

PS/8 - OS/8 - OS/12 NEWSLETTER

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Contributions and correspondence should be sent to:

Bob Hassinger, Coordinator
PS/8-OS/8-OS/12 Special Interest Group
c/o DECUS
146 Main Street
Maynard, Massachusetts 01754

FALL DECUS MEETING

Plans are not firm yet but we expect to have a meeting of the Special Interest Group at the Fall DECUS meeting as in the past. I hope many of you will be there. These meetings offer a great opportunity to exchange information and ask questions.

DECUS SUBMISSION STANDARDS

The new library submission procedures and standards have been finalized by DECUS. The new procedures will speed up program acceptance. Some of you may have submitted programs recently using the old forms. DECUS will require you to fill in the new form if your submission arrived after their cut-off date.

New programs will be accepted as is. The first people who order it will receive a new, expanded review form. (By the way, DECUS will give a \$5.00 DECUS coupon for each review form returned.) On the basis of the reviews the program will be retained as a good program and indicated as such in the catalog, or else it will be referred back to the author.

PS/8 FOCAL UPDATE

Most PS/8 FOCAL users should have heard by now from OMSI about the update they have released. It is mostly a collection of small improvements. By the way, OMSI is trying to build a directory of PS/8 users that will give a good guide to who is using the system, what sort of equipment they have, and what they are doing with it.

CAUTION

A couple of programs have shown up lately that work under PS/8 but have been having trouble on OS/8 systems. The problem is that the programs assume what device number the system will use for some particular device. When PS/8 was built using the standard version of CONFIG this was all right because the device numbers were always the same. If a special version of CONFIG is written

for some special device the device numbers may change. If the system is built using BUILD (this is usually the case for OS/8) you do not know anything about the device numbers that will result. The effect of all this is that your program may assume a default device number thinking it is the teletype but it could turn out to be something else like the line printer on someone else's system. Even worse, it could be a file-oriented device like DECTape. If this were the case and you started outputting to block \emptyset (as you do for non-file structured devices) you could destroy everything on the tape. This hazard can be avoided by using the system the way it is documented (i.e. use the USR to get the device number with INQUIRE or FETCH using the assigned device name). In general, DEC has said that you can depend on the information in the documentation (Software Support Manual) to be compatible between versions of the system. They do not promise anything about aspects of the system which are not covered in the manuals so you may not be able to use a program written for one version with another version if it makes any assumptions not spelled out in the manual. Several cases like this have shown up already.

HOW-MUCH-CAN-YOU-DO-WITH-PS/8 DEPARTMENT

Some one is solving a 150 x 150 matrix problem in 8K with PS/8 FORTRAN.

An electronic network analysis program has been adapted to PS/8 FORTRAN. This type of program is usually quite large but through the use of files and overlays it was made to fit in 8K.

DEC SYSTEM SOFTWARE

The new system software items mentioned in the last Newsletter (TECO, SRCCOM, BITMAP and EPIC) are finally all available and being delivered.

EPIC appears to be a collection of routines that were used to aid in the development of the FPP FORTRAN IV package. They include various facilities for looking at and editing the contents of file-oriented storage devices. This is handled better by FYLHLP (DECUS 8-445) I think. The only really good aspect of EPIC is that it defines and handles a format for reading and punching .SV files on paper tape. In the past programs had to be punched in .BN or .RL format then read and loaded by a loader program and then saved. With EPIC and its special format you can read a paper tape and EPIC will save it as a .SV format file with the correct name automatically. (The paper tape format includes the file name so this can be done.) The main value of this capability seems to be when you have a save format file that is not easily reproduced from binary tapes and you want to send it to some one on paper tape. An example is PS/8 EDUSystem-30 which has several program segments combined into one save file.

OS/8 TECO is really great. It is a very powerful text editor and string processing language. It is PDP-10 TECO compatible and it can use the PDP-12 scope if it is run on a 12. John Alderman has noted one obscure difference between OS/8 TECO and PDP-10 TECO. In PDP-10 TECO the NA command always

takes the ASCII value of the character to the right of the text buffer pointer. In OS/8 TECO nA takes the value of the n+1'th character to the right of the pointer (NOTE: n can be negative to get characters to the left of the pointer). In PDP-10 TECO it is common to write the A command as 1A. To get the same effect in OS/8 TECO you must write \emptyset A. This is only a problem if you are trying to get a PDP-10 TECO macro working in OS/8 TECO or if you are using the PDP-10 TECO write up to learn OS/8 TECO. The last should not be a problem now because the new manual that comes with OS/8 TECO is better than the old PDP-10 manual.

NEW PROGRAMS IN DECUS

- 8-497 8BAL - Dave Kristol submitted the "final" version of 8BAL and its write up in September. The tape now includes a macro library builder program and some very nice macros such as a generalized PS/8 I/O package.
- 8-476 has been obsoleted in favor of 8-478 which does the same things better.
- 8-518 A PS/8 FORTRAN core sort.
- 8-531 A & B - A program which simulates a PDP-8 with a 36 bit wide accumulator. Useful for triple precision integer work.
- 8-536 A PS/8 version of the Advanced Averager System. LAB-8 users who have expanded to a PS/8 configuration will like this.
- FOCAL 8-214 FDSK - A FOCAL function to do I/O on the system device for those who do not use OMSI PS/8 FOCAL.
- FOCAL 8-227 FOCL/F - Refer to the proceedings of the SPRING 1972 DECUS Symposium. This is a new alternative to PS/8 FOCAL. It has several unique features including the ability to handle special I/O devices and service interrupts directly in FOCAL (rather than as special PAL coded overlays).

PROGRAMS SUBMITTED TO DECUS

- DISORT - A routine to sort a PS/8 device directory and output an alphabetically ordered list of the entries in the directory. This is handy when you have a large disk with many files.
- MTA - This is a new version of the DECUS 8-391 Mag tape handler. Roger Seeman seems to have solved the problem that people have been having with the original MTA handler.

PROGRAMS CIRCULATING (NOT IN DECUS)

- SPIP** - The program to transfer all the files with some file name extension or all the files with a particular file name and any extension or even all files is working. It is not being submitted to DECUS however. Contact the author: Dave Kristol, 462 Green Street, Apartment 7, Cambridge, Mass. 02138 for further details. Note that SPIP can squish all the files from one device on to another device without first deleting all the old files on the output device. A fast scheme for DECTape transfers is included.
- EXPIP** - A somewhat similar program to transfer files between devices without deleting existing files. Works on all files with a particular file name extension or all files. Also includes a fast transfer option for DECTape transfers.
- EDITCH** - DECUS 8-478 includes a chainable version of PS/8 EDIT (PS/8 and OS/8 EDIT are not chainable) to implement the extended commands EDIT and CREATE. This new program is a chainable version of EDIT that has the same features as OS/8 EDIT. These include recovery of space created by deleting text from the buffer and a View Command. This version of EDIT is designed for simple overlays to allow the View Command to output to special devices. An example for the Centronics printer is included. Other goodies for 8-478 include NON-EAE versions of various routines that were originally coded for EAE, a DIRECTORY command for output on the TTY; and a new UMount routine that speeds up the FILES command when used with DECTape.
- VERSITEC** 300 printer handlers. This handler is applicable to any printer that works on roll paper rather than on forms. It makes the printer look like a line printer to the program. The IOT codes can be easily changed for other devices such as the Teletype.
- MINT** - A SABR/FORTRAN callable package of subroutines to allow handling multiple precision integers including I/O and arithmetic.
- RWDF32** - A SABR/FORTRAN callable subroutine to do block oriented I/O on the DF32 with any size blocks desired.
- ISEL** - A SABR/FORTRAN callable subroutine to check whether a LINC tape unit is selected and write enabled.
- MAC8** - This is 8K PS/8 MACRO. The original version mentioned sometime ago has been debugged and expanded.
- PAL12** - A modification of PAL8 to allow assembling both PDP-8 and LINC mnemonics. It accepts very nearly pure LAP6-DIAL code. Two sample programs are included; MARK 12 adapted to PAL12 and PS/8, and a program to play the HANGMAN game with a scope display. Both programs demonstrate the ability to assemble LINC mode code.

MOVE - A program to move a list of files from one device to another. The input and output devices and the file names are all included in the Keyboard Monitor command line that calls the program. i.e.,

```
.R MOVE DEVI: DEVO: FILE1.X1, FILE2.X2, etc.
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PS/8 LISP - PS/8 LISP (based on DECUS 8-102a) has been improved and expanded. Some examples of use are included and a set of machine language routines are included to give more functions that are useful in a IAP assembler.

EDITS - A refresh type scope oriented editor similar to EDIT but with some added features such as a J type search that does not output the text searched over. Also included is an extensive collection of routines and handlers related to refresh type scopes.

ZIP10 - A program that allows a complete PS/8 configuration (including a refresh scope if you have it) to function as a terminal for PDP-10 time sharing. You can input to the PDP-10 from PS/8 files and your output can go to a PS/8 file or device. You can also operate directly from the teletype as if the PDP-8 were not there.

WORK BEING DONE - NOT YET AVAILABLE

SABR/FORTRAN modules to plot and output to the KV/8 scope. Scope is assigned as device #5. Also a routine for simplified plotting of graphs.

FUTIL - Sort of a super FYLHLP to give access to the contents of mass storage devices with many options including relative and offset addressing, symbolic type out, multi-word and multi-block dumps, and all the other features you would like to have in this sort of program.

FOCAL-10 compatible version of FOCL/F. This is going to add even more features to FOCL/F which already is a very powerful tool for advanced programmers.

UPDATE - A secretary oriented text entry and editor program.

FOREGROUND/BACKGROUND PS/8 - Designed to do more or less the same job for PS/8 that the original Foreground/Background 8 does for the Disk Monitor system. The hardware instruction trap ("time sharing option") is required. It allows programs to be relocated to arbitrary fields by intercepting all CDF and CIF instructions and translating the instructions to the relocated fields. If a program is written knowing that this will be going on (i.e. a minimum of CIF and CDF instructions) it will not be slowed down much at all. Existing software will run under this system unchanged but some of it will be inefficient.

COMMAND DECODER BUG

Dave Kristol has found that a bug exists in all versions of Command Decoder. If you are using the "Special Mode" of any of the released versions of Command Decoder it will not accept the "*" character. This is suppose to be legal in special mode and is useful in a program such as Dave's SPIP where the * is interpreted as meaning that any name or any extension may be used in that position. The patch to fix this can be made with FYLHLP.

Block 51 Word	<u>PS/8 CD</u>	<u>OS/8 CD</u>	<u>HASPCD</u>
12	51.12/1040	1040	1040
13	51.13/0076	0075	0075
14	51.14/5466	5466	5466
23	51.23/ --	--	0470
66	51.66/0513	0513	0513
Block 52 Word			
112	52.112/5012	5012	5012