

PASCAL USERS GROUP

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Pascal News

NUMBER 17

COMMUNICATIONS ABOUT THE PROGRAMMING LANGUAGE PASCAL BY PASCALERS

MARCH, 1980



0	POLICY, COUPONS, INDEX, ETC.
1	EDITOR'S CONTRIBUTION
2	HERE AND THERE WITH Pascal
2	Tidbits
5	Pascal in the news
6	Books
7	Book Review: Alagic & Arbib
8	Articles
9	Conferences and Seminars
12	ADA: an ISO report
13	Pascal in teaching
17	APPLICATIONS
17	Introduction
18	REFERENCER -- a cross referencer for procedures
29	MAP -- a macro processor for Pascal
41	XREF -- a cross reference program
46	A string package - OMSI
47	A complex arithmetic package
52	A string package - U. of Witwaterstrand
53	ARTICLES
54	"Conformant Arrays in Pascal" -- A.H.J. Sale !!note!!
57	"Pascal Survey" -- Robert R. Ransom
59	"Converting an Application Program from OMSI to AAEC"
60	"Does Scope = Block in Pascal?" -- T.P. Baker
62	"A Note on Pascal Scopes" -- T.P. Baker
63	"Alternate Approach to Type Equivalence" - W.MacGregor
65	"Fixing Pascals I/O" -- R. Cichelli
66	"SIMPASCAL" -- J. Deminet
68	"Some Observations on Pascal and Personal Style"- Sale
71	OPEN FORUM FOR MEMBERS
83	Pascal Standards Progress Report
85	IMPLEMENTATION NOTES
85	Editorial
86	Implementation Critiques
89	Validation Suite Reports
101	Checklists

Contributors to this issue (#17) were:

EDITOR	Rick Shaw
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Books & Articles	Rich Stevens
Applications	Rich Cichelli, Andy Mickel
Standards	Jim Miner, Tony Addyman
Implementation Notes	Bob Dietrich
Administration	Moe Ford, Kathy Ford, Jennie Sinclair

- Membership is open to anyone: Particularly the Pascal user, teacher, maintainer, implementor, distributor, or just plain fan.
- Please enclose the proper prepayment (check payable to "Pascal User's Group"); we will not bill you.
- Please do not send us purchase orders; we cannot endure the paper work!
- When you join PUG any time within an academic year: July 1 to June 30, you will receive all issues of Pascal News for that year.
- We produce Pascal News as a means toward the end of promoting Pascal and communicating news of events surrounding Pascal to persons interested in Pascal. We are simply interested in the news ourselves and prefer to share it through Pascal News. We desire to minimize paperwork, because we have other work to do.

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- American Region (North and South America): Send \$6.00 per year to the address on the reverse side. International telephone: 1-404-252-2600.
 - European Region (Europe, North Africa, Western and Central Asia): Join through PUG (UK). Send £4.00 per year to: Pascal Users Group, c/o Computer Studies Group, Mathematics Department, The University, Southampton SO9 5NH, United Kingdom; or pay by direct transfer into our Post Giro account (28 513 4000); International telephone: 44-703-559122 x700.
 - Australasian Region (Australia, East Asia - incl. Japan): PUG(AUS). Send \$A8.00 per year to: Pascal Users Group, c/o Arthur Sale, Department of Information Science, University of Tasmania, Box 252C GPO, Hobart, Tasmania 7001, Australia. International telephone: 61-02-23 0561 x435

PUG(US/) produces Pascal News and keeps all mailing addresses on a common list. Regional representatives collect memberships from their regions as a service, and they reprint and distribute Pascal News using a proof copy and mailing labels sent from PUG(USA). Persons in the Australasian and European Regions must join through their regional representatives. People in other places can join through PUG(USA).

RENEWING?

- Please renew early (before August) and please write us a line or two to tell us what you are doing with Pascal, and tell us what you think of PUG and Pascal News. Renewing for more than one year saves us time.

ORDERING BACK ISSUES OR EXTRA ISSUES?

- Our unusual policy of automatically sending all issues of Pascal News to anyone who joins within a academic year (July 1 to June 30) means that we eliminate many requests for backissues ahead of time, and we don't have to reprint important information in every issue--especially about Pascal implementations!
- Issues 1 .. 8 (January, 1974 - May 1977) are out of print.
(A few copies of issue 8 remain at PUG(UK) available for £2 each.)
- Issues 9 .. 12 (September, 1977 - June, 1978) are available from PUG(USA) all for \$10.00 and from PUG(AUS) all for \$A10.
- Issues 13 .. 16 are available from PUG(UK) all for £6; from PUG(AUS) all for \$A10; and from PUG(USA) all for \$10.00.
- Extra single copies of new issues (current academic year) are: \$3.00 each - PUG(USA); £2 each - PUG(UK); and \$A3 each - PUG(AUS).

SENDING MATERIAL FOR PUBLICATION?

- Your experiences with Pascal (teaching and otherwise), ideas, letters, opinions, notices, news, articles, conference announcements, reports, implementation information, applications, etc. are welcome. Please send material single-spaced and in camera-ready (use a dark ribbon and lines 18.5 cm wide) form.
- All letters will be printed unless they contain a request to the contrary.

Purpose: The Pascal User's Group (PUG) promotes the use of the programming language Pascal as well as the ideas behind Pascal through the vehicle of Pascal News. PUG is intentionally designed to be non political, and as such, it is not an "entity" which takes stands on issues or support causes or other efforts however well-intentioned. Informality is our guiding principle; there are no officers or meetings of PUG.

The increasing availability of Pascal makes it a viable alternative for software production and justifies its further use. We all strive to make using Pascal a respectable activity.

Membership: Anyone can join PUG, particularly the Pascal user, teacher, maintainer, implementor, distributor, or just plain fan. Memberships from libraries are also encouraged. See the ALL-PURPOSE COUPON for details.

Facts about Pascal, THE PROGRAMMING LANGUAGE:

Pascal is a small, practical, and general-purpose (but not all-purpose) programming language possessing algorithmic and data structures to aid systematic programming. Pascal was intended to be easy to learn and read by humans, and efficient to translate by computers.

Pascal has met these goals and is being used successfully for:

- * teaching programming concepts
- * developing reliable "production" software
- * implementing software efficiently on today's machines
- * writing portable software

Pascal implementations exist for more than 105 different computer systems, and this number increases every month. The "Implementation Notes" section of Pascal News describes how to obtain them.

The standard reference and tutorial manual for Pascal is:

Pascal - User Manual and Report (Second, study edition)
by Kathleen Jensen and Niklaus Wirth.
Springer-Verlag Publishers: New York, Heidelberg, Berlin
1978 (corrected printing), 167 pages, paperback, \$7.90.

Introductory textbooks about Pascal are described in the "Here and There" section of Pascal News.

The programming language, Pascal, was named after the mathematician and religious fanatic Blaise Pascal (1623-1662). Pascal is not an acronym.

Remember, Pascal User's Group is each individual member's group. We currently have more than 3357 active members in more than 41 countries. this year Pascal News is averaging more than 120 pages per issue.

- * Pascal News is the official but informal publication of the User's Group.
- * Pascal News contains all we (the editors) know about Pascal; we use it as the vehicle to answer all inquiries because our physical energy and resources for answering individual requests are finite. As PUG grows, we unfortunately succumb to the reality of:
 1. Having to insist that people who need to know "about Pascal" join PUG and read Pascal News - that is why we spend time to produce it!
 2. Refusing to return phone calls or answer letters full of questions - we will pass the questions on to the readership of Pascal News. Please understand what the collective effect of individual inquiries has at the "concentrators" (our phones and mailboxes). We are trying honestly to say: "We cannot promise more that we can do."
- * Pascal News is produced 3 or 4 times during an academic year; usually in September, November, February, and May.
- * ALL THE NEWS THAT'S FIT, WE PRINT. Please send material (brevity is a virtue) for Pascal News single-spaced and camera-ready (use dark ribbon and 18.5 cm lines!)
- * Remember: ALL LETTERS TO US WILL BE PRINTED UNLESS THEY CONTAIN A REQUEST TO THE CONTRARY.
- * Pascal News is divided into flexible sections:

POLICY - explains the way we do things (ALL-PURPOSE COUPON, etc.)

EDITOR'S CONTRIBUTION - passes along the opinion and point of view of the editor together with changes in the mechanics of PUG operation, etc.

HERE AND THERE WITH PASCAL - presents news from people, conference announcements and reports, new books and articles (including reviews), notices of Pascal in the news, history, membership rosters, etc.

APPLICATIONS - presents and documents source programs written in Pascal for various algorithms, and software tools for a Pascal environment; news of significant applications programs. Also critiques regarding program/algorithm certification, performance, standards conformance, style, output convenience, and general design.

ARTICLES - contains formal, submitted contributions (such as Pascal philosophy, use of Pascal as a teaching tool, use of Pascal at different computer installations, how to promote Pascal, etc.).

OPEN FORUM FOR MEMBERS - contains short, informal correspondence among members which is of interest to the readership of Pascal News.

IMPLEMENTATION NOTES - reports news of Pascal implementations: contacts for maintainers, implementors, distributors, and documentors of various implementations as well as where to send bug reports. Qualitative and quantitative descriptions and comparisons of various implementations are publicized. Sections contain information about Portable Pascals, Pascal Variants, Feature-Implementation Notes, and Machine-Dependent Implementations.

APPLICATION FOR LICENSE TO USE VALIDATION SUITE FOR PASCAL

Name and address of requestor:
(Company name if requestor is a company) _____

Phone Number: _____

Name and address to which information should
be addressed (Write "as above" if the same) _____

Signature of requestor: _____

Date: _____

In making this application, which should be signed by a responsible person in the case of a company, the requestor agrees that:

- a) The Validation Suite is recognized as being the copyrighted, proprietary property of R. A. Freak and A.H.J. Sale, and
- b) The requestor will not distribute or otherwise make available machine-readable copies of the Validation Suite, modified or unmodified, to any third party without written permission of the copyright holders.

In return, the copyright holders grant full permission to use the programs and documentation contained in the Validation Suite for the purpose of compiler validation, acceptance tests, benchmarking, preparation of comparative reports, and similar purposes, and to make available the listings of the results of compilation and execution of the programs to third parties in the course of the above activities. In such documents, reference shall be made to the original copyright notice and its source.

Distribution charge: \$50.00

Make checks payable to ANPA/RI in US dollars drawn on a US bank. Remittance must accompany application.

Source Code Delivery Medium Specification:
9-track, 800 bpi, NRZI, Odd Parity, 600' Magnetic Tape

ANSI-Standard

a) Select character code set:
 ASCII EBCDIC

b) Each logical record is an 80 character card image.
Select block size in logical records per block.
 40 20 10

Special DEC System Alternates:
 RSX-IAS PIP Format
 DOS-RSTS FLX Format

Mail request to: ANPA/RI P.O. Box 598 Easton, Pa. 18042 USA Attn: R.J. Cichelli
--

Office use only

Signed _____
Date _____

Richard J. Cichelli
On behalf of A.H.J. Sale & R.A. Freak

Editor's Contribution

GETTING STARTED

Let me start my first editorial by saying, "I can't believe how hard this job is!!" My esteem for Andy Mickel has always been high, but after the last few months, it has gone up astronomically! I don't know how one person had all the time--there are so many things to do, and I have been lucky enough to have alot of help.

My section editors have been very prompt (for the most part!) and have made the job "do-able". And, I might add, PUG has hired some part-time clerical help that is out of this world! To round it off, the switch to a commercial printer (oh, the luxury of a university print shop) has been quite successful. I could not ask for better service. Their prices are close to those we paid in the past.

My thanks must go to the membership, who have been so patient with me. This issue represents a tremendous learning curve for me (and culture shock!). Things will go smoother starting next issue.

NEXT ISSUE (#18) - SPECIAL!!

Speaking of next issue, we at PUG are pleased to announce that the next one will be completely devoted to the ISO Draft Standard for Pascal. (See Jim Miner's article this issue for a discussion of this and other items concerning standards.)

We are currently preparing this document for reproduction; it will be out no later than one month after this issue (#17).

ABOUT THIS ISSUE

WOW!! Is there alot of good stuff in this issue! Pascal has been on everyone's tongue lately, so "Here and There" is chock full of "newsy" information. We also have a large number of books and articles that have been reviewed this quarter, as well as an excellent in-depth review of the text Alagic and Arbib by one of our readers. (We could use more contributions such as this.)

The "Articles" section is kicked off by lucid discussion of "Conformant Array Parameters" authored by Arthur Sale (who else!). This article is highly recommended for review by all readers because of its controversial, proposed inclusion into the ISO standard.

There is no lack of contributions to the "Software Tools" section either. Nearly one-quarter of the issue is devoted to publishing programs and algorithms. This quarter many checklists are included in the "Implementation Notes" section, as well as some contributions to ur new section, "Validation Suite Reports".

A great deal of fine work went into this issue. We hope you like it.

Rick

Here and There With Pascal

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J. Mack Adams, Comp. Sci Dept., Box 3CU, New Mexico State University, Las Cruces, NM 88001: "We have added an assertional checking capability to UCSD Pascal and have developed a debugging system based on assertional checking and symbolic execution. A paper on the system will be presented at ACM 79..." (*79/05/14*)

Ron Barstad, P.O. Box 6000, B-118, Phoenix, AZ 85005: "The Pascal on the (*USW Louisiana*) L68 (Multics) is only a subset. The L66 version from Waterloo is a full blown batch and/or TSS version." (*79/09/14*)

Dr. Oddur Benediktsson, Science Institute, University of Iceland, Dunhaga 3, Reykjavik: "We...are looking for a PASCAL compiler for...our PDP-11 RSX-11M system and so far have found only the OMSI product which we find a bit on the expensive side at \$1500. We would also rather have the P-code type compiler if available. Can you make any suggestions?" (*78/11/23*)

Rick Boggs, Nationwide Insurance, One Nationwide Plaza, Columbus, OH 43216: "Our problem is one of finding a Pascal implementation which matches our operating environment: a large-scale IBM/AMDAHL center running MVS 3.7 and...both the TSO and VSPC interactive systems." (*79/10/10*)

Paul C. Boyd, PPG Industries, Box R, Elwin-Mt. Zion Rd., Mt. Zion, IL 62549: "We are hoping to implement the OMSI PASCAL-1 package on a DEC PDP-11/34...under RSX-11/M...to develop process control programs to run on a network of DEC LSI-11/23 micros.... I would appreciate hearing from any OMSI PASCAL-1 users with experience in digital control applications." (*79/09/27*)

Glenn A. Burklund, 3903 Carolyn Ave., Fairfax, VA 22031: "Have North Star (UCSD) Pascal---it is miserable. Going Pascal/Z...for scientific and engineering applications. The funct. & proc. are th main features of interest. It is virtually aimpossible to implement under North Star Pascal. Unless it is practical to implement these calls easily, Pascal will wither on the vine." (*79/10/09*)

John D. Bush, Minnesota Power & Light Co., 30 West Superior St., Duluth, MN 55802: "I have been trying to get programmers and DP Managers at MP&L interested in Pascal. By finding compilers for our Prime and IBM machines, I hope to give some of these people a chance to experiment with the language." (*79/10/03*)

Jim Carlson, School of Dentistry, University of the Pacific, 2155 Webster St., San Francisco CA 94115: "The School of Dentistry has recently acquired an Omsi Pascal Compiler...configured to operate under RSX-11M and will be installed on a PDP-11/34. We plan to use Pascal primarily for administrative purposes, but it will also be available for uses in other areas." (*79/05/22*)

M. B. Clausing, 5603 Fisher Dr., Dayton, OH 45424: "If the matter's still at issue, I vote not to affiliate with ACM. I see no particular advantage." (*79/07/06*)

John Corliss, Loyola University of Chicago, 6525 N. Sheridan Road, Chicago, IL 60026: "Loyola University...has acquired the Pascal compiler from the University of Manitoba for academic instructional use...we are (*interested*) in acquiring PASCAL subroutine libraries that we could use in our computer science classes." (*79/05/14*)

Don R. Couch, 5100 Montreal Dr., San Jose, CA 95130: "I am a student in a Cogswell College Pascal course, and use Pascal on a PDP-11/10 computer at American Microsystems, Inc." (*no date*)

R. H. Frank, Digital Consulting Corporation, P.O. Box 32505, San Jose, CA 95152: "Our company has just released a Pascal Compiler (P2 derivative) for the popular CP/M microcomputer system." (*79/09/26*)

Jim Gagne, M.D., Datamed Research, 1433 Roscomare Rd., Los Angeles, CA 90024: "Who's your medical applications editor (if any)? I'll do it if you need." (*79/05/30*)

Anton L. Gilbert, Information Sciences, U.S. Army White Sands Missile Range, NM 88002: "I am a new Pascal users. It will be used in my research group...on a PDP-11/70, PDP-11/35, a PDP-11/34 (* all under RSX-11M) and a PDP-11/15 (RT-11). One of my employees...is especially interested in Pascal in Image Processing Research." (*79/06/12*)

Ricardo O. Giovannone, Box 3606, University Park Branch, Las Cruces, NM 88003: "I am a graduate student at New Mexico State University...using this language since fall '78 and I really like it.... At the moment, I am working in a project dealing with implementation of an Educational Data Base System using Pascal as a host language. ...We hope to finish in this fall. We are using UCSD Pascal Version 1.4." (*79/08/20*)

Mark Gordon, Computer Business Systems, Box 421, Truro, Nova Scotia B2N 5C5: "I am using a DEC PDP-11 under RSTS/E". (*79/05/23*)

Roedy Green, 1478 East 27th Avenue, Vancouver, British Columbia V5N 2W5: "I'm loking after a computer acquisition for the provincial Electric and Gas utility. I'm looking forward to using Pascal to implement our records & man scheduling system. At present Burroughs 1800, DEC PDP-11/70, Tandem, Univac 1100, Cyber 170 are all potential winners. I am particularly interested in Pascal on these machines." (*79/09/04*)

David L. Hamby, Combustion Engineering, INc., 1000 Prospect Hill Rd., Windsor, CT 06095: "Interests are real time process monitoring. Looking for process support software in a machine independent high level language." (*79/06/18*)

M. L. Harper, Oak Ridge National Labs, Bldg. 1505, Rm. 11A, Oak Ridge, TN 37830: "I have pursued your references at JPL regarding a Pascal for ModComp minicomputers and the prospects look promising." (*79/06/26*)

David C. E. Holmes, P.O. Box 1708, Grafton, VA 23692: Teacher of micro-computer design, system design, and programming. owns 48K Z80 Altair 8800, CP/M, UCSD Pascal, and Ithica Intersystem Pascal/Z compiler. (*79/10/29*)

Mike Hughes, P.O. Box 293, Rapid City, SD 57709: "I am currently about three fourths of the way there on a business-oriented Pascal compiler for second-generation BCD machines. The implementation is for the RCA 301, but the problems are similar to the IBM 1401 and 1620, Burroughs B600, etc. I would be interested in getting in touch with anyone else having such Quixotic interests." (*no date*)

G. P. Janag, 4447 Buchanan, Warren, MI 48092: "I own an Apple II with two disk drives. I have on order, since September, the Apple Language Card and am awaiting same." (*79/10/18*)

