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