

PS/8 NEWSLETTER

JANUARY

1972

HALLELUJAH

At long last! The second issue of the PS/8 Special Interest Group Newsletter (the first issue was in DECUScope Volume 10 Number 2 last spring).

ORGANIZATION

In the coming months we will try to mold the activities of the group to the special interests and needs of PS/8 users. As a start it seems that an informal means for quick dissemination of information, hints and kinks, idea interchange, and program availability is needed. These will be the goals that the newsletter is initially aimed at.

Contributions and correspondence should be sent to:

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

NEW RELEASE OF PS/8

As many of you already know, a new release of PS/8 (V2) is imminent. It will include fixes for known bugs and some improvements. The exact details of what will be included are not available at press time, the new system builder program may be included in the release. Watch for ordering information in the very near future.

AVAILABILITY OF PS/8 SOURCES AND LISTINGS

Some people have had orders for PS/8 source tapes and listings back ordered the last three months or so. This was due to a re-evaluation of DEC's policy regarding distribution of such materials. The latest word is that the "heart of system" (Ps/8 Monitor and Command Decoder) will be restricted. A person ordering sources or listings will be requested to submit a statement to the effect that, the materials will only be used for internal purposes at their installation and will not be distributed, or something along those lines.

The rest of the sources and listings (FORTRAN, PAL8, etc.) will be available in the normal manner.

As an extension of this I understand that DECUS will not be able to accept source materials or listings of the restricted programs. If you have some modifications to the Monitor or Command Decoder they should be submitted in one of the following forms:

1. A new binary file or tape to use in place of the equivalent standard file when building the system.
2. A binary overlay file or tape to load with the standard file during system build.
3. A patch procedure to use during system build or a procedure to change the contents of the system after it is built.
4. If a source comparison program becomes generally available a last resort would be to submit a reproducible source comparison run showing only the differences between the standard source and the modified one. This is the least desirable choice because only others with sources of the system and a system programmer will be able to take advantage of your contribution. This might be the best way to document your modifications however.

By the way, the V2 sources may cost a good bit more (like twice) than the V1 sources. This is unofficial so far.

#### WISH LIST

DEC is collecting a "WISH LIST" of ideas for improvements and extensions to PS/8. Now that V2 is near release they are starting to look at their list to decide what they will do next. They are interested in user inputs. Send in any thoughts you have and they will be passed on to the right people.

#### DEVICE HANDLERS

The following is a list of currently known non-standard device handlers:

<u>Device</u>	<u>Details and Availability</u>
KV8	DECUS 8-451 see below
TC58/TU20	DECUS 8-391 see below
DP12 & PTO8	Serial High Speed Data LINK PS/8 Newsletter in DECUScope Vol. 10, No.2
Centronics 101 Printer	Contact me at above address

I know about work in progress on handlers for the following. Contact me for details.

PDP-12 Scope  
SYKES 100 Compucorder

If you have or know of any other device handlers let me know so that someone else will not have to re-invent the wheel.

### PROGRAMS AVAILABLE FROM DECUS

The following PS/8 related programs are now available from DECUS but did not appear in the last issue of the catalog.

DECUS No. 8-334	KVEDIT. EDITOR for use with the KV8 display.
DECUS No. 8-370 A & B	FBUILD and DISK
DECUS No. 8-391	7 or 9 track MFA for Ps/8 with TC58/TU20
DECUS No. 8-398	IMAGE. Program to convert .SV files to files
DECUS No. 8-421	Chain load
DECUS No. 8-425	Block-Modify for PS/8
DECUS No. 8-427	MEMO - A Text Formatting Program
DECUS No. 8-439	MOVE
DECUS No. 8-440	PIPL: PIP with legible punch of date and tape label - included in PIPQ below
DECUS No. 8-441	DELETE
DECUS No. 8-445	FYLHLP. PS/8 File Utility Programs
DECUS No. 8-450	PS/8 Editor with display for KV8/I (overlay)
DECUS No. 8-451	PS/8 Handler for KV8 Vector Display
DECUS No. 12-48	PS/8 FORTRAN Library Routines. Contains display routines, teletype I/O routines, file I/O routines, LINC mode I/O routines, and LINCtape I/O routines.
DECUS No. 12-49	Cold Start DF32 Disk Formatter for PS/8 on a PDP-12
DECUS No. 12-50	EDIT-12. Causes characters to be output to the PDP-12 scope rather than to the teletype - otherwise the same as EDIT.

The following material has been submitted to DECUS. Contact the Library regarding availability.

PS/8 FOCAL (OMSI FOCAL-71) - This is finally up to where DECUS can distribute it. I have been using it for several months with great success. Anyone who supports PS/8 and who uses FOCAL should consider this one. One of the most interesting features of this version of FOCAL is the ability to call FOCAL programs from any file oriented device as subroutines and return to the calling program.

DTA and DECLAB - Pair of programs that record labels on block 0 of non-system DECTapes and provides a capability to automatically access the labels on all mounted, enabled drives and use them to assign user device names to the respective devices.

LIST - A program to list PS/8 directories on the KV8/I scope.

CHANGE and REMOVE - 2 programs to provide "Pseudo-commands" to change file names without having to copy the file and to remove as many files as you can type on the command line. "Pseudo-command" means you can type:

```
._ R CHANGE PRG.SV TO OLDPRG.SV
```

rather than having to load PIF then specify through command decoder what you want to do. The way this is done is a very neat trick. It is easy to understand from the source file and the technique can be extended to work with any number of new pseudo-commands.

LOG - A set of programs which force users to LOG on and off the system. PS8LOG.BN is a modified version of the system which will not allow any monitor commands to be given until the new LOG command and dialog has been given. It also provides an OFF command and dialog for signing off and recording comments on system operation. LOG.FT is a FORTRAN program chained to by the LOG AND OFF commands. It does the actual dialog and can be modified to suit each installation. LOGOUT.FT is a FORTRAN program for accessing the data captured by LOG.FT and generating a report from it. This may also be modified to suit each situation. DATE.PA is also included. It is a short program to convert the date and output it as the day of the week, the day of the month, the name of the month and the year.

PIPQ - PS/8 PIP with /M and /W options for punching legible characters on paper tape; and /Q option for obtaining quick listings in an abbreviated format (similar to the PDP-12 IAP6-DIAL QL command format). This last is very nice for people with low speed listing devices.

### PS/8 ON THE PDP-12

It would be useful to share ideas and techniques for using PS/8 on the PDP-12. As far as I know there is no assembler for DIAL code which will run under PS/8. There are ways of getting the job done with PAL8 which I am experimenting with and will report on. They are not very foolproof or easy; however.

DECUS No. 12-48 and 12-50 mentioned above may be what is needed to popularize PS/8 on the PDP-12. I have not tried 12-48 but it sounds like a natural. I have tried the editor and it seems to do just what it should. Unfortunately it is undocumented as far as I know.

If anyone must have a PS/8 device handler for the PDP-12 scope I know of one under development. It is a two page handler and almost works at this point. There is a list of features to add for some clever programmer.

I also know where there is a program for converting DIAL source files into PS/8 source files. Of course it only does format conversion and directory operations. As noted above, syntax conversion is not available. Who wants to write a PS/8 to DIAL converter or a binary file converter? They are not too hard and could be useful. See the hints and kinks section for another way to get DIAL programs on to PS/8 tapes.

Does anyone need a little program to read a DIAL LISTAPE and output it to a PS/8 device or file? I have one.

Does anyone need to convert between PS/8 LINCtapes and PDP-10 DECTapes? I have a write-up from John Alderman on doing this. It involves an intermediate "PDP-10 Format LINCtape":

PS/8 FOCAL (see above) will run on the PDP-12 like any other PS/8 program. It does not know about the non-PDP-8 features of the PDP-12 but it would not be hard to incorporate code for them based on the source files included on the DECTape.

#### WORK BEING DONE

The following is a list of program developments known to be under way. If you have an interest in any of them I will try to put you in contact with the appropriate person. Let me know about anything you are doing that could be interesting to others.

PS/8 MACRO - an 8K MACRO-8 for PS/8.

PS/8 BINARY DISASSEMBLER WITH SYMBOLS

EBAL - A macro expander pre-processor for languages such as FAL and FORTRAN.

PIP10 - file interchange with PDP-10 DECTapes.

POLY LISP, POLY SNOBOL (V 0.5) and SL8 (String Language-8) all based on material submitted to DECUS under the "R. L. Monitor" which cannot be distributed yet due to documentation difficulties.

SPY - A "quick look and change", ODT-like program for accessing data on file-oriented devices.

MAP - input is a .BN file and output is a core use map similar to the ones with some DEC listings.

SRCCOM - Source comparison program to compare two source files and output the differences.

PS/8 BASIC - This is a first rate software development which will be sold on some sort of proprietary basis in a few months. Watch for it.

#### HINTS AND KINKS

Here is the shortest, easiest bootstrap I have ever seen for cold starting PS/8, the 4K Disk/DECTape Monitor, POLY BASIC, the DECTape Library System, and other DECTape system with its bootstrap on block 0, unit 0 and a starting address of 7600. I got it from OMSI and hope they don't mind my passing it on.

DECTAPE

<u>Location</u>	<u>Contents</u>
0600	7606
0601	6766
0602	6771
0603	5202
0604	5200
7754	7577
7755	7577

LOAD ADD 0600, START,  
SR = 0200, CONT, CONT,  
LOAD ADD 7600, START

/BOOTSTRAP ARBITRARY MONITOR

/TO SAVE:

/ R ABSLDR

/\*BOOT/8/9/G=2000 (RETURN)

/ SAVE DTA0:BOOT 2000-2777;2000=7003

/TO USE:

/ R BOOT

FROM WHERE EVER IT IS SAVED  
THIS WILL RELOAD AND START AT 7600  
WHAT EVER MONITOR HEAD WAS PRESENT  
IN CORE WHEN BOOT WAS LOADED AND SAVED

/IF BOOT IS SAVED ON A SYSTEM TAPE YOU CAN BRING UP PS-8

/FROM THE TAPE THEN USE BOOT TO RESTORE A DISK MONITOR HEAD

\*2000

/CONTENTS AFTER FIRST EXECUTION

```

START,  TAD (2200-1
        DCA 10
        JMS SETUP
L1,     TAD I 11          /TAD I 10
L2,     DCA I 10         /DCA I 11
        ISZ WC
        JMP L1
        JMS SETUP
L5,     CDF 10           /CDF 0
L3,     TAD I 11         /TAD I 10
L6,     CDF 0            /CDF 10
L4,     DCA I 10         /DCA I 11
        CDF 0            /CDF 10
        ISZ WC
        JMP L5
L7,     TAD (TAD I 10    /JMP I (7600
        DCA L1
        TAD L1
        DCA L3
        TAD (DCA I 11
        DCA L2
        TAD L2
        DCA L4
        TAD L5
        DCA L6
        TAD L4+1
        DCA L5
        TAD L8
        DCA L7
L8,     JMP I (7600
/
SETUP,  0
        TAD (-200
        DCA WC
        TAD (7600-1
        DCA 11
        JMP I SETUP
/
WC,     0
/
/
$

```

THIS IS A SWITCH REGISTER PROCEEDURE THAT WILL BOOTSTRAP  
 A LINCTAPE PS-8 SYSTEM, WITHOUT DESTROYING THE CONTENTS OF  
 CORE OUTSIDE OF 07600-07777, AND 17600-17777.

THIS PROCEEDURE CAN BE USED TO CALL UP THE LINCTAPE PS-8 SYSTEM  
 IN ORDER TO SAVE A DIAL PROGRAM THAT IS IN CORE AS A PS-8 .SV FILE.  
 (PROVIDED THAT THE PROGRAM DOES NOT USE ANY OF THE LOCATIONS  
 MENTIONED IN THE ABOVE PARAGRAPH)

MOUNT A LINCTAPE PS-8 SYSTEM TAPE ON DRIVE A, WRITE ENABLED.

LEFT	RIGHT	PRESS	MNEMONIC	DESCRIPTION
-	-		LINCMODE	
-	-		IOPRESET	
516	1020	DO	AC1020	/FLD 1, EXT MODE
1	-	DO	AX0	/INTO TAPE EXT OPS REG.
516	7600	DO	AC7600	/1ST ADDR IN FIELD 1.
23	-	DO	TMA	/INTO TAPE MEM ADDR
700	0	DO	RDC 0	/READ BLOCK 0.
516	20	DO	AC20	/EXT. MODE, FLD 0
1	-	DO	AX0	/INTO TAPE EX OPS REG.
516	7600	DO	AC7600	/1ST ADDR IN FLD 0
23	-	DO	TMA	/INTO TAPE MEM ADDR.
700	1	DO	RDC 1	/READ BLOCK 1
-	-		8-MODE	
-	-		IOPRESET	
7600	-		START LS	/START PS-8 AT SAVE CORE /ENTRY POINT

SUCCESS IS INDICATED BY './ ON TTY

CONTRIBUTED BY JOHN ALDERMAN