because there was a Sage which didn't mind compiling 7000 lines of code every five minutes or so. But when applic– ation developers and system developers use such a machine for development, they fall into the trap of assuming that their latest mousetrap will run well on a machine with more limited capability. Usually, God bless Boca Raton, the IBM PC. And, unless they are NOT talking to the people in the "real" world who use such software (anyone reading this doesn't count as the real world), they quickly discover that their program isn't adequate any more. At this point one of two things happen:

- They get smart and fix up their program so that it lives with the IV.0 p–System instead of fighting against it. I have seen anything up to a factor of 10 difference, on one piece of iron.
- They blame the p–System("we're application developers, why should we worry about that"– just ask John Page of PFS, he'll tell you why), and proceed to attempt to convert the program to MSDOS. Very often they fail, too, since the very program which didn't run too well under the p–System didn't run at all under MSDOS Pascal, or, worse still, didn't compile or didn't link.

By the way, the third thing which happens is that since the p–System is perceived by the CUSTOMERS to be the principal reason why the package runs so *SLOWLY* (after all it does take about half a minute to boot up, doesn't it), they go and get a version of the p–System which runs under MSDOS, and although the program is running the p–System (and definitely running it slower than if DOS wasn't in the way), they can go to their marketing types and say the magic words "MSDOS–compatible". And in time, the program probably takes advantage of some of MSDOS's tricks, and winds up a real hybrid which is portable to nothing, not even a Sage. But that's the next chapter of a history which is only just being written.

Anyway, to get back to the main stream of my hypothesis here–good programs of any description make the best use of the computer on which they were inten– ded to run. (Sure, you need a Cray for some things. Most of the people who I am criticising would waste the power of a Cray if they had one!!) In this case, the p–machine. And before Barry Demchak blows his loud trumpet about how Version II is better than Version IV, he should stop and consider that the Sieve of Eratosthenes (a well–accepted benchmark for those of you who haven't followed these things) runs EXACTLY twice as FAST using Version IV p–code generated by the Pascal compiler as it does with Version II p–code generated by Modula–II (both on IBM PC at the same clock rate). Admittedly, I was giving myself the best chance and using the fast interpreter that took me six months to write, while his interpreter apparently uses an algorithm which had its origins in France, (perhaps IBM had better come out with a French instruction set, Ooh La La! = MOV AX,FFFF ?, in addition to a French keyboard, the better to inspire would–be programmers), BUT THERE IS NOT THAT MUCH WRONG WITH THE IV.0 P–MACHINE. Barry doesn't agree with me here, as he obviously discovered when he came to write parts of the IV.0 operating system, but we at NCI (sorry, commercial) made that twice as fast, too, in the crucial sections.

The way to take advantage of the p–machine is to figure out a little about how it works. A short description of the difference between intra–segment and inter–segment procedure calls would do as much to help the aspiring speed freak as a discourse on the

difference between "near" and "far" calls on the 8086, for example. Here is not the place for that, but I have yet to see a program which the authors claim bad performance for on the p–System, which couldn't be speeded up by a factor of 2.0 by just considering such things.

As to the business of using a large machine to develop for a small one (i.e. a "large" Sage for a "small" IBM PC – No, Verlene, there isn't a Santa Claus, just the International Brotherhood of Magicians – life is so unfair!) there is one other factor in our lives as p–System developers that you should know about. Softech has been doing the same thing – namely using the Sage as a principal development tool. The guys in the maintenance department all have IBM's since that is what most bugs get reported on (we system implementors are always very lax at reporting bugs, we usually find a workaround and learn to live with it). Of course this is backwards!!!!! So all the products coming from SMS's advanced development department have been developed on a Sage, or, worse still, with the architecture of a Sage(68000) in mind. And it is too late by the time it reaches those guys at SMS with _only_ IBM's, the design is already frozen. This didn't happen with IV.0, as the number one machine was still the Z80, but it has already happened with the Advanced File System, and is about to happen with Version V (VLM as they insist on calling it. Heck, it WILL be Version V. By definition, if you change the architecture, which is the whole idea).

The other depressing thing was the (not very surprising) degree (=0) of unanimity at the Technical Issues Committee. I suppose that this is the nature of the beast, since if an item is not an issue, then it doesn't get brought up. I mean, the attendees all presumably quite like working with the p–System, and there is no disagreement about that. It's not even mentioned! But when a dozen or so technically minded people get together to discuss something which Softech has even given its official blessing for them to discuss, namely the user– interface question, then it seems pretty stupid to spend a lot of time complaining about SMS, and how their screenops concept ruined everything from the operating system to Fred Blogg's windowing package. The point is not whether there is anything wrong with the world, but whether as a group of individuals, they can get together to do something about changing it. I was stupid enough to stick my head out from the mushroom bed, all ready to be chopped off, by suggesting that we acknowledge the existence of windows, both at an application level, and at a BIOS level(or even actually in hardware), and try to provide some minimal hooks in this software so it might actually be useful instead of always two generations behind. I was shot down (cut off) royally, mainly for not having hard copy of it, but also for not explaining what I did already put up on telemail. So here it is..

Before signing off, I think that there are signs SMS is doing most of the things that I demanded a year ago, (finally published in this organ previous issue namely a big clean–up. IV.13 looks about the solidest version of the entire package yet. All my "favourite" bugs have been fixed. Even that one in the linker which generates "address exception" on the Sage and brings the entire p–System down when you type a file name in answer to the "Map name ?" prompt. Very annoying that was in November 1982! But it is also true that the changes about to be introduced into the p–System will make it or break it. I just hope those users who determine the market place are the ones who gets asked most often and most attentively what changes they would BUY.

And now to CONOPS, for that windowing stuff I got so chewed up about. Now perhaps you'll all see why. I promised this lot to Arley Dealey, sorry it has been so ridiculously slow but life has been pretty grim down in the Canadian salt mines.

```
unit CONOPS;

  const
    Max_window = 10;

  type
    w_prio_type = -1..Max_window;

    w_indowrec = record
      CUR_X, CUR_Y: integer;
      OFFSET_X, OFFSET_Y: integer;
      SIZE_X, SIZE_Y: integer;
      CANUPSCROLL,
      CANDOWNSCROLL: boolean;
      LEFT_TO_RIGHT: boolean;
      WINDOW_PRIO: w_prio_type;
      MEMOFFSET: array[0..1] of integer;
      W_EXPANSION:
        array [0..5] of integer;
      end (* w_indowrec *);
```

CUR_X, CUR_Y are window–relative values for the cursor position (ALL these integers, as in SMS's SCREENOPS, are zero–based).

OFFSET_X, OFFSET_Y, SIZE_X, SIZE_Y describe this window's limits and origin relative to the real physical display.

CANUPSCROLL, CANDOWNSCROLL are as in current E(ditor but relative to this window only. For example on many SERIAL CRT's, the main display window can scroll easily in either direction, but someone using windows smaller than the main one might choose not to allow proper scrolling on such a device. The application software would then be faced with the problem of what to do given that this window could not scroll.

LEFT_TO_RIGHT is intended to be an attribute rather than a capability of the current window, and is useful for those who live in Israel and other places where they write backwards.

WINDOW_PRIO is a fudge factor whereby the level beneath the CONOPS software decides whether to actually display this text in preference to that of another window, IN THOSE AREAS where they overlap. – 1 would be reserved for the operating system and might have special properties, such as appearing in precedence to everything else, but only for some special period of time, then disappearing.

MEMOFFSET is a concession to those MANY users I have come across who sinply HAVE to diddle display memory directly, usually for reasons of speed. It allows the implementor to provide these people with a hook (a 32–bit pointer to the display memory) by

which they can avoid hardwiring absolute addresses into their software, and could conceivably (although this presumes supernatural knowledge about the innards of the display) figure out some sequences of operations which would work no matter what the windowrec.

W_EXPANSION is the usual trapdoor for things we haven't thought of yet. This way the record has the greatest chance of not changing its SIZE for its entire history.

And now, some variables:

```
var
  W_REC: window_rec;
  (* The current window, like SMS's
  current "text port"*)

  MORE_WINDOWS:
    array[1..maxwindow] of ^windowrec;

(* Don't collect masses of them, but
allow them to be new'ed upon the Heap
as required. This should ease the
burden of variable size on people
with simple small machines who don't
want to mess with all this ... *)
```

The idea would be that someone at a high level(the guy who decides which job has its output written to the screen, and where) would arbitrate between different windows and know about the extra windows when necessary. The Conops unit would only use the current window, so perhaps the extra ones would simply appear in WINDOW_OPS. However, until "WOPS" appears, there's not much point in having windows at all unless the O/S can switch easily. This the current pressing deficiency in using SCREENOPS right now is that it is an awful chore to clean up everything at window–switching time(e.g., SYSCOM^.CRTINFO.HEIGHT). Therefore, the more variables associated with window–control we can put in one place, the better chance a single piece of software (the O/S for example) has of being able to manage the whole lot cleanly.

– SFBP, 14th November, 1983

P.S. I must confess to some hypocrisy about saying that fast machines should not be used for development, as I now have an Eagle 1600. This machine is 8MHz 8086–based, and with an 8087 that I coaxed out of Intel beats the 68000 hands down on all the floating point bench marks. On the non–8087 it comes within 10 percent of the Sage (Eratosthenes in 47 seconds), and given the range of hard disks I can plug into it (all the IBM PC ones, including Corvus/Omninet) makes it approximately the most powerful development machine in our office. That is, until any box with a 186 in it arrives. Or a 286, if you want even better performance by more users!!! (Oh by the way it runs the DTRUCK benchmark in a mere six seconds {ram disk!}, and varavail is 29000 and something).

Dealey vs. Pickett

by: **Arley Dealey**

I sure am glad you are around, Steve. You most certainly do enliven things! Now, having said that, I'll proceed to disagree with 90–100% of what you have said (as usual).

While the majority of p–System (tm Softech Microsystems) users may be IBMers, the majority of UCSD based users are Apple owners. Apple owners are also by far the largest contingent within USUS. But these facts have been mentioned to you before and I suppose you'll dismiss them out of hand again.

Your parable about Sages and system development is interesting and may, in fact, be precisely what is ocurring but to lay the blame for the result on the Sage is to confuse cause and effect. The abundant resources of a machine such as the Sage are not to blame for insensitive software developers who fail to consider the hardware in use by their target market. To follow your logic to its conclusion, all system development should be done on two–drive Apple][s!

I happen to agree with those application developers who say, "why should we worry about that crud". In fact, an application developer not only should not *have* to think about such non–obvious and system dependent hacking just to wring acceptable performance from the system, but he should absolutely refuse to do so! The algorithms and data strucures in an application should be devised to meet the needs of that application, not to take unusual advantage of quirks of the system it happens to be running under at the moment. To do so lessens maintainability dramatically and all but destroys future portability for the application.

I suppose the root of our contention in this matter lies in your philosophy that "good programs ...make the best use of the computer ..." It is my belief that *portable*programs know as little as possible about the computer on which they are running but that this does not preclude them from being good programs.

In the area of benchmarks, you seem particularly sensitive regarding the rather informal observations Barry made on Telemail and also seem to have some difficulty with the conceptual basis behind benchmarking in general. I also thought that Barry's observations were inaccurately based but in quite the opposite direction. Barry was attempting to quantify (however informally) the differences in the OS architecture. To do so accurately would require comparing similar implementations of the two versions. This would have meant comparing the II.x system with the Softech IV.x interp. I am not denying that your interp is blazing fast and quite a nice piece of work but the object in benchmarking is to compare equivalent software not to see how much one of the versions can be tweaked.

Indeed, all software can be tweaked. Your contention that a IV.x interp stands to gain much more from such tweaking than a II.x interp would

seem to support Barry's contention that some architectures are simply inherently more efficient. Your statement that you've not seen a IV.x application that couldn't have its performance doubled by using carnal knowledge about the machine architecture would seem to me to be a telling indictment of that architecture.

In much the same way, performance can usually be improved by adding more iron but your comparisons between 86 architecure machines with hardware floating point and 68K based machines without seem pointless to me.

Well, now that I've warmed up with the friendly issues...

I must admit to being sadly dismayed by your perception of the state of the TIC. Further, I find myself somewhat offended by some of your implications.

I certainly felt that the degree of unanimity in DC was not zero. I believe the minutes bear this out in fact. The DC meeting held promise for being quite productive (judgement pending until we see what homework gets done and what doesn't).

I am not sure when Softech "gave us official blessing to discuss the user–interface question" or even how they could give us "official blessing" for a TIC project. Moreover, there is indication from Softech that they have been making rather critical decisions in this area recently with no input/consultation from us. None the less, I certainly fail to recall any extended session of laying guilt on Softech for ruining the world with ScreenOps (strange, quirky, buggy beast that it is). The discussion of ScreenOps that I do recall (going back over the entire history of the ConsoleOps project) has been in the vein of trying to *understand* what was wrong with it and why it didn't satisfy the needs of the user community. I believe that you will discover, if you bother to check, that a number of people have invested a large amount of time and effort into bringing the ConsoleOps project to the state it is today and I do not appreciate the statement that the TIC members were only interested in doom–saying and not in working to get something done.

I am sorry if you were disturbed by the lack of immediate acceptance of your undocumented proposal at this late stage in the game. I certainly did not mean to bloody anybody's nose, but I am not going to vote to add something to a standard which I do not understand and the author is not prepared to explain (I don't sign blank checks, either). At any rate, I do appreciate your effort in submitting the explanation of the extensions you would like and I look forward to a vigorous debate in Reno.

– Arley

MUSUS: What It Is? How It Can Help You?

Whether you are a beginning computer user or an expert, you've probably discovered that it is far easier to learn when you're being guided by colleagues than "self–study" from books. This is certainly true for the new user, who is apt to take two steps backward for each step forward unless guided by someone more experienced. But it is also true for the expert who encounters a problem for the first time or who is caught in a "rut" and needs a fresh viewpoint on his situation.

Individuals learning and using the p–System and its languages benefit greatly when they are able to work in a community of colleagues also involved with the p–System. When geographic or other considerations make this impractical, enter MUSUS!

MUSUS is a nationwide (and Canadian) network of several hundred p–System users. Among the MUSUS membership are most of the USUS leadership, SofTech Microsystems personnel, principles and programmers from many of the software firms that use the p–System, independent consultants, educators, students and just plain p–System enthusiasts.

MUSUS operates as a Special Interest Group (SIG) within the CompuServe Information Service — a network of computers that stretches across the continent. The CompuServe SIG software allows individuals sharing a common interest to leave messages to one another, communicate interactively and share files.

Does MUSUS work?

The software that underlies MUSUS is very easy to use. You simply log into CompuServe (with a local telephone call in most areas) and are presented with a menu of CompuServe services. Selecting the appropriate options takes you through one or two additional menus, then to MUSUS itself.

Once in MUSUS you may read messages addressed only to yourself, read messages by topic, read all messages, originate messages, reply to messages, upload or download files to and from MUSUS, even "chat" with other MUSUS users who happen to be logged on simultaneously.

How can it help you?

Here's a scenario: You are encountering an unusual execution–time error that defies all attempts at tracking down. You log into MUSUS and leave a message to "All" describing your problem. You log back into the system a few hours later and discover three or four replies from users who have had similar problems. You follow the advice in the replies and your problem is resolved, saving you untold hours of frustrating debugging time. In the meantime, other MUSUS members join in the discussion of your problem; the "thread" of messages becomes, in effect, a tutorial on that particular topic.

Another scenario: You are interested in a database package to run under the p–System. The latest Vendor Directory (available on–line on MUSUS, by the way), lists quite a number of these packages. You narrow your choices down to two or three and leave a message asking if anyone has had experience with these products. A number of individuals reply; you become aware that one database package runs very slowly on your hardware while another is weak when it comes to handling text–oriented data, which your application requires. You are saved the time and expense of purchasing an unsuitable package.

MUSUS is more than just a "bulletin board", however. Facilities exist for storing and retrieving software (many programs in the USUS Library make their first appearance on MUSUS; MUSUS members make excellent beta–testers!). And, of course, there is no better way to keep up with the latest news and gossip in the USUS and Pascal communities.

How you can get on MUSUS

All you really need is a terminal, a modem and a CompuServe account. Those with computers can access MUSUS using one of the many available terminal emulator programs — some excellent ones are in the USUS Library.

CompuServe accounts are available from many computer stores; they are sold in Radio Shack stores as part #26–224. The accounts come as "Starter Kits"; for $39.95 you receive documentation on using CompuServe (including local access numbers) and five hours of free on– line time. Additional time costs $6.00/hour for 300 baud use and $12.50/hour for 1200 baud use during non–prime time. Billing is handled by CompuServe and may be done against a charge card or through the mail. And, of course, once on CompuServe, you may use any of the other available CompuServe services, including Dow Jones, private EMail, games, etc.

USUS members may also purchase their CompuServe accounts directly through USUS for a discounted price of only $35.00. In addition to receiving the usual Starter Kit (including the "free" hours), those ordering their accounts through USUS receive a guide to MUSUS. (This guide is available on–line for those who purchase their accounts independently.)

To purchase your account through USUS, simply send your name and address with your check for $35.00 to

USUS MUSUS/CIS Starter Kit
P.O. Box 1148
La Jolla, CA, 92038.

Please allow five weeks for delivery.

Questions?

The vice president of member service or the MUSUS SYSOP (system operator) will be happy to answer any questions you may have regarding MUSUS. We hope to be "talking" with you on MUSUS soon!

Product Announcements

p–System for DEC PDP–11 Available

Eliacomputer has announced that it will now be marketing and supporting an enhanced version of the UCSD p–System for Digital Equipment Corporation PDP–11 and LSI–11 computers.

The p–System is a multi–tasking operating system which provides a portable application development and execution environment. Programs written to run under the p–System can be ported to and directly executed on most available microcomputers, including the Apple //e, IBM PC, Tandy, Kaypro, and Sage, as well as DEC's own Rainbow and Pro, among many others. Programs can be written in Pascal, FORTRAN–77, BASIC or Assembler; facilities are available for windowing, comprehensive file and directory manipulation and extensive trapping of user errors. Many popular application packages have been written to run under the p–System.

New features in the Eliacomputer version of the DEC p–System include:

- Support for DEC Micro–11 with RX50 and/or RD51 disk drives.
- Fast "Memory Disk" support for machines with more than 64kb of memory.
- User–configurable device address and vector locations for console, printer and remote ports.
- Support for software (XON/XOFF) handshake on console, printer and remote.

The standalone version of the p–System operates in a single–user, multi–tasking mode. This version will be shipped pre–configured to a user's hardware environment.

Prices for the standalone p–System are as follows:

- Bootable operating system with editor, filer, print and library utilities configuration and disk recover tools, and application services $200
- Advanced Development Tool Kit with debugger, assembler, linker and program analysis tools (when purchased with operating system) $100
- Pascal compiler (when purchased with operating system) $275

A version of the p–System to operate under the RT–11 or TSX+ operating systems will be available in third quarter 1984. The TSX+ version will support multiple users operating in either the TSX+ or p–System environments.

An Adaptable DEC p–System will also be available at that time. This product will permit DEC p–System users to incorporate their own device drivers into the operating system.

Eliacomputer
1510 East 4th Street
Brooklyn, New York 11230
(212)336–4109, 336–4834

SofTech Microsystems Releases UCSD Pascal Package For PCJr.

NEW ORLEANS, LA – Softcon – Feb. 21, 1984 – On April 1, 1984, SofTech Microsystems will begin shipping a bundled UCSD Pascal/ p–System/ Insight Window Designer package for the IBM PCjr, the first product to bring Pascal programming and windowing capabilities to IBM's 128K machine. In addition, the San Diego–based firm will begin shipping a bundled package for the IBM PC and IBM XT.

Both packages will include a UCSD Pascal compiler; a p–System, portable microcomputer operating system; and Insight Window Designer, a windowing tool kit. The PC version will be XT–ready and will provide 8087 support, allowing applications to take advantage of the floating–point processor's speed and arithmetic precision.

At first shipment, the bundled packages will be offered for $399 each. This 48 percent reduction will be effective until June 1, 1984.

"By introducing UCSD Pascal for the PCjr, we are widening the programming capabilities of the machine with a de facto standard language and opening the door to a host of existing applications as well," said Larry Allman, director of marketing, during the announcement.

"Additionally, by including our new Insight Window Designer in the package, we will become the first software house to bring windowing capabilities into the PCjr environment."

UCSD Pascal is a fully developed language with extensions for systems development and commercial applications programming. The p–System is designed for text processing and application execution with a full screen editor and integrated development tools. Combined with UCSD Pascal, the p–System becomes a sophisticated application development system. Insight Window Designer is a programming productivity tool kit which provides colorful windowing capabilities and enhancements for multi–application integration, including a text–based window editor, hierarchical menus and on–line help services in an open application programming environment.

The IBM PCjr and IBM PC/XT packages, as well as other p–System add–on products, are available to end users and retailers through SofTech Microsystems' End User Sales Department, 16885 W. Bernardo Drive, San Diego, Calif., 92127, (619) 451–1230.

SofTech Microsystems is a leading supplier of microcomputer systems software. Its major products are the p–System microcomputer operating system, UCSD Pascal and Liaison , a local area network software family. SofTech Microsystems is a subsidiary of SofTech, Inc., a publicly held systems software and services company.

p–System, Insight Window Designer and Liaison are trademarks of SofTech Microsystems, Inc. UCSD Pascal is a registered trademark of the Regents of the University of California.

SofTech Microsystems Opens The 64K Window On March 15

NEW ORLEANS, LA – Softcon – Feb. 21, 1984 – On March 15, SofTech Microsystems will begin shipping Insight Window Designer and will become the first software house to open the window on the 64K microcomputer environment.

"We feel that Insight is very competitive with comparable products, and, in fact, puts us far ahead of the competition in the 64K environment," said Larry Allman, director of marketing, in making the announcement today. "When we begin shipping on March 15, we will be the only software house with a windowing products that will allow porting of windowed applications across a variety of machines including the IBM PCjr."

Insight Window Designer is a human factors interface and programmers' "windowing" workbench for the p–System microcomputer operating system. This programming productivity tool kit includes enhancements for multi–application integration and speeds up development of complex, integrated applications with windows and single keystroke control. This machine–independent library includes routines that provide a standard interface for integrating applications, sharing data and managing system resources.

Dynamically–managed, text–oriented windows and a menu bar indicate user choices, prompts and error messages. A hierarchical menu facility allows the developer to provide step–by–step guidance for the novice, yet allows the expert to use express keys to move quickly from one option to another.

The product allows concurrent use of several cooperating applications, and data may be exchanged in several ways, including "cutting and pasting." Insight makes extensive use of "pointing" concepts but does not require special hardware, such as a mouse. High resolution graphics or color are not required, however, Insight supports color if it is available.

The minimum host computer configuration includes 64K of main memory, diskette–based mass storage, an alpha/numeric display with highlighting capabilities and the p–System microcomputer operating system. Development of Insight–based applications can be done on any personal computer equipped with the p–System and a UCSD Pascal compiler.

The initial release will include preconfigured tool kits for the IBM PCjr, IBM PC, IBM PC XT, DEC Rainbow, NEC APC, TI Professional, Corvus Concept, Apple IIe and SAGE Models II and IV. An easily adaptable version will be available for other 8– and 16–bit microcomputers. Additionally, a runtime version, which allows end users to run Insight–based applications will also be available.

The special introductory price for orders placed before June 1, 1984 will be $99. After that date Insight will retail at a suggested $150. It is available from SofTech Microsystems' End User Sales Department and selected computer retailers. Both the Insight tool kit and the runtime version will be offered for licensing and distribution to hardware OEMs and applications developers.

SofTech Microsystems holds distribution rights for Insight Window Designer, which was developed by Organic Software, Inc., Roseville, Calif.

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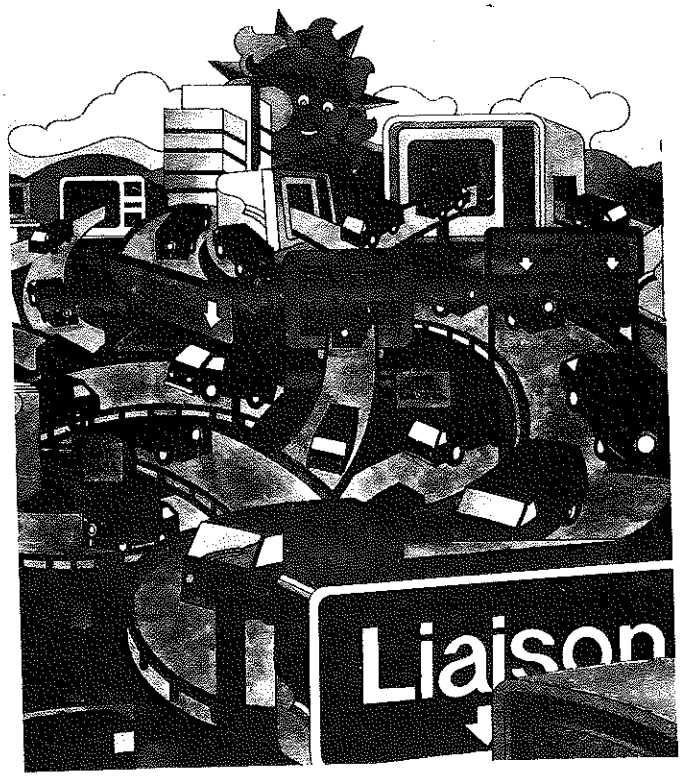
Insight Window Designer, p–System and Liaison are trademarks of SofTech Microsystems, Inc. UCSD Pascal is a registered trademark of the Regents of the University of California.

SofTech Microsystems Announces LIAISON



It did not take long before the satisfaction with our personal computer stations began to dwindle. Remember saying, "We'd sure be more productive if we could share resources, send messages to each other, and have the benefits of the large mainframe environment." ? And the answer you got was, " Well yes, but.....". Now, you must choose from a multitude of Local Area Networks, (LAN) and... face

the challenge of "another" MIS transition. Sound familiar?

SofTech Microsystems seized this opportunity and created the Liaison product family, a network–enhanced version of the p–System. After doing our competitive analysis, we believe that Liaison is the network operating system most capable of helping you to create the network environment suited to your needs. Our research was confirmed when the Architecture Technology Corporation, specialists in computer architecture, featured Liaison as the finale of their December'83 Desktop Computer Local Networks Forum held in San Francisco.

One of Liaison's more powerful features is that it can handle the hardware and software network issues. First, Liaison can be implemented on any local area network with up to 64 users. This feature protects you from technological changes in physical network media. The initial implementation of Liaison will be on the popular Corvus Systems' Omninet.

Liaison allows you to organize your network with any hardware that your applications require. Your systems programmer can use the Liaison Media Adaptation Kit to modify Liaison so it will operate with ARCnet or Ethernet hardware. Since Liaison is a descendant of p–System, the Universal Operating System, your p–System application programs will still be fully portable. Although they cannot take full advantage of the networking environment like Liaison applications can, most p– System object code programs can run without any changes, on entirely dissimiliar personal computers within your network.

Communication within a Liaison network occurs in a client/server relationship. Any station can act as a dedicated or dynamic server to one or all of the other network clients. The Liaison Disk Server program manages the disk storage resources and can handle up to 480 megabytes of direct access storage.

The Liaison Print Server program gives you the capability of spooling jobs to be printed on any type of printer(s) in your network. That's not all. You can send messages to all users or only to selective stations in your network using the Liaison Broadcast Message Services. Finally, your local user group bulletin board can become a reality.

As you know, distributing your applications has its challenges too. You will not be able to distribute your copy protected applications. Even your internal applications designed for a single–user environment won't make the grade in terms of data security and file integrity in a multi–user environment.

We've provided the Liaison Tool Kit to help you with these challenges. It is a collection of software components plus the Liaison architecture and design documentation that create an open application development environment. This tool kit opens the door for you to aggressively tap the potential of the LAN marketplace. We hope this will encourage the development of greatly needed networking applications.

The Liaison network communication layers correspond to the standard ISO OSI reference model. (See figure 1) The Locator Services use "functional addressing" to locate a service so your applications are fully portable and reconfigurable. The Channel Services guarantee the delivery of messages over "logical" channels to user nodes. A node or work station can contain many active sockets, the source and receptor of messages. The Socket Services, the lowest communication level manages message transmission on a "best efforts" basis.

Liaison Monitor is another feature available to the application developer. It provides the ability to limit the number of concurrent users on an application, a benefit to both the user and developer.

To summarize, the Liaison product family includes Liaison, the networking operating system, the Disk Server and the Print Server to manage the shared access to storage and printers, the Liaison Tool Kit for application development and the Media Adaptation Kit to adapt Liaison to your network media. Combine this with your network communications hardware and several personal computers with at least one disk drive plus 128K of RAM to make this MIS transition as easy as it can be. We are confident that our Liaison product family is a package that's hard to beat, and it's cost competitive too! With delivery scheduled to begin in March, 1984, Liaison will be distributed directly through SofTech Microsystems, as well as through OEMs and third party developers. Contact your local account manager for further information.

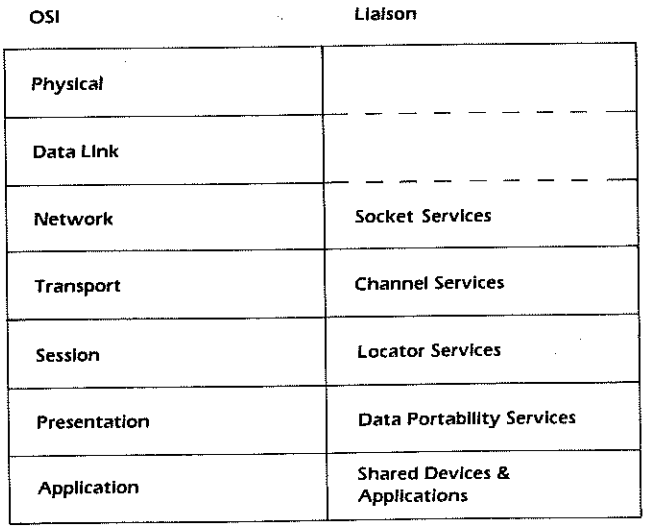


Figure 1

Liaison, p–System, Universal Operating System, and Liaison Tool Kit are trademarks of SofTech Microsystems, Inc. Omninet is a trademark of Corvus Systems, Inc.

CORVUS To Distribute SofTech Microsystems' Liaison

NEW ORLEANS, LA – Softcon – Feb. 21, 1984 – Corvus Systems, Inc. has signed a contract to

distribute SofTech Microsystems' Liaison, a new local area network (LAN) software product family which is compatible with Corvus' Omninet network hardware.

"We are pleased to enter into this agreement to distribute Liaison, because it gives Omninet network users an additional source for valuable multi–user network application programs," said Joseph Hughes, vice president, marketing of Corvus, San Jose, CA. "Liaison software allows us to offer a true network application environment for a variety of CPU's, in particular the Corvus Concept (68000); IBM PC/XT (8088); Apple IIe (6502); and Texas Instruments Pro (8086)."

"The Omninet network connection will ensure that Liaison has a solid market position from the day we begin shipping," said John Splavec, president of SofTech Microsystems, Inc. "More than 6,000 Omninet networks servicing more than 60,000 nodes (other computers and peripherals) have been installed since Omninet was introduced in 1981. Therefore, the Omninet/Liaison relationship will be important in establishing Liaison's presence in the LAN arena."

Liaison is a family of LAN software products that provides a development and execution environment for distributed network applications operating in a personal computer network. Taking advantage of the universality of the p–System, a Liaison network can be comprised of a mixture of personal computers, from a number of different vendors with varying capacities and differing features.

Liaison is completely hardware independent with an architecture that is open to third party software and hardware developers for use in writing compatible network applications and in adapting Liaison to new hardware configurations.

"Although Omninet network management software allows people in offices with several different types of personal computers to communicate and share costly peripheral resources, Liaison is the first operating system to provide the networking capabilities necessary for such users to share programs and data as well."

Corvus will offer Liaison at a special introductory retail price expected to be less than $500 for a 24–user network. The initial offering will bundle three systems software products – Liaison, the network operating system; Liaison Disk Server, a program which manages disk storage on behalf of each workstation; and Liaison Print Server, a program which manages one or more printers on behalf of each workstation.

Shipments are scheduled to begin in second quarter 1984. Corvus will distribute Liaison through its traditional retail channels, with special emphasis on the education, Fortune 1000 and small business markets.

Corvus produces local area networks, peripherals and computer systems. Corvus Omninet network is the industry standard for local area networking of personal computers.

SofTech Microsystems is a leading supplier of microcomputer systems software and is a subsidiary of SofTech, Inc., a publicly held systems software and services company based in Waltham, Mass.

Liaison and p–System are trademarks of SofTech Microsystems, Inc.; Omninet and Corvus Concept are trademarks of Corvus Systems, Inc.

SofTech Microsystems Announces UCSD Pascal Development Package For The DEC Rainbow

NEW ORLEANS, LA – Softcon – Feb. 21, 1984 – SofTech Microsystems strengthened its business connection with Digital Equipment Corp. (DEC) this week with the introduction of a specially–priced, bundled development package for the DEC Rainbow.

The UCSD Pascal /p–System /Insight Window Designer package will be offered for $399 when shipment begins on March 15, 1984. This 48 percent reduction will be effective until June 1, 1984.

"We have enjoyed a long–standing relationship with DEC, having supported the LSI II since 1979 and the DEC Pro under a private brand agreement for the past year," said Larry Allman, director of marketing, of the San Diego based SofTech Microsystems. "We view this introduction as a natural extension of that connection.

"This development package will now allow Rainbow users to program in the de facto Pascal standard for microcomputers, UCSD Pascal. Additionally, a wide universe of existing p–System applications will now be open to end users."

The package includes a UCSD Pascal compiler; the p–System, a portable microcomputer operating system; and Insight Window Designer, a windowing tool kit. UCSD Pascal is a fully developed language with extensions for systems development and commercial applications programming. The p–System is designed for text processing and application execution with a full screen editor and integrated development tools. Insight is a programming productivity tool kit which provides windowing capabilities and enhancements for multi– application integration, including a text–based window editor, hierarchical main menus and on–line help services in an open application programming environment.

The DEC Rainbow package, as well as other p–System add–on products, are available to end users and retailers through SofTech Microsystems' End User Sales Department, 16885 W. Bernardo Drive, San Diego, Calif., 92127, (619) 451–1230. Dealer discounts are available.

SofTech Microsystems is a leading supplier of microcomputer systems software. Its major products are the p–System microcomputer operating system, UCSD Pascal and Liaison , a local area network software family. SofTech Microsystems is a subsidiary of SofTech, Inc., a publicly held systems software and services company.

p–System, Insight Window Designer and Liaison are trademarks of SofTech Microsystems, Inc. UCSD Pascal is a registered trademark of the Regents of the University of California.

LIAISON Monitor Safeguards The Return On Your Investment

The question long asked by Applications Developers is, "How do we price our products based on the number of people using them?" Without some assurance that they can do that, the revenue potential for a network application can be so small that it is difficult to justify the development cost.

At last, there is a product that gives third–party application developers greater control over licensing and sales income from Local Area Network applications packages. This product, the Liaison Monitor, allows networking software products to be constructed with a limit on the number of simultaneous users, thus giving the developer the control he needs to ensure a profit. And, since the Liaison Monitor is an integral part of the Liaison operating system, it is therefore available to all Liaison application programs.

With the Liaison Monitor, programs can now be limited to a maximum number of concurrent users. For example, a financial spreadsheet can be limited to four users. This product could be used at any station in a network and could be used by up to four people at the same time.

As a user attempts to access the spreadsheet, the Monitor polls the network workstations to ascertain how many users are currently using the program. If there are four users already, the fifth user will be told that the limit has been exceeded and the program will refuse to run.

Liaison applications developed with the Liaison Monitor can be sold in different versions with different limitation levels, such as four, 10 or 50 users.

The Liaison Monitor puts networking software on the same footing as network hardware. Although a network interface device at a workstation can be used by several different people, more hardware must be purchased for several people to use the network simultaneously.

The Monitor can be implemented as a hardware device which connects the local host computer to the network media interface, or it can be emulated in software within a network operating system, such as Liaison. SofTech Microsystems will license Liaison Monitor to both software developers and hardware manufacturers to incorporate the limited use capability on applications packages and on network interface cards.

SofTech Announces Special Liaison Pricing For US.US Members

SofTech Microsystems is pleased to respond to USUS members request for special introductory pricing of Liaison, our network–enhanced version of the p–System. Liaison currently requires the popular Corvus Systems' Omninet as the network hardware media. Other implementations are planned for the future.

The following bundled package is available for $695. This limited offer available for 90 days after the release date reflects a 50% savings for the USUS member.

1 Liaison Operating System (8 node Monitor level)
1 Liaison Disk Server
1 Liaison Print Server
1 Liaison Tool Kit
1 Liaison Operating System Manual (SFS)
1 Liaison Program Development Manual

USUS members have the choice of 1 specific Liaison Operating System per package. Liaison Operating Systems are available for the IBM PC, Corvus Concept, Apple IIE with 128K, and the TI Pro.

Upgrades between Liaison user node levels will be the difference between retail prices.

Additional documentation can be purchased at a 25% discount of retail price.

Orders can be placed upon product availability, June 1, 1984. Contact SofTech Microsystems End User Sales at 619–451–1230 for further information.

p–System For The IBM PC

On April 1, 1984, SofTech Microsystems will introduce a new release of the p–System for the IBM Personal Computer family.

Until June 1, 1984, SofTech Microsystems will offer the new p–System for the IBM PC family bundled with Insight Window Designer, and the UCSD Pascal compiler for just $399 –– a savings of over 48%. Configurations of the new software will be available to run the p– System on the IBM PC and IBM XT or the new IBM PCjr.

This release includes several exciting new features such as a new and faster 8086 PME, highly configurable peripherals and installable device drivers. The new release will emulate p–code approximately 30% faster than the current 8086 PME and will also provide application programs with an increase in the data storage area to nearly 64K.

The new software will also include a "self–configuration" feature. During the bootstrap process, this new PME will determine the memory available on the system and automatically configure the location and size for the code pool and RAM disk accordingly. The user may override the default configuration by explicitly stating these sizes in the SYSTEM.MISCINFO file.

For more information, contact SofTech Microsystems' End–user Sales at (619) 451–1230.

SofTech Microsystems Faces Challenges, Makes Changes

Last February SofTech Microsystems (SMS) reduced its workforce from 132 to 105 employees.

"We made an extremely ambitious revenue forecast for our 1984 fiscal year. In today's very dynamic market, we were unable to meet this forecast," said a company spokesperson. "We are now in a rebuilding mode, and we are making improvements in a number of areas to ensure that SMS remains a viable contender in the microcomputer software arena."

These steps include a streamlining of the product line to eliminate marginally profitable products. They will also include the use of more "special offer" promotions such as the new UCSD Pascal/p–System/Insight Window Designer * bundled package that will be available on April 1st for $399, a 48% savings over the list price.

A renewed emphasis on the education market will also be seen over the next year.

The most significant change, however, has been the appointment of a new president, Benjamin M. Goodwin.

Mr. Goodwin was previously Vice President of Plans and Program Development and General Manager of the Federal and Industrial Systems Group of SofTech in Waltham, Massachusetts. He has been with SofTech for eight years, during which time he has held a variety of marketing positions.

Mr. Goodwin will spearhead the company's efforts at repositioning its product line. This will include refining SMS' marketing strategy to bring a clear focus to their plans and programs over the last quarter of this fiscal year and on into FY'85.

Mr. Goodwin supports USUS and looks forward to strengthening the company's relationship with the USUS membership. Recent announcements of cooperative efforts between SMS and USUS members, such as the agreement with Eli Willner to provide enhancement support to the DEC LSI–11 and PDP–11 p–System users, are evidence of this support.

UCSD Pascal is a registered trademark of The Regents of the University of California. p–System and Insight Window Designer are trademarks of SofTech Microsystems, Inc.

SofTech Microsystems Signs Cooperative Agreement With Prentice–Hall

SAN DIEGO, CA – March 21, 1984 – In one of his first acts as president of SofTech Microsystems, Benjamin M. Goodwin today announced an agreement between the San Diego–based firm and Prentice–Hall to distribute the company's UCSD Pascal* and FORTRAN–77 products into the educational market.

The agreement, part of the "IBM PC Apprentice" program jointly announced Tuesday, March 20 by IBM and Prentice–Hall, is an innovative approach to meeting the needs of the educational community.

This program substantially closes the gap between available technology and the inability of schools, colleges, and students to afford its use in the classroom. Purchasing multiple copies of software packages for student use has been a major financial problem. Through the innovative educational license specifically designed for this program, major software vendors provide modified versions of their packages at greatly reduced prices.

UCSD Pascal and FORTRAN–77 are the only two languages included in the program series which is comprised of a variety of popular applications – VisiWord, dBase II and WordStar as well as applications based on SofTech Microsystems' p–System* such as Jack 2 and Dollars & Sense.

Each software package included in the program series is designed to run on the entire line of IBM Personal Computers, including the new PCjr and Portable models.

"UCSD Pascal's roots are in the educational environment. It was developed at the University of California San Diego in the late seventies. According to FORTUNE Magazine it is now the most popular version of the Pascal programming language," said Mr. Goodwin. "This agreement is a perfect extension for the product, and it will ensure students a natural evolution from the classroom to the workplace," he continued.

Larry Allman, director of marketing at SofTech Microsystems, said "We recognize that computer education has become an important part of the curriculum at secondary schools and colleges. These specially configured packages will supply educators with valuable, comprehensive teaching–aids at an affordable cost!"

UCSD Pascal and FORTRAN–77 will be available in September. Educational institutions interested in more information should contact Prentice–Hall at (201) 592–2041. As part of their marketing agreement with Prentice–Hall, IBM marketing personnel will also be informing their personal computer customers of the availability of the new series.

SofTech Microsystems, a subsidiary of SofTech, Inc., a Waltham, Massachusetts–based systems software and services company, is a leading supplier of microcomputer software.

* UCSD Pascal is a registered trademark of The Regents of the University of California. p–System is a trademark of SofTech Microsystems, Inc.

SIG Reports

First Meeting
Thursday, October 13th, 1983

Meeting was convened around 1:00 pm by Jon Bondy. In attendance were:

Verlene Bonham
Larry Roddenberry
Art Nelson
Bill Bonham
Charles Gaffney
Arley Dealey
Randy Bush
Bob Peterson
Edward Powell
Jai Gopal Khalsa
Stephen Pickett

Jon solicited agenda items and received the following:

ConsoleOps
SYSTEM.MENU
Native Code Generation
32–bit p–machine
Remote Unit revisions
Binary–to–ASCII transformation utility
control of 'kinky' peripherals
(such as streaming tapes)
multi–compiler selection
instrumentation of interpreters
debuggers (including assembly debuggers)

System.Menu

Bill explained the function of SYSTEM.MENU; he then described the problem. He had built a menu–oriented interface to a command language. Within that language he tried to get from the compiler to the editor thru SYSTEM.MENU, with the editor still knowing the location of the syntax errors which the compiler had found. He found that error data descriptors in the Kernel had been cleared, preventing auto–invocation of the editor w/ syntax location. He suggested that another place be found in the operating system for clearing these variables. Steve suggests replacing 'GetCommand' with 'caller' allowing calling of user programs. Interface to compiler was mentioned here as another problem (not clean at all). Arley suggested that system globals (kernel in IV.x land), include a place for include–file name so that the editor could find the file in which the error occured.

A list of suggestions will be presented to the Friday night meeting; Nancy Lanning has requested that no decisions be made at this (Thursday) meeting.

Steve explained the function of the *caller* unit. NCI customers have access to this unit but general release is not currently available. This is because to be released usefully, it must be released in source form, and some of the source was copied from operating system sources, which are copyright by SofTech. So far, *caller* is operating system (OS) specific; each release requires revision. Ultimately, Softech should distribute *caller* but this is probably not satisfactory in the near term (1.5 years).

Bill would like to preserve data between program calls; *caller* will do this. Steve thinks SYSTEM.MENU is *disgusting.*

Can't get from menu to compiler easily. Bill suggests a unit in the OS to save data between programs. Steve suggests there should be a method of preventing unit initialization more than once. (OS unit initialization code is not executed.) Question from Jon: *Initialize once per what? Program, power–up, boot, century...?* Bob says OS already has means to init once per boot and Softech could provide a hook to be used by programs. OS could 'zero' the first word of data area so one could reliably know what was there, then set it to something else. Jon suggests OS init code be executed in ascending order by unit/segment number. Suggest Newsletter articles to explain unit init code.

Summary:

1. Preserve compiler error state thru SYSTEM.MENU program to editor.
2. Global variable added to kernel to record include–file name for editor (without changing workfile ID).
3. Hook available in OS to control user program initialization.
4. OS units initialized in order they appear in code file directory.
5. Compiler interface; compilers should be stand–alone programs without OS support. Bob suggests a method be provided to tell the stand–alone compiler what file to compile so that filename questions may be avoided.

Bob related TI's method of SYSTEM.MENU.

Verlene wants discussion of errors chaining between programs, commandIO problems (new agenda item).

Compiler Listing files

Bill had a problem compiling program with compiler listing option; he didn't want a listing but got it anyway. Arley suggests that if no compiler listing filename is ever provided, listing should never occur. Second thought; make *L+* (L^) option be stackable. *L+* compiler directive is confused with string option **L FARKLE.TEXT**.

Verlene has two user problems; when *S(ave* filer option is used to save work file, listing file is not saved, but *N(ew* for filer removes it. Recommend file be saved as '.LIST' OR user is at least warned.

Jon suggests that file names should not be tied to type; in other words a text file need not end with **.TEXT**.

Verlene needs a way to save multiple compiler error messages. Bob suggests *Q+* quiet compile option to list only the errors.

During a tangential discussion, Arley suggests a clean way under 2.0 be provided to rename and delete files from within a program; either an OS call or a unit such as DirInfo.

Native Code Generation

Jon found certain p–code instructions run 3 times slower under NCG on the Sage. Steve found out why: each transition from native code to p–code, or vice versa, caused an expensive interrupt enable/disable. Bill fixed it. But an old NCG). A good deal of education may be required to properly use NCG as far as code organization, what kinds of things will be faster, what will not, consequences of jumping in and out of NCG code.

Certain sections of the OS might be flagged for NCG such as text IO, heap maintenance... Jon suggests a user option to NCG various portions of code be provided. Turn NCG on and off within a procedure?

Console Ops

Keyboard mapper returns an enumerated type based on dynamically definable map.

1. Are the defined cmd types sufficient?
2. Should they **NOT** be an enumerated type?

Discussion ensued regarding merits of scalar type versus returning integer values. Randy explains that text file map is converted by utility to source code for declaration part of KybdOps which must then be re–compiled. Vendor (developer) assumes one or more scalar sets associated with his application (Kybd_Dcls). KybdOps code is common to all applications but data is different for each application (and terminal). Question of proliferating param files for application/terminal.

Enumerated types are out of the question because you can not have variants of scalar types [i.e., two or more type declarations require that each scalar element be a unique identifier]. For the scheme under discussion, each scalar type must have the identical first name, which is illegal in Pascal.

Discussion about resolving internal consistency in Kybd maps AND conflicts with SYSTEM.MISCINFO. One MISCINFO.LIB file contains all maps for all terminals and applications.

Arley suggests that the USUS default set of cmd functions not be called *minimum* or *subset*.

Size of character array used by implementation is variable while number of cmds is 255 (minus those state cmds required such as *InProcess*). Implementation tricks needed may be moved into KybdOps when map loading is incorporated (also easing burden on user/programmer).

CRT_Ops

Need *ComeFrom_XY*; boundary conditions on a screen may be exceeded by cursor movement cmds. Requiring *ComeFrom_XY* addresses the solution. Two ways to do it:

- require **everything** going to the screen to go through CRT_Ops (unpalatable).
- poll the terminal; problem here is that internal input buffers may be disturbed.

If CRT_Ops is interposed between Pascal_IO and BIOS as ScreenOps is now then option 1) above becomes palatable as readln, writeln (i.e., *lazy IO*) will use CRT_Ops to echo characters, updating X,Y.

Steve would like hooks in ConOps to support windowing either above or **below** it. Current opinion of Randy is that windowing belongs above ConOps. Steve's desired WindowRec to be in ConOps:

x,y of upperleft corner
Height and Width of window
priority
CanUpscroll,CanDownscroll (booleans)
Mem pointer
Expansion[0..5] for future use

Long debate ensued about value of using current applications which are not window oriented with Steve's version of ConOps including window hooks. No resolution regarding CRT_Ops/WindowOps. Jon suggests that KybdOps be resolved tonight since everyone agrees that it may proceed independently of ConOps with great value.

Regarding windows, it was suggested that we recognize that certain hardware supports windowing and that minimal provision in ConOps be offered to handle windowing **below** ConOps. Long debate and creeping uncertainty about proper position of ConOps. Bob suggests that Con/WindowOps needs three additional functions: newWindow, killWindow, currentWindow

The group was unable to come to any agreement on the issues. One opinion was that window handling belongs below ConOps provided that minimal windowing functions be included in ConOps and implementation may be done at the hardware level, the implementation level of ConOps, OR another software level (unit, BIOS, etc.).

32–bit p–machine

Steve suggests that it is *obvious* that HeapOps should be moved back into the interpreter, eliminating all *hang & wait* flags littered through...

32–bit address machine uses 32–bit pointers allowing larger code–pools.

Jon wonders to what extent does a 32–bit p–machine imply a new OS environment as regards multi–task, multi–applications, multi–windows... The OS is the only program that can spawn separate tasks; jobs that will continue to run when any one job crashes.

RemoteOps

Randy suggests an irresolvable problem regarding separation of modem– dependent code from...

Kinky Device Support

Bob lists four devices that can not be supported adequately by single–port unit IO:

- communications (IBM SDLC)
- streaming tape
- 1/2" mag tape
- IEEE 488

Would like to be able to get and put to a mag tape device thru normal Pascal IO. IEEE 488 has 15 devices to address and it is awkward to use unitstatus to support such things. Bob could live with device drivers that are dynamically loadable at runtime. Make changes to OS so that existing and new hardware can be supported. Changes required to Pascal IO allowing flexible alternatives to the 512–byte block–structured IO model and the single–byte serial IO model.

Another piece of the problem is loading device drivers into the BIOS (RSP) specifying... Apple has solved these problems in two different ways in the Apple][and the Apple ///; in the Apple ///, the problem is solved by placing Pascal IO on top of SOS. No current way to add a needed driver without sources for BIOS. Jon suggests that standard units may be a better way than getting to the OS. Bill/Jon suggest that you need to know you are writing to a tape device and making it *invisible* is not important. SofTech must be involved and support definitions of the RSP data block device driver approach.

ASCII to Binary

Randy has developed a utility to go between the two formats. While developing this utility, he discovered a problem with getting and setting LastByte (of LastBlock). Suggest the vendors provide procedure/function for this.

Command IO Problems

Verlene mentions that chaining eventually results in stack overflow. SofTech should address problems specified in its bug list. Re–direction may result in disaster if unexpected conditions are encountered.

Heap fragmentation occurs when chaining between programs. Chain info stays out at end of variable space leaving less than total memory for next program. This info should be 'movedLeft' to bottom of heap area before loading next program.

Meeting adjourned around 10:00 p.m.

Second TIC Meeting
Friday, October 14th, 1983

Meeting convened at 7:30 by Jon Bondy. At least 30 people eventually attended (list available on request).

Jon summarized Thursday's meeting.

Barry Demchak asked about issues outstanding from previous meetings. Since it usually turns out that previous issues have not been worked on during the interval between TIC meetings, Jon won't bother asking.

Miscellaneous questions asked about the differing implementations of the MOD function. Also some questions regarding integer and longInteger combinations resulting in integer overflow. Suggest a careful left to right ordering of equation elements to avoid this latter problem.

Barry asked about documentation from SofTech regarding AFS (Advanced Filing System) and p–Net; a formal request will be made to SofTech for these materials ASAP.

Discussion about current support of ANSII terminals. Suggested that the ANSII ScreenOps Unit from SofTech be used.

MOD:

At least two ways that interpreters presently implement the MOD function, resulting in different values returned. Suggestion is made that all implementors adopt a method that treats MOD symetrically around zero. It is agreed that there are 3 different ways of handling MOD with negative denominators, none of which is obviously better. Modified suggestion that SofTech simply make all p–machines the same, regardless of which of the three methods is used. Resolution is that Fred Carter will examine recent article on the subject in Dr. Dobbs Journal and write a newsletter article explaining the issue.

ConOps:

Jon reviewed in detail all previous discussions about ConOps.

Serious questions about need for declaration of constants merely for readability which requires re–compilation of KybdDcls unit for each application (KybdOps).

QUESTION Does Kybd_Char hang and wait if called with nothing in the buffer?

Suggestion is made to de–couple the sequence interpreter from keyboard reads so that alternate sources may be used for input (i.e., macros). Additional suggestion by Jai Gopal Singh Khalsa that another function should be added to encompass the implied loop for keyboard reads mandated by the current implementation (for those who have nothing better to do in a program that wait for valid input). Such a function would allow the programmer to pass an OK_Char_Set and OK_Key_Set and return either a character **OR** a cmd key. Long discussion, no resolutions.

NOTE The source for such a function is included here for future discussion:

```
TYPE SetOfChar = set of char;
   KB_KeySet = set of KbdOpType;

FUNCTION GetChar( mp: KbdMapPtr;
        OK_Char_Set: SetOfChar;
        OK_Key_Set: KB_KeySet;
        ShiftLock,CRT_Beep: boolean;
        VAR last_key: KbdOpType): char;
VAR ch: char;
begin
 repeat
   last_key := KbdCmd(mp);
   ch := chr(0);
   if last_key = KbdNonCmdChar then
     begin
       ch := KbdChar;
       if ShiftLock AND (ch in ['a'..'z']) then
         ch := chr(ord(ch) - 32);
       if CRT_Beep AND
         not (ch IN OK_Char_Set) then
         CrtCmd(CrtBell);
     end
   else if CRT_Beep AND
     not (last_key IN OK_Key_Set) then
     CrtCmd(CrtBell)
 until (ch IN OK_Char_Set) OR
   (last_key IN OK_Key_Set);
 GetChar := ch
end {GetChar};
```

Note that the programmer has the option of including *KbdInProcess* in OK_Key_Set in which case it will *fall through* just like KbdCmd.

CRT_Ops:

If SofTech has already acquire Visi-On-like capability, we should know about it in detail before devoting manpower to proceed further with CRT_Ops/window questions.

Someone familiar with history of requests to Apple should provide those now to Chris Jewell.

Randy Bush moves that Stephen Pickett's request for minimal window support be granted including xOffset, yOffset, xWidth, yWidth. Motion fails. Arley Dealey moves that the window matter be tabled until such time as a TIC paper or an article appears describing the semantics of the matter. Motion passes.

Motion is made by Chris Jewell that the purpose of unit is to provide functionality for programs which are intended to use the unit and is not intended to change the behavior of pre-existing software. Integrity of the unit will be guaranteed only if the application consistently uses the unit. Motion passed.

Long discussion and debate about nature of CRT_Ops... meeting deteriorated due in part to large number of people in attendance who were not familiar with the issue.

At conclusion of the meeting, Barry Demchak and Arley Dealey were seen putting their heads together; they may be able to provide a slightly expanded definition of the proposed interface and a trial implementation or two.

At the Expert Users Panel, another technical issue arose, which is repeated here.

The problem is that temporary files (i.e., a compile in progress) in a shared directory are removed when the Filer re-writes the directory to set flags indicating the status of wildcard operations such as R(emove or T)ransfer. The solution is for the Filer to maintain this information internally using a linked list, an array of booleans, or perhaps a set.

ASE SIG Meeting Report

The ASE SIG did meet in DC during the October 14-15 USUS meeting. I appointed an appropriate piece of furniture as *chair* and RBush sat in it. I gave a short *state of the software* address for ASE, Bush said what he could about the current state of Edvance (by the way, there were **no** Edvance users in the meeting... a show of uncommon good taste) and then Randy did an extended off the cuff *Intro to ASE Macros* presentation.

Keyboard maps and library volumes of contributed macros were also discussed. Attendance was about 20-25 I think (maybe optimistic) and I believe someone took minutes but don't know who - if they did, please let me know...

- SBassett

USUS Software Library

Please note that Clark Gestring has reduced his prices for TI volumes!

A number of members have had problems dealing with Dennis Powers, and repeated attempts on my part to contact him have failed. As of this date, he owes USUS an undeterminable amount of money, and has not responded to requests for information, both in writing and over the phone. Please do not send any more orders to him.

Chuck Butler is studing for the orals for his PhD, and thus does not have enough free time to permit him to continue to serve as a distributor. Instead, please send Apple orders to Skip Anderson and Sage orders to Jon Bondy. As we no longer have any IBM PC distributors (NCI will only copy disks in their own format), please send IBM orders to Jon Bondy and who will try to do them on his Sage.

If you have problems with a distributor, first contact them directly to see if the problem is a misunderstanding or some "reasonable" delay (death in the family, computer hit by lightning, etc). It is reasonable to expect a distributor to send you disks within 4 weeks of an order: delays longer than that should cause you to investigate further. If you don't get satisfaction, please WRITE to both them and myself, describing the circumstances.

The .DOC files for the USUS library contain descriptions of the content of each of the library volumes.

Anybody who want the .DOC files for the entire library may send $5 to Jon Bondy and get a 8" DEC format or 5.25 Sage disk or NCI or PC format which contains them all.

— Jon Bondy

USUS Software Library Distributors

Distributor	Disk Format(s)/Prices
Skip Anderson Box 390130 Mountain View, CA, 94039 408–736–0403	Apple][and /// disks for $6/double–sided volume, $10/single–sided volume.
Jon Bondy Box 148 Ardmore, PA 19003 215–642–1057 (hm)	Standard 8–inch disks for $5 each. Sage II 80–track disks for $6 (1 volume), $7 (2 volumes/disk), or $8 (3 volumes/disk 10–sector); $2/$3/$4 per disk for 1/2/3 volumes if you him send blank disks. IBM PC or IBM NCI disks for $6/volume (double sided), $9/volume (single sided).
Clark Gestring 4643 W Oberlin Place Denver, CO, 80236 303–797–6739 (h) 303–694–8797 (w)	TI 99/4A : new formats as they are supported by TI SS SD 35 TK @ $13/4 disk volume. SS SD 40 TK @ $11/3 disk volume. DS SD 35 TK @ $10/2 disk volume. DS SD 40 TK @ $10/2 disk volume.
Kenneth K. Kam P.O. Box 3112 Torrance, Ca. 90510	Heath H–89 5–1/4 inch disks for $17/tri–disk vol.

Distributor	Disk Format(s)/Prices
Dick Karpinski 6521 Raymond Oakland, CA, 94609 415–666–4529	Northstar disks for $15/dual single–sided disk volume.
Stuart Lynne USUS Software Distribution 3700 Gilmore Way, Suite 110 Burnaby, BC, Canada, V5G 4M1 604–430–6448	NCI format for IBM PC for $5.00/volume. Specify format (800/1600 blocks).
Anthony Pompa TDI Systems, Inc 620 Hungerford Dr, Suite 33 Rockville Md, 20850 301–340–8700	Victor 9000, single sided, two volumes/diskette, for $7.00.
George Schreyer Box 1645 Redondo Beach, CA 90278 213–371–0198	8–inch disks for $10/volume.
Marc Wigan Wigan Associates Box 281 Mt Waverley Victoria 3149 AUSTRALIA	8–inch disks and Sage disks. Pricing unknown.

Who Supplies What:

"Std" 8"	Jon Bondy, George Schreyer, Marc Wigan
Apple	Skip Anderson
Heath–89	Ken Kam
TI	Clark Gestring
IBM	Stuart Lynne (NCI only), Jon Bondy
Sage	Jon Bondy, Marc Wigan
NorthStar DD	Dick Karpinski
Victor 9000	Anthony Pompa
CSI 6809	Nil
OSI	Nil

New USUS Software Library Volumes

USUS Library Volume 20

A disk patch utility, a good game,
and a complete BIOS for the Jonos ESCORT

VOL20:		
UNLPATCH.1.TEXT	26	The University of Nebraska Lincoln disk patch utility
UNLPATCH.2.TEXT	24	it displays its data in octal
UNLPCH.DOC.TEXT	10	doc for above
AUTOPSY.TEXT	10	Divides a file into small enough pieces for the system Editor
SCREEN.H19.TEXT	10	A screen control unit for Autopsy
SCREEN.TEXT	6	A terminal independant version of SCREEN.H19
LWRCASE.TEXT	8	Converts a file to lower case but leaves literals intact
UPRCASE.TEXT	8	same but to upper case
HOME_LOAN.TEXT	14	A simple minded simple loan calculator
SIGFIG.19.TEXT	14	Get another "significant" figure, or maybe even more!
OTHELLO.TEXT	28	Steve BrechersOTHELLOgame,originally
OTHELLO.1.TEXT	26	an include file. This game is a real killer!
BASE.TEXT	6	A numeric base converter, works nice.
H19UTIL.TEXT	24	A screen control unit for BASE. Modify it for other terminals
NUMBER2.TEXT	12	A unit for BASE.
FASTREAD.TEXT	10	Another version of a fast string read routine.
ESCORT.DOC.TEXT	8	Documentation for the Jonos ESCORT BIOS
E.BOOT.TEXT	14	
EBIOS.TEXT	8	
BIOS.CONST.TEXT	8	
BIOS.SERPT.TEXT	22	
BIOS.DISKS.TEXT	26	
BIOS.PHONE.TEXT	4	
BIOS.DATA.TEXT	10	
SXFR.SVCS.TEXT	26	
FORMATTER.TEXT	8	
TRANSPORTR.TEXT	42	
BOOTMAKER.TEXT	10	
EBIOS-GENR.TEXT	4	
EBOOT-GENR.TEXT	4	
FMT-LINK.CODE	3	
FMT-GENR.TEXT	4	
TRANS-GENR.TEXT	4	
FORMATTER.CODE	3	
SXFR.SVCS.CODE	3	
TRANS-MGR.CODE	8	
BOOTR-GENR.TEXT	4	
BOOT.WRITE.CODE	3	
BOOTMAKER.CODE	4	
E.BOOT.CODE	3	
E.LOAD.BOOT	1	
EBIOS.CODE	7	
E.LOAD.BIOS	4	
BOOT.WRITE.TEXT	16	
VOL20.DOC.TEXT	8	You're reading it

This volume was assembled by George Schreyer from material collected by the Library committee.

VOL21:		
PTP.HAYES.TEXT	32	An Apple II version of PTP.BUSH from Vol. 6.
PTP.HAYE1.TEXT	28	Should be useful for anyone with a Version II
PTP.HAYE2.TEXT	30	based system. As is, it is an Apple/ Hayes Micromodem
PTP.HAYE3.TEXT	28	version ready to run. The modem drivers must be
PTP.HAYE4.TEXT	26	changed for another modem.
PTP.HAYE5.TEXT	26	
MDMDRVR.TEXT	16	External modem support, Hayes Micromodem II.
PTP.APPLE.CODE	39	Compiled, linked, ready for Apple/Hayes
SYSNAME.TEXT	4	Sample User ID (mine)
PTP-USE.TEXT	20	Original PTP documentation.
PTP.DOC.TEXT	14	Doc. for this version
CHAREDIT.TEXT	24	Create new graphic character set – Apple II
DOSCAT.TEXT	12	Read catalog on Apple DOS disk
DOSTRANS.TEXT	8	Program using DOSstuff to transfer text from DOS
DOSUNIT.TEXT	22	Unit to read Apple DOS disks from Pascal programs
DOSTR.DOC.TEXT	24	Documentation for above
ACPMCOPY.TEXT	12	Apple disk version of program from Vol 1 to fetch CP/M files. All in Pascal, so it's slow, but it works.
GETFUNCS.TEXT	14	Input strings, reals, integers, Boolean from CONSOLE:
STAT.DOC.TEXT	10	Documentation for a series of statistical programs
ANOVA2.TEXT	12	by Phil Ender
ANOVA1.TEXT	10	Stat programs
SREG.TEXT	8	
DSTAT.TEXT	10	
TIND.TEXT	8	
TDEP.TEXT	8	
CORR.TEXT	8	
CHI2.TEXT	8	
CHI1.TEXT	8	
VOLUME.21.TEXT	6	You're reading it

USUS Library Volume 22

Graphics Programs for the Terak (LSI–11) Computer

VOL22:

GRAPH.DOC.TEXT	40	Documentation for units and programs on this disk
POST.DOC.TEXT	24	Documentation for POST_ENTRY.TEXT
REAL_INPUT.TEXT	8	Unit to input real numbers from the console
REVIEW.TEXT	14	Unit to facilitate running these programs with a "dumb" Hiplot plotter instead of the Terak
POST_ENTRY.TEXT	28	Unit to input functions from the console or a file and to evaluate these functions
SCRN_STUFF.TEXT	8	Screen control unit for these programs
PLOTTER.TEXT	16	Unit to drive "dumb" Hiplot plotter
GRAPHICS.TEXT	28	Fundamental graphics unit for both Terak screen and "dumb" Hiplot plotter
FACT_STUFF.TEXT	14	Math unit for factorial, log factorial, and related calculations
FUNC.TEXT	24	Plot functions entered from console
POLAR.TEXT	22	Plot polar functions entered from console
DISTRIB.TEXT	24	Calculate and plot normal, Poisson, and binomial distributions
SINES.TEXT	14	Plot sine functions of various types
HISTOGRAM.TEXT	20	Plot histograms using data from file or console
HISTOGRAM.DATA	2	Sample data file for the above
CURVE_FIT.TEXT	28	Polynomial curve fitting and plotting
CONTOUR.TEXT	28	Plot contours of 3–dimensional surfaces
TRIANGLE.TEXT	40	Constructs triangle with minimum input and plots result
TRAVERSE.TEXT	42	A calculating and plotting program for surveyors
IVP.TEXT	42	"Solves" differential equations by Euler and 4th order Runge–Kutta techniques and plots solution
VOL22.DOC.TEXT	8	You're reading it

This volume was assembled by Henry Baumgarten from material collected by the Library committee.

USUS Volume 23

A Spelling Checker, a IV.x menu driven Filer and some other stuff

VOL23:

STARGAME.TEXT	28	A simple, but captivating game
RNDTEST.TEXT	16	A random number generator and some simple tests
RNDDOC.TEXT	14	Documentation for RNDTEST
IOUNIT.TEXT	16	A unit to quickly read and write characters and strings
IOTEST.TEXT	8	A program to test and benchmark IOUNIT
IODOC.TEXT	10	Documentation for IOUNIT and IOTEST
SPELLER.TEXT	24	A Pascal spelling checker that uses IOUNIT
DICT.TEXT	78	A small literal dictionary for SPELLER
SPELLDOC.TEXT	18	Documentation for SPELLER and DICT
DF.DOCUM.TEXT	26	The Display Filer Documentation
DF.IV.0.TEXT	86	Display Filer for IV.0
DF.IV.1.TEXT	96	Display Filer for IV.1
VOL23.DOC.TEXT	8	You're reading it

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USUS Library Volume 24

Adventure 500, the 500 point version

VOL24:		
ADVX1.TEXT	48	A data file
ADVX2.TEXT	8	
ADVX3.TEXT	22	
ADVX4.TEXT	10	
ADVX5.TEXT	16	
ADVX6.TEXT	42	
ADVX7.TEXT	6	
ADVX8.TEXT	4	
ADVX9.TEXT	4	
ADVX10.TEXT	4	
ADVX11.TEXT	4	The last data file
ADVXCONS.TEXT	4	An include file of Adventure
ADVXINIT.TEXT	24	Creates the Adventure data file from the data source files
ADVXVERB.TEXT	44	An include file of Adventure
ADVXINIT4.CODE	8	A version 4 code file o& ADVXINIT
ADVXINIT2.CODE	9	A version 2 code file if ADVXINIT
ADV.MISCINFO	4	Specifies screen size
ADVX4.CODE	45	A version 4 code file of ADVX
ADVX2.CODE	50	An un–linked version 2 code file of ADVX
ADVXSUBS.TEXT	20	An include file of Adventure
ADVXSEGS.TEXT	28	An include file of Adventure
ADVX.TEXT	38	The main program of Adventure
ADVX.DOC.TEXT	22	Documentation of Adventure
VOL24.DOC.TEXT	6	You're reading it.

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USUS Library Volume 25

Universal Data Entry Sources
(Documentation and Code files on Volume 26)

VOL25:		
UD.UDE.TEXT	6	A program package to allow the generation, and
UD.COPY.TEXT	92	maintainance of data input screens and data files
UD.LIST.TEXT	84	
UD.MAINT.TEXT	70	
UD.SORT.TEXT	70	
UD.UDELST.TEXT	10	
SD.DEFINE.TEXT	56	
SH.CALC.TEXT	10	
SH.DISPLAY.TEXT	8	
SH.FIELD.TEXT	14	
SH.INIT.TEXT	8	
SH.SAVE.TEXT	6	
SH.SCREEN.TEXT	30	
README.1ST.TEXT	8	Read this file first!!!
VOL25.DOC.TEXT	4	You're reading it

This volume was assembled by George Schreyer from material collected by the Library committee.

USUS Library Volume 26

Universal Data Entry Documentation and Code Files
(Sources on Volume 25)
--> Version VI.x ONLY <--

VOL26:		
UD.INTRDOC.TEXT	16	UDE Documentation
UDE.1.TEXT	32	
UDE.2.TEXT	26	
UDE.3.TEXT	32	
UDE.4.TEXT	34	
UDE.5.TEXT	32	
UDE.6.TEXT	8	
SD/DEFINE.CODE	30	UDE Sub-programs
SH.SCREEN.CODE	21	
UD.SORT.CODE	45	
UD/COPY.CODE	41	
UD/LIST.CODE	39	
UD/MAINT.CODE	23	
UD/SORT.CODE	25	
UD/UDE.CODE	3	UDE Main Program
SH/SCREEN.UNIT	21	A necessary unit
USERLIB.TEXT	4	Install this as your USERLIB.TEXT
UD/LIST.SCRN	8	A couple of data files
UD/SORT.SCRN	8	
README.1ST	8	Read this FIRST!!!
VOL26.DOC.TEXT	6	You're reading it

USUS Library Volume 27

FreeForm (a 3-D spreadsheet) Sources
(Documentation and code files on Volume 28)
--> IV.x ONLY <--
4 word reals recommended

VOL27:		
FF.FREEFRM.TEXT	22	The main program of FreeForm
FF.COPY2.TEXT	18	an include file
FF.DATA1.TEXT	20	an include file
FF.FORMS3.TEXT	22	an include file
FF.DATA3.TEXT	20	an include file
FF.DATA2.TEXT	20	an include file
FF.DATA5.TEXT	22	an include file
FF.FORMS5.TEXT	26	an include file
FF.FORMS1.TEXT	24	an include file
FF.FORMS2.TEXT	14	an include file
FF.FORMS4.TEXT	16	an include file
FF.MISC2.TEXT	20	an include file
FF.BASICS1.TEXT	30	an include file
FF.COPY1.TEXT	26	an include file
FF.BASICS3.TEXT	24	an include file
FF.BASICS2.TEXT	24	an include file
FF.MISC1.TEXT	32	an include file
FF.DATA4.TEXT	32	an include file
README.1ST.TEXT	8	Read this FIRST!
VOL27.DOC.TEXT	6	You're reading it

These volumes were assembled by George Schreyer from material collected by the Library committee.

USUS Library Volume 28

FreeForm (a 3–D spreadsheet)
Documentation and Run Modules
(Sources on Volume 27)
--> Version IV.x ONLY <--
4 word reals recommended

VOL28:

FF.A.TEXT	20	FreeForm Documentation	
FF.B.TEXT	16	ditto	
FF.C.TEXT	18	ditto	
FF.D.TEXT	18	ditto	
FF.E.TEXT	18	ditto	
FF.F.TEXT	8	ditto	
FF.G.TEXT	14	ditto	
FF.H.TEXT	22	ditto	
FF.I.TEXT	18	ditto	
FF.J.TEXT	26	ditto	
FF.K.TEXT	20	ditto	
FF.4WORD.CODE	125	FreeForm for 4 word reals	IV.x only
FF.2WORD.CODE	124	FreeForm for 2 word reals	IV.x only
README.1ST.TEXT	8	Read this first!	
VOL28.DOC.TEXT	6	You're reading it	

This volume was assembled by George Schreyer from material collected by the Library committee.

USUS Library Volume UK3

An ADA Syntax Checker
Submitted by USUS(UK)

VOLUK3:

ADADOC.TEXT	20	Documentation of the ADA Syntax Checker
ADA.TEXT	34	The main program of the ADA Syntax Checker
COINT.TEXT	14	an include file
LAINIT.TEXT	8	ditto
LANEXT.TEXT	40	ditto
LUERROR.TEXT	14	ditto
LUINIT.TEXT	16	ditto
PARSER.TEXT	40	ditto
TYPES.TEXT	18	ditto
STGET.TEXT	12	ditto
TEXTDAT.TEXT	136	A data file
FILECHECK.TEXT	4	A utility program
ADA.CODE	33	A code file of the ADA Syntax Checker that won't run under IV.0
GENDAT.TEXT	4	Generates the file TEXTDAT.TEXT
GENDAT.CODE	2	
ADATEST.TEXT	21	A non–UCSD text file of a sample ADA test case
NEWADATEST.TEXT	24	A version of ADATEST.TEXT converted to UCSD format but without proper indentation
CONTENTS.TEXT	6	The original UK contents file
VOLUK3.DOC.TEXT	6	You're reading it.

This volume was assembled by USUS(UK) from material collected by their Library committee.

USUS Library Volume UK4

An APL Interpreter and other stuff

Submitted by USUS(UK)

UKVOL4:		
APL.TEXT	32	The APL Interpreter
APLPARSE1.TEXT	18	an include file
APLPARSE2.TEXT	66	ditto
APLPROCS.TEXT	34	ditto
APLPARSE3.TEXT	6	ditto
APLHEAP.TEXT	12	ditto
APLINIT.TEXT	16	ditto
APLCHERS.TEXT	6	ditto
APLPARSE0.TEXT	16	ditto
SORT.DOC.TEXT	42	Documentation of the Sort/Merge Utility
SORT.MERGE.TEXT	26	The main Sort/Merge program
SORT.READ.TEXT	6	Some more notes on the Sort/Merge files
SORT.DUMUN.TEXT	8	A example of the required user—supplied for Sort/Merge
SORT.TXTUN.TEXT	18	A more general example of SORT.DUMUN.TEXT
SPBSSTUFF.TEXT	40	A unit full of useful goodies
SPBSSDOC1.TEXT	32	Documentation for SPBSSTUFF
SPBSSDOC2.TEXT	32	Documentation for SPBSSTUFF
SPBSSTUFF.CODE	16	A code file for IV.0 of SBBSSTUFF
CONTENTS.TEXT	10	The UK's file of the contents of this disk, more details about this disk.
VOLUK4.DOC.TEXT	6	You're reading it.

This volume was assembled by USUS(UK) from material collected by their Library committee.

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Use this form to order the USUS Library volumes of your choice. Send the order DIRECTLY to the distributor, and make your check out to him/her, NOT to USUS.

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General Meeting Announcement

Time: **October 12, 1984 through October 14.**

Place: **Hotel Plaza II**
90 Bloor St. East
Toronto, Ontario, Canada M4W–1A7
(416) 961–8000

TORONTO, June 15 – USUS, Inc., the UCSD Pascal User's Society, will hold its semi–annual national meeting at the Hotel Plaza II here October 12–14, according to George Symons, USUS president.

The meeting will feature technical presentations, hardware and software demonstrations, language tutorials, special interest group meetings and software library exchange. Also planned are expert user and major vendor panels. Election of officers will be held.

In conjunction with the meeting, USUS will sponsor two free tutorials – an introduction to the p–System and an introduction to UCSD Pascal, including Apple Pascal.

"Non–USUS members are welcome to register and attend any or all of the meeting programs," Symons noted.

USUS (pronounced use–us) represents users of the UCSD Pascal System and its derivatives including the UCSD p–System, Apple

Pascal and Modula–2. It is the most widely–used, machine– independent software system. The society is non–profit and vendor independent.

The UCSD Pascal System has more than 150,00 users and is capable of running on nearly any computer. It was developed at the University of California San Diego to facilitate software portability.

Among the special interest group meetings scheduled for the Toronto meeting are those for users of IBM Personal Computers, Apple, DEC, Texas Instruments and Sage Computer Technology computers.

Also meeting will be those interested in application development, graphics, communications, file access, Modula–2, UCSD Pascal compatibility and the Advanced System Editor.

The software library, with significant recent acquisitions, will be available for reproduction on various diskette formats. Members at the meeting will be able to copy the library onto their own disks for $1.00 each.

Those registering for the meeting before September 21 will qualify for the pre–registration price of $25. Checks should be made payable to USUS and mailed to USUS Meeting Committee, P.O. Box 1148, La Jolla, CA 92038. Registration at the door will be $35 and will begin at 10 a.m. Friday, October 12.

Hotel reservations should be made directly with the Hotel Plaza II, 90 Bloor St. East, Toronto, Ontario, Canada M4W 1A7, (416) 961–8000. Local contact for the meeting is Kathryn

Hjorleifson at TDI Computer Systems Limited (416) 252–7181. Additional meeting information is available from Dan Merkling, P.O. Box 11881, Salt Lake City, UT 84187, (801)969–7041.

USUS was created to promote and influence the development of the UCSD Pascal System and to provide users and vendors with a forum for education and information exchange about it. Annual membership in the society is $25 for individuals residing in North America and $500 for institutions.

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