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PDP-8 DIGITAL SOFTWARE NEWS

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The **PDP-8 Digital Software News** (a bi-monthly publication) complements Software Reviews for COS-310, OS/8, OS/78, and WPS-8. New and revised Software Product Descriptions, programming notes, software problems and solutions, and documentation corrections are published here. Much of the material is developed from Software Performance Reports (SPR) answers significant to the general audience and is printed here to supplement the maintenance notebook (established by the Software Review).

PRODUCTS SUPPORTED in the PDP-8 DIGITAL SOFTWARE NEWS

COS-310 V8/V8.02
COS-310 2780/3780 RDCP V8.01
OS/8 COMBINED KIT V3D
OS/78 V3
WPS-8 V3.1
WPS-8/200 V4.3
WPS-8/78 V3.4
WPS-8/81, WPS-8/82 V3.4
WPS-8/FTS V3.1
WPS-8/MTS V3.1
WPS-11M V3.2

DISTRIBUTION

The Digital Software News is directed to one software contact for each software product. No mailing will be made to addresses without a software contact name. **Address change requests should be sent to the nearest DIGITAL field office. Include the new address and mailing label from the most recently received publication.**

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Eleanor F. Hunter, Editor
Ann Owens, Associate Editor

PDP-8 Digital Software News, October/November 1980

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SPR USER LETTER

Submitted by Sheila Hatchell, 8/11 Administration

The Dispatch SPR User Letter has been revised to reflect the new SPR form which is now available. These forms can be obtained from your local DIGITAL Office or SPR Center, or by requesting them from SPR Administration.

How to Make the Best Use of the SPR Form

What We Can Do for You:

1. Blank SPR forms are available upon request in the desired quantities through the SPR Administration (P.O. Box F) and your local office/SPR Center.
2. Copies of the SPR acknowledgement and answer are sent to the appropriate DIGITAL Office/SPR Center for their information.
3. STATUS FOR SUBMITTED SPRs IS PROVIDED UPON REQUEST.
4. SPRs marked PROBLEM/ERROR will have a response for DIGITAL SUPPORTED products. These SPRs should refer to suspected deficiencies in the software.
5. SPRs marked SUGGESTION are forwarded to the pertinent software group for information purposes, and are responded to at their discretion.

What You Can Do for Us:

1. Fill out the form completely either by typing or printing clearly. **PLEASE INCLUDE YOUR SOFTWARE SERVICE CUSTOMER NUMBER IN THE ADDRESS BOX.**
2. Limit only one problem per SPR form. Several problems on an SPR can lengthen the turnaround time.
3. WHENEVER POSSIBLE, SUBMIT AN SPR WITH ATTACHMENTS, SUCH AS MACHINE READABLE DATA, DETAILED INSTRUCTIONS ON HOW TO REPRODUCE THE PROBLEM, PROGRAM AND/OR DATA FILES, LISTINGS, AND CONSOLE LOG.
4. It would be helpful to all concerned if problems with patches are reported as soon as possible.
5. For security SPRs, it is imperative that the DO NOT PUBLISH box be marked.
6. It would be helpful if tapes submitted with SPRs are labeled (track and density), and have a directory attached.
7. Complete the questionnaire that is supplied with each SPR answer. Your feedback is essential in monitoring the quality of our responses.
8. SPRs should not be used for problems concerning software policy, software distribution, or hardware. The local office should be contacted in these cases.

OS/8 V3D
UTILITIES
PAL8 V13A

Supersedes article dated June/July 1980

TABS ARE TRANSLATED INCORRECTLY (KW)

Problem: TABs following a label (PAL8) that are 6 characters long are translated into spaces incorrectly.

Diagnosis: This problem is evident only when CREF listings are requested during a PAL8 assembly.

Solution: The following optional patch will correct this problem, improving the appearance of CREF output listings. Since this patch is optional, no change has been made to the version number of PAL8.SV.

```
.R FUTIL
SET DEV SYS
SET MODE SAVE
FILE PAL8.SV
1363/7440 5764
1364/4527 4321
4321/XXXX 7200
4322/XXXX 1363
4323/XXXX 4762
4324/XXXX 7200
4325/XXXX 4761
4326/XXXX 5760
4360/XXXX 1372
4361/XXXX 0735
4362/XXXX 1000
4363/XXXX 0211
WRITE
EXIT
```

OS/8 V3D
UTILITIES
ABSLDR V6B

Seq 21.29.1 M

1 of 1

Supersedes article dated June/July 1980

LOADER PROBLEM WITH SAVE IMAGE FILES (BS)

There is a problem in that Loader does not work with Save Image files. The following patch, applied via FUTIL, will correct this problem.

```
.R FUTIL
SET DEV SYS
SET MODE SAVE
FILE ABSLDR.SV
14105/1757 7000
14106/7004 7000
14107/7110 7000
14110/3757 7000
12200/6602 6603
WRITE
EXIT
```

Note that the above patch upgrades ABSLDR from Version 6B to Version 6C.

OS/78 V3.Ø
BASIC V7A
RESEQ.BA V7A

RESEQ.BA DOES NOT RESEQUENCE PROPERLY (KW)

Problem: The program will not properly resequence programs containing lines of the following form:

ON expression GOTO line, line
ON expression GOSUB line, line

Where expression contains a numeral.

Diagnosis: RESEQ.BA (V7A) treats the "ON" element as a branching element by itself, and interprets the next numeral found as the line to branch to. For example: the line

10 ON A+1 GOTO 30, 40

will become corrupted, as "1" will be treated as a line number.

Solution: The following mandatory patch will correct this problem and upgrade RESEQ.BA to Version 7B.

Note: Underlined text reflect computer generated responses.

```
.BASIC
OLD OR NEW - OLD RESEQ.BA

READY

82  ! VERSION 7B, UPGRADED TO FIX SPR #8-2940

260 A=0 !SET FLAG BEFORE CHECK FOR "ON"

261 R5$="ON"\GOSUB 603\1F R <= 0 THEN 267 !CHECK
FOR "ON"-IF FOUND...

264 A=1 !...THEN SET FLAG

300 ON A+1 GOSUB 360,393 !360 IF SINGLE
BRANCH-393 IF CONDITIONAL BRANCH

DE 303

READY
```

OS/78 V3.Ø
BASIC V7A
RESEQ.BA V7A

Seq 72.66.1 M

2 of 2

```
DE 306

READY

SAVE RESEQ.BA

READY

BYE

.
```

COS-310 V8.00
(Patch 12)

Seq 81.1.12 M

1 of 2

BOOTING A SINGLE DENSITY DISKETTE IN A DOUBLE DENSITY DRIVE (JG)

PROBLEM:

The system will hang while booting an RX01 diskette if the hardware is configured as an RX02 and either an RK05, RL01 or RL02.

SOLUTION:

The following patch to the Monitor corrects this problem. It also changes the version number of the Monitor to V8.00C.

COS-310 V8.00
(Patch 12)

Seq 81.1.12 M

2 of 2

1. Create a PATCH command file (PT12) using the following editor commands:

```
.ER
.LN
0100 /N
0110 13
0120 253
0130 4273
0140 END
0150 16
0160 26
0170 266
0180 2144
0190 END
0200 0001
0210 END
0220 /X
```

2. Check the PT12 command file by running PATCH without the /C option. PATCH simulates the patching operation but does not change the file on the system device. When run without the /C option, PATCH displays CHECKSUM CORRECT--USE OPTION C TO UPDATE rather than NEW BLOCK PATCHED OK. To check the command file enter the following:

```
.R PATCH,PT12
```

PATCH will respond by displaying the PATCH dialogue and returning to the Monitor. If PATCH does not return to the Monitor, check the PT12 command file to ensure that it was entered correctly.

3. Install the patch by entering the following command:

```
.R PATCH,PT12/C
```

PATCH will respond by displaying the PATCH dialogue and returning to the Monitor.

COS-310 V8.01
(Patch 8)

Seq 81.2.9 M

1 of 2

BOOTING A SINGLE DENSITY DISKETTE IN A DOUBLE DENSITY DRIVE (JG)

PROBLEM:

The system will hang while booting an RX01 diskette if the hardware is configured as an RX02 and either an RK05, RL01 or RL02.

SOLUTION:

The following patch to the Monitor corrects this problem. It also changes the version number of the Monitor to V8.01D.

COS-310 V8.01
(Patch 8)

Seq 81.2.9 M

2 of 2

1. Create a PATCH command file (PT08) using the following editor commands:

```
.ER
.LN
0100 /N
0110 13
0120 253
0130 4273
0140 END
0150 16
0160 26
0170 266
0180 2245
0190 END
0200 0001
0210 END
0220 /X
```

2. Check the PT08 command file by running PATCH without the /C option. PATCH simulates the patching operation but does not change the file on the system device. When run without the /C option, PATCH displays CHECKSUM CORRECT--USE OPTION C TO UPDATE rather than NEW BLOCK PATCHED OK. To check the command file enter the following:

```
.R PATCH,PT08
```

PATCH will respond by displaying the PATCH dialogue and returning to the Monitor. If PATCH does not return to the Monitor, check the PT08 command file to ensure that it was entered correctly.

3. Install the patch by entering the following command:

```
.R PATCH,PT08/C
```

PATCH will respond by displaying the PATCH dialogue and returning to the Monitor.

COS-310 V8.02
(Patch 2)

Seq 81.3.2 M

1 of 2

BOOTING A SINGLE DENSITY DISKETTE IN A DOUBLE DENSITY DRIVE (JG)

PROBLEM:

The system will hang while booting an RX01 diskette if the hardware is configured as an RX02 and either an RK05, RL01 or RL02.

SOLUTION:

The following patch to the Monitor corrects this problem. It also changes the version number of the Monitor to V8.02B.

COS-310 V8.02
(Patch 2)

Seq 81.3.2 M

2 of 2

1. Create a PATCH command file (PT02) using the following editor commands:

```
.ER
.LN
0100 /N
0110 13
0120 253
0130 4273
0140 END
0150 16
0160 26
0170 266
0180 2343
0190 END
0200 0001
0210 END
0220 /X
```

2. Check the PT02 command file by running PATCH without the /C option. PATCH simulates the patching operation but does not change the file on the system device. When run without the /C option, PATCH displays CHECKSUM CORRECT--USE OPTION C TO UPDATE rather than NEW BLOCK PATCHED OK. To CHECK THE COMMAND FILE ENTER THE FOLLOWING:

```
.R PATCH,PT02
```

PATCH WILL RESPOND BY DISPLAYING THE PATCH DIALOGUE AND RETURNING TO THE Monitor. If PATCH does not return to the Monitor, check the PT02 command file to ensure that it was entered correctly.

3. Install the patch by entering the following command:

```
.R PATCH,PT02
```

PATCH will respond by displaying the PATCH dialogue and returning to the Monitor.

PDP-8 DIGITAL SOFTWARE NEWS
CUMULATIVE INDEX
OCTOBER/NOVEMBER 1980

This is a complete listing of all articles for current products supported in the 8 Digital Software News. Missing sequence numbers may pertain to problems unique to other versions of the same product.

IMPORTANT!

Unassigned articles are indicated: UNASSIGNED.

Flags are currently being installed for all articles. The flags and definitions are as follows.

M = Mandatory Patch. These patches correct errors in the software product. All users are required to apply these patches to maintain consistent "user level" unless the accompanying article specifies otherwise.

F = Optional Feature Patch. These patches extend or configure functionality into the product. These functions will be treated as a supported part of the product for the duration of the current release and will be incorporated with any future release, unless otherwise stated.

R = Restriction. These articles discuss areas that will not be patched in the current release because they require major modifications or because of the product. Restrictions, except those described as permanent, are reviewed and modified when possible as part of the normal release cycle.

N = Note. These articles provide explanatory information that supplements the manual set and provide more detailed information about a program or package. They also provide procedural information to make it easier to use a program or package.

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digital
Software Product Description

PRODUCT NAME: OS/8 Combined Kit, Version 3D **SPD 4.4.3**

DESCRIPTION:

The OS/8 Combined Kit is a comprehensive executive supporting PDP-8 computer systems. The OS/8 Combined Kit includes a number of programming languages, an assortment of device support options, and the capability to extend the system to 128K words.

Programs stored on disk can be accessed for loading, modification, or execution by simple keyboard commands.

The OS/8 Combined Kit allows program chaining, so that large programs can be coded into small segments that can be serially overlaid during execution to conserve memory storage.

Program I/O is performed by standard calls to the system device handlers and the I/O supervisor User Service Routines. Programs can be coded for device independence. This feature permits programs to be written without regard for the characteristics of a particular I/O device.

When a device-independent program is executed, the user can enter a run-time I/O specification command selecting the I/O devices to be employed during program execution. As the system configuration grows, device-independent programs can use the new I/O capabilities with no rewriting or reassembly.

Every OS/8 Combined Kit system is easily extended to include additional peripheral devices. Fully supported I/O device options include high- or low-speed paper tape equipment, card readers, line printers, a selection of hard-copy or CRT console terminals, and a variety of disk and magnetic tape mass storage devices. Device independence can be maintained even for nonstandard devices. Nonstandard devices are added to the system by coding a 1- or 2-page device handler and appending it to the standard device handlers supplied with the system.

The OS/8 Combined Kit Programs include

Concise Command Language (CCL) — provides a set of easy-to-use terminal commands. Typical commands available in CCL include: COPY, DIRECTORY, HELP, RENAME, LIST, and DELETE.

EDIT — incorporates all features of the stand-alone package and provides I/O device independence.

PAL8 — is an extended assembler. It includes some of the features of both PAL III and MACRO-8, plus additional features such as conditional assembly, expanded symbol table (allowing over 1500 entries on a 12K-word system), hash symbol table search, extended pseudo-operations, and paginated listings with page headings and number pages.

Absolute Loader (ABSLDR) — is an Absolute Loader program that reads a relocatable binary program into specified memory locations and creates a resident memory image suitable for addition to the system library or for immediate execution.

Octal Debugging Technique (ODT) — allows protype programs to run under carefully controlled conditions, modify code during execution, or modify the state of main memory and the major registers. ODT does not require any memory other than certain areas of the 256-location resident monitor and, at most, three additional words in each field. It is swapped into memory from the system device whenever required, while overlaid portions of the running program are saved on the device for later restoration.

File-Oriented Transfer Program (FOTP) — allows transfer of groups of files between two file-structured devices with minimum terminal interaction and device overhead. For example, all ASCII files can be transferred between a DECtape and the disk with one command.

FORTRAN II — is a complete FORTRAN II programming system consisting of

FORT: The FORTRAN compiler

SABR: A symbolic assembler for binary relocatable programs

LOADER: The linking loader that accepts an open-ended list of relocatable binary files and generates a memory image suitable for saving or execution.

The FORTRAN II system includes such features as Hollerith constants, implied DO loops, program chaining, and mixed FORTRAN and assembly statements.

FORTRAN IV — is a language compiler. FORTRAN IV permits generalized array subscription and 1- to 12-dimensional arrays. Large amounts of data can be stored and accessed easily. FORTRAN IV also offers direct access I/O. Direct access I/O provides virtual

array capability and decreases processing time. FORTRAN IV supports mixed-mode arithmetic, octal constants, logical IF statements, and general integer expressions in IF statements. FORTRAN IV also provides a tree-structured dynamic overlay mechanism that automatically loads overlays on call without the need for explicit call overlay, call link, or call chain statements.

BUILD — a system generation program that allows convenient generation or reconfiguration of any OS/8 Combined Kit system. BUILD can be used to insert or delete system I/O device handlers to permit the system I/O structure to be tailored to a particular application.

Cross Reference Utility Program (CREF) — aids the development programmer in writing, debugging, and maintaining assembly language programs by providing the ability to locate all references to a particular symbol. Input is supplied to CREF in the form of an ASCII listing file produced by either PAL8, RALF, or the SABR assembler.

Source Compare (SRCCOM) — compares two source files line by line and creates a third file listing all differences between the two sources.

Peripheral Interchange Program (PIP10) — allows the transfer of ASCII files between DECsystem-10 DECtapes and the OS/8 Combined Kit devices. This utility runs only on a PDP-8/I,. /L, /E, /M, or /A equipped with either TC08 or TD8E DECtape.

BATCH — processing used to monitor and execute frequently run production jobs, large and long-running programs, and programs that require little or no interaction. Output is generated in the form of a line-printer and/or console-terminal listing that includes program output as well as a summary of all action taken by the program, the monitor system, and the computer operator. Almost any program that runs interactively under the OS/8 Combined Kit can also be run under BATCH. (Since BATCH is initiated from the keyboard in the same manner as any other system program, interactive users can use BATCH to execute multiple utility routines, even when continuous batch processing is not desired.

BASIC — is a language compiler and run-time system. It can be used to create programs interactively, or compile, load, and execute ASCII input files in response to a single monitor command. Alternatively, a program and data file can be prepared under the interactive monitor for subsequent stand-alone processing under BATCH. BASIC permits interfacing with functions written in assembly language.

TECO — is a command language made up of easy mnemonics that provide full editing capabilities to the programmer. The commands are very similar to corresponding Symbolic Editor commands. The I/O device independence of system programs permits TECO to create or modify ASCII files on any medium. TECO commands can be combined in sophistiated command strings that are essentially editing "programs." TECO commands provide capabilities for conditional execution, branching, program control, and multiple processing.

RESORC — is a program that allows access to the list of all I/O handlers in the system, including a special handler called VXAO. The VXAO handler allows the memory extension option to be used as though it were a separate pseudo device.

Extended Memory software is provided to support the KT8A extended memory hardware, which allows the user to address up to 128K words of contiguous main memory (not supported on DECstation 78).

MINIMUM HARDWARE REQUIRED:

- PDP-8/A, /E, or /M with 12K words of memory, or DECstation-88/80, /90, /92, or /97.
- One of the following mass storage devices: RK8J or RL8A disk, RX28 or RX8 diskette, TD8E DECtape

NOTE: The DECstation 88 products include the required mass storage devices.

- VT52, LA36, or equivalent console terminal

OPTIONAL HARDWARE:

- LS8-E, LE8-E, LQP78, LV8 or equivalent parallel line printer
- KE8-E extended arithmetic element
- KT8A extended memory hardware (for greater than 32K words of memory systems)
- FPP8-A Floating-point processor

PREREQUISITE SOFTWARE:

None

OPTIONAL SOFTWARE:

None

TRAINING CREDITS:

None

SUPPORT CATEGORY:

DIGITAL SUPPORTED

OS/8 Combined Kit is a DIGITAL Supported Software Product.

SOFTWARE INSTALLATION:

CUSTOMER INSTALLED

OS/8 Combined Kit is a software product engineered to be installed by the customer and includes other Software Product Support services listed below.

SOFTWARE PRODUCT SUPPORT:

OS/8 Combined Kit includes standard warranty services as defined in the Software Support Categories Addendum of this SPD.

ORDERING INFORMATION:

All binary licensed software, including any subsequent updates, is furnished under the licensing provisions of DIGITAL's Standard Terms and Conditions of Sale, which provide in part that the software and any part thereof may be used on only the single CPU on which the software is first installed, and may be copied, in whole or in part (with the proper inclusion of the DIGITAL copyright notice and any DIGITAL proprietary notices on the software) only for use on such CPU.

All source licensed software is furnished only under the terms and conditions of a separate Software Program Sources License Agreement between Purchaser and DIGITAL.

Sources and/or listings options are only available after the purchase of at least one supported license and after a source license agreement is in effect.

The following key (C, E, Q, X, Y, Z) represents the distribution media for the product and must be specified at the end of the order number, e.g., QF024-AE = binaries on RK05 Disk Cartridge.

C = DECtape
E = RK05 Disk Cartridge
Q = RL01 Disk Cartridge
X = RX02 Floppy Diskette
Y = RX01 Floppy Diskette
Z = No hardware dependency

QF024 -A— Single-use license, binaries, documentation, support services (media: C, E, Q, Y)

Sources/Listings Options

QF024 -E— Sources (media: E, Q)

Update Options

Users of OS/8, Version 3C, OS/8 FORTRAN IV, OS/8 Extension Kit, Version 3C whose specified Support Category warranty has expired may order under license the following software update at the prevailing rate for such update. The update is distributed in binary form on the appropriate medium and includes no installation or other services unless specifically stated.

QF024 -H— Binaries, documentation (media: C, E, Q, X, Y)

Sources/Listings Update Options

The following options are available to license users as updates to sources/listings options. The update is distributed in source form on the appropriate medium and includes no installation or other services unless specifically stated.

QF024 -N— Sources update (media: E, Q)

Miscellaneous Options

QF024 -G— Documentation only kit (media: Z)

ADDITIONAL SERVICES:

None

digital Software Product Description

PRODUCT NAME: WPS-8/FTS, Version 3.1
WPS-8 Floppy-Based Terminal System

SPD 5.88.2

DESCRIPTION:

WPS-8/FTS is a two-terminal hardware/software text processing system for office and business use. Both users have the full capabilities of the WPS-8 Word Processing System. A menu-driven editor creates and updates documents stored on floppy diskettes. Up to 200 documents of various lengths or up to a total of 125 pages (at approximately 2000 characters per page) can be stored on a single floppy diskette. Editing capabilities make it possible to easily correct text without completly retyping a new draft. Documents can be queued to a letter quality printer or draft printer. Printing and editing can be done simultaneously.

WPS-8/FTS enables the user to

- Prepare and edit reports that may require several drafts before final printing
- Create contracts and other documents from a library of stored paragraphs
- Print form letters using a stored form document and a list from which items, such as names and addresses, are automatically selected

Features

- Dynamic floppy disk file allocation
- Responsive menu-driven operation
- Easy-to-learn commands
- Special editing keypad
- Full editing features:
  - Cut and paste of blocks of text
  - Operations by grammatical entity (character, tab position, sentence, paragraph, page, section, line)
  - Boilerplate insert from library file
  - Shorthand expressions
  - Swap transposed character key
  - Delete and rubout by word and character
- Full control of tabs, margins, justification, and pagination:
  - Automatic centering of text on a line
  - Discretionary pagination control
  - Semiautomatic hyphenation
  - Decimal and right-justified tabs
- Greater than 500 words per minute letter quality printed output
- Higher speed draft printer support
- Selectable pitch and type fonts
- Underlined and overstruck (bold) printout
- Proportional spaced printing
- Multicolumn printing
- Superscript and subscript
- Mailing list utilities
- Form letter merge
- Time and date stamp
- Operator statistics
- Single sheet or continous forms printing
- Document transfer between users with unattended receive
- User-definable keys

Communications

Using the WPS-8 communications option, documents prepared under WPS-8 can be sent to a remote time-sharing system or to another WPS-8 system. Transmission is serial asynchronous ASCII, RS232-C compatible. A variety of transmission options is possible. Used in conjunction with a TOPS-10, TOPS-20 RSX-11M, IAS, or RSTS/E Operating System, WPS-8 allows data entry and verification to take place offline. The WPS-8 editor makes file modifications easy. Once in final form, files can be sent to the remote system for processing. Files can also be sent from TOPS-10, TOPS-20, RSX-11M, IAS, or RSTS/E Operating Systems to a WPS-8 system for off-line editing, printing, and review.

When used to send documents to another WPS-8 system, printer control information is sent with each file. The document received at the remote system contains all margin, spacing, hyphenation, and justification information found in the original. A special error detection protocol is used to ensure accurate document transmission.

Features

- Asynchronous serial transmission — RS232 compatible
- Speeds to 9600 baud using XON/XOFF protocol

- Flexible control of keyboard, printer, and floppy
  - Input from keyboard, document, or remote host
  - Output to screen, printer, document, or remote host
  - Multiple combinations possible
- Special transmission mode between WPS-8 systems
  - Error detecting protocol
  - Format control information sent with documents
- Buffered operation
- Automatic document send and receive
- IBM Communicating Mag Card I support

MINIMUM HARDWARE REQUIRED:

- WS202-AA or WS202-CA Word Processing System

OPTIONAL HARDWARE:

One of the following:

- Communications Interface add-on to a WS202-AA
- LE8 line printer or
- LA8 draft printer
- LQP8 letter quality printer

PREREQUISITE SOFTWARE:

None

OPTIONAL SOFTWARE:

None

TRAINING CREDITS:

None

SUPPORT CATEGORY:

DIGITAL SUPPORTED

WPS-8/FTS is a DIGITAL Supported Software Product.

SOFTWARE INSTALLATION:

DIGITAL INSTALLED

DIGITAL installation is required for Software Product Support. There is no charge for installation if performed at the time of system installation. DIGITAL installed software products, except for operating systems, are subject to an add-on installation fee when purchased subsequent to system installation.

SOFTWARE PRODUCT SUPPORT

WPS-8/FTS includes standard warranty services as defined in the Software Support Categories Addendum of this SPD.

ORDERING INFORMATION:

All binary licensed software, including any subsequent updates, is furnished under the licensing provisions of DIGITAL's Standard Terms and Conditions of Sale, which provide in part that the software and any part thereof may be used on only the single CPU on which the software is first installed, and may be copied, in whole or in part (with the proper inclusion of the DIGITAL copyright notice and any DIGITAL proprietary notices on the software) only for use on such CPU.

All source licensed software is furnished only under the terms and conditions of a separate Software Program Sources License Agreement between Purchaser and DIGITAL.

Distribution for the WPS-8/FTS software is on RX01 Floppy Diskettes.

WS202 -AA	Word Processing System, single-use license, binaries, documentation, support services
WS202 -CA	Word Processing System with KL8-A, single-use license, binaries, documentation, support services

Update Options

Users of WPS-8/FTS whose specified Support Category warranty has expired may order under license the following software update at the prevailing rate for such update. The update is distributed in binary form on the appropriate medium and includes no installation or other services unless specifically stated.

QF710-HY	Binaries, documentation
QF710-HZ	Right to copy for single-use (under existing license), no binaries, no documentation

ADDITIONAL SERVICES:

None

digital
Software Product Description

PRODUCT NAME: WPS-8, Version 3.1
PDP-8 Word Processing System

SPD 5.94.8

DESCRIPTION:

WPS-8 is a hardware/software text processing system for office and business use. A menu-driven editor creates and updates documents stored on floppy diskette. Up to 200 documents of various lengths or up to 125 pages (at approximately 2000 characters per page) can be stored on a single floppy diskette. Editing capabilities make it possible to easily correct text without completely retyping a new draft. Documents can be queued to a letter quality printer or draft printer. Printing and editing can be done simultaneously.

WPS-8 enables the user to

- Prepare and edit reports that may require several drafts before final printing
- Create contracts and other documents from a library of stored paragraphs
- Print form letters using a stored form document and a list from which items, such as names and addresses, are automatically selected

Features

- Dynamic floppy diskette file allocation
- Supports either two- or four-floppy system configuration
- Responsive menu-driven operation
- Easy-to-learn commands
- Special editing keypad
- Full editing features:
  - Cut and paste of blocks of text
  - Operations by grammatical entity (character, tab position, sentence, paragraph, page, section, line)
  - Boilerplate insert from library file
  - Shorthand expressions
  - Swap transposed character key
  - Delete and rubout by word and character
- Full control of tabs, margins, justification, and pagination
  - Automatic centering of text on a line
  - Discretionary pagination control
  - Semiautomatic hyphenation
  - Decimal and right-adjusted tabs
- Greater than 500 words per minute letter quality printed output
- Higher speed draft printer support
- Selectable pitch and type fonts
- Underlined and overstruck (bold) printout
- Multicolumn printing
- Superscript and subscript
- Mailing list utilities
- Form letter merge
- Time and date stamp
- Operator statistics
- Single sheet or continuous forms printing
- User-definable keys

Communications

Using the WPS-8 communications option, documents prepared under WPS-8 can be sent to a remote time-sharing system or to another WPS-8 system. Transmission is serial asynchronous ASCII, RS232-C compatible. A variety of transmission options is possible. Used in conjunction with a TOPS-10, TOPS-20, RSX-11M, IAS, or RSTS/E Operating System. WPS-8 allows data entry and verification to take place offline. The WPS-8 editor makes file modifications easy. Once in final form, files can be sent to the remote system for processing. Files can also be sent from TOPS-10, TOPS-20, RSX-11M, IAS, or RSTS/E Operating Systems to a WPS-8 system for off-line editing, printing, and review.

When used to send documents to another WPS-8 system, printer control information is sent with each file. The document received at the remote system contains all margin, spacing, hyphenation, and justification information found in the original. A special error detection protocol is used to ensure accurate document transmission.

Features

- Asynchronous serial transmission — RS232-C compatible
- Speeds to 9600 baud using XON/XOFF protocol

- Flexible control of keyboard, printer, and floppy diskette
  - Input from keyboard, document, or remote host
  - Output to screen, printer, document, or remote host
  - Multiple combinations possible
- Special transmission mode between WPS-8 systems
  - Error detecting protocol
  - Format control information sent with documents
- Buffered operation
- Automatic document send and receive
- Flexible control of communication characteristics
  - Embedded control characters
  - Answerback support
  - TWX emulation

MINIMUM HARDWARE REQUIRED:

One of the following systems:

- WS100 Word Processing System
- DS310-K or DS310-L COS-310 system with WP310 upgrade

OPTIONAL HARDWARE:

- One KL8-JA communications interface
- One LE8 line printer
- One LA8 draft printer
- One additional RX01 dual floppy drive

PREREQUISITE SOFTWARE:

None

OPTIONAL SOFTWARE:

None

TRAINING CREDITS:

None

SUPPORT CATEGORY:

DIGITAL SUPPORTED

WPS-8 is a DIGITAL Supported Software Product.

SOFTWARE INSTALLATION:

DIGITAL INSTALLED

DIGITAL installation is required for Software Product Support. There is no charge for installation if performed at the time of system installation. DIGITAL installed software products, except for operating systems, are subject to an add-on installation fee when purchased subsequent to system installation.

SOFTWARE PRODUCT SUPPORT:

WPS-8 includes standard warranty services as defined in the Software Support Categories Addendum of this SPD.

ORDERING INFORMATION:

All binary licensed software, including any subsequent updates, is furnished under the licensing provisions of DIGITAL's Standard Terms and Conditions of Sale, which provide in part that the software and any part thereof may be used on only the single CPU on which the software is first installed, and may be copied, in whole or in part (with the proper inclusion of the DIGITAL copyright notice and any DIGITAL proprietary notices on the software) only for use on such CPU.

All source licensed software is furnished only under the terms and conditions of a separate Software Program Sources License Agreement between Purchaser and DIGITAL.

Distribution for the WPS-8 software is on a RX01 Floppy Diskette.

WS100 -AA	Word Processing System with KL8-JA, single-use license, binaries, documentation, support services
WS100 -BA	Word Processing System, single-use binaries, documentation, support services

Upgrade Options

Customers who are currently licensed users of WPS-8 may obtain this new product by purchasing a license to an upgrade kit for use on the same CPU as their previous license.

WP310 -AA	Single-use license, binaries, documentation, support services

Update Options:

Users of WPS-8 whose specified Support Category warranty has expired may order under license the following software update at the prevailing rate for such update. The update is distributed in binary form on the appropriate medium and includes no installation or other services unless specifically stated.

QF700-HY	Binaries, documentation
QF700-HZ	Right to copy for single-use (under existing license), no binaries, no documentation

ADDITIONAL SERVICES:

None

digital
Software Product Description

PRODUCT NAME: WPS-8/MTS, Version 3.1
WPS-8 Multiterminal System

SPD 5.96.8

DESCRIPTION:

WPS-8/MTS is a two-terminal hardware/software text processing system for office and business use. Both users have the full capabilities of the WPS-8 Word Processing System. A menu-driven editor creates and updates documents stored on floppy diskettes. Up to 200 documents of various lengths or up to a total of 125 pages (at approximately 2000 characters per page) can be stored on a single floppy diskette. Editing capabilities make it possible to easily correct text without completely retyping a new draft. Documents can be queued to a letter quality printer or draft printer. Printing and editing can be done simultaneously.

WPS-8/MTS enables the user to:

- Prepare and edit reports that may require several drafts before final printing
- Create contracts and other documents from a library of stored paragraphs
- Print form letters using a stored form document and a list from which items, such as names and addresses, are automatically selected

Features

- Dynamic floppy diskette file allocation
- Responsive menu-driven operation
- Easy-to-learn commands
- Special editing keypad
- Full editing features:
  - Cut and paste of blocks of text
  - Operations by grammatical entity (character, tab position, sentence, paragraph, page, section, line)
  - Boilerplate insert from library file
  - Shorthand expressions
  - Swap transposed character key
  - Delete and rubout by word and character
- Full control of tabs, margins, justification, and pagination:
  - Automatic centering of text on a line
  - Discretionary pagination control
  - Semiautomatic hyphenation
  - Decimal and right-adjusted tabs
- Greater than 500 words per minute letter quality printed output
- Higher speed draft printer support
- Selectable pitch and type fonts
- Underlined and overstruck (bold) printout
- Multicolumn printing
- Superscript and subscript
- Mailing list utilities
- Form letter merge
- Time and date stamp
- Operator statistics
- Single sheet or continuous forms printing
- User-definable keys

Communications

Using the WPS-8 communications option, documents prepared under WPS-8 can be sent to a remote time-sharing system or to another WPS-8 system. Transmission is serial asynchronous ASCII, RS232-C compatible. A variety of transmission options is possible. Used in conjunction with a TOPS-10, TOPS-20, RSX-11M, IAS, or RSTS/E Operating System, WPS-8 allows data entry and verification to take place offline. The WPS-8 editor makes file modifications easy. Once in final form, files can be sent to the remote system for processing. Files can also be sent from TOPS-10, TOPS-20, RSX-11M, IAS, or RSTS/E Operating Systems to a WPS-8 system for off-line editing, printing, and review.

When used to send documents to another WPS-8 system, printer control information is sent with each file. The document received at the remote system contains all margin, spacing, hyphenation and justification information found in the original. A special error detection protocol is used to ensure accurate document transmission.

Features:

- Asynchronous serial transmission — RS232-C compatible
- Speeds to 9600 baud using XON/XOFF protocol

- Flexible control of keyboard, printer, and floppy diskette
  - Input from keyboard, document, or remote host
  - Output to screen, printer, document, or remote host
  - Multiple combinations possible
- Special transmission mode between WPS-8 systems
  - Error detecting protocol
  - Format control information sent with documents
- Buffered operation
- Automatic document send and receive
- Flexible control of communication characteristics
  - Embedded control characters
  - Answerback support
  - TWX emulation

MINIMUM HARDWARE REQUIRED:

One of the following systems:

- WS100 Word Processing System with WP102 upgrade
- DS310-K or DS310-L COS-310 system with WP310 and WP102 upgrades

OPTIONAL HARDWARE:

One of the following:

- KL8-JA Communications Interface
- LE8 line printer or
- LA8 draft printer

PREREQUISITE SOFTWARE:

None

OPTIONAL SOFTWARE:

None

TRAINING CREDITS:

None

SUPPORT CATEGORY:

DIGTAL SUPPORTED

WPS-8/MTS is a DIGITAL Supported Software Product.

SOFTWARE INSTALLATION:

DIGITAL INSTALLED

DIGITAL installation is required for Software Product Support. There is no charge for installation if performed at the time of system installation. DIGITAL installed software products, except for operating systems, are subject to an add-on installation fee when purchased subsequent to system installation.

SOFTWARE PRODUCT SUPPORT:

WPS-8/MTS includes standard warranty services as defined in the Software Support Categories Addendum of this SPD.

ORDERING INFORMATION:

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All source licensed software is furnished only under the terms and conditions of a separate Software Program Sources License Agreement between Purchaser and DIGITAL.

Distribution for the WPS-8/MTS software is on RX01 Floppy Diskettes.

For a WS100-A or WS100-B Word Processing System:

WP102 -BA MTS system hardware, single-use, license, binaries, documentation, support services

For a DS310-K or a DS310-L COS-310 system both of the following are required:

WP310 -AA Word Processing System, single-use license, binaries, documentation, support services

WP102 -BA MTS system hardware, single-use license, binaries, documentation, support services

Update Options:

Users of WPS-8/MTS whose specified Support Category warranty has expired may order under license the following software update at the prevailing rate for such update. The update is distributed in binary form on the appropriate medium and includes no installation or other services unless specifically stated.

QF702 -HY Binaries, documentation

QF702 -HZ Right to copy for single-use (under existing license), no binaries, no documentation

ADDITIONAL SERVICES:

None

DECUS

WHY YOU SHOULD JOIN DECUS

- SYMPOSIA
- PROGRAM LIBRARY
- TECHNICAL PUBLICATIONS
- SPECIAL USER GROUPS

DECUS (the Digital Equipment Computer Users Society), a worldwide association of customers and employees, provides a forum for the exchange of useful information, new program packages, and other innovations among those who use and supply the products of Digital Equipment Corporation.

Founded in 1961, DECUS is one of the largest and most active associations of its type in the world. Its objectives are to advance the effective utilization of computers, computer peripheral equipment, and software manufactured and marketed by Digital Equipment Corporation, by promoting the interchange of information concerning their uses; advance the art of computation through mutual education and exchange of ideas of information; establish standards and provide channels to facilitate the exchange of computer programs among DECUS members; provide feedback to the computer industry on equipment and software needs; and to reduce the duplication of development efforts.

DECUS membership is free--upon application--to owners of DIGITAL computers and to their computer-interested employees. Membership carries important benefits and opportunities; among them are access to the program library; membership in local, regional, and national organizations; invitations to symposia dedicated to optimal use of DIGITAL equipment; opportunity to present papers and workshops on your own new ideas; and, finally, access to special interest groups dedicated to particular uses, languages, operating systems, and hardware configurations.

The program library maintained by DECUS contains over 1700 active software packages written and submitted by members and DIGITAL employees, and available to members for the media fee and reproduction cost only. Programs in the library range from enhanced editors and cross compilers to statistics packages and games. Of particular interest to college and university customers, for example, might be a package of programs for registration, class scheduling, dormitory management, and annual giving records. A laboratory user could take advantage of various statistical packages, or programs that perform Fourier transforms or least squares fitting. There are programs for circuit analysis, resonance simulation, blood-count evaluation, and stress testing, and scores of others which medical, scientific, or engineering customers could employ. Business people can find accounting packages, data analysis and payroll programs among the library's offerings. In addition, of course, there is a wide range of text editing, display graphics, and enhanced utility programs available.

Local, regional, and national DECUS organizations give members the opportunity to meet other DIGITAL customers and employees in an informal setting. From the monthly local meeting to the semiannual national symposium, the members can discuss their ideas, can learn what others are doing, and can give DIGITAL feedback necessary in improvement and future development of important products. Often, the national meetings in the various countries also provide the stage for major new product announcements by the company, and a showplace for interesting developments in both hardware and software technology. At any meeting a member might describe ideas and programs he has implemented, or fine tuning that has been achieved for a particular application. Members give papers, participate in panel discussions, lead workshops, or conduct demonstrations for the benefit of other members.

DECUS also publishes newsletters focusing on special interest, technical books that contain the compilation of symposia presentations; and a society newsletter.

Many members derive a particular benefit from joining DECUS Special Interest Groups. Special Interest Groups often meet as subsets of regional and national meetings, or they may meet on their own, to discuss their special interest. Here, all RSTS/E users, or everyone interested in COBOL, for example, can have a chance to get together and discuss topics of mutual importance. At present there are more than 20 Special Interest Groups (SIGs) in the U.S. alone. Many of the SIGs print newsletters and disseminate valuable technical information to members. The SIGs really are the front-line of mutual help and problem solving.

DIGITAL provides DECUS with administrative personnel and office space around the world, but the organization is run by its members, who act as speakers for conferences, planners for meetings, editorial and production talent for newsletters and minutes, and the inventors of the ideas and new programs necessary to keep the library up to date. Belonging to DECUS is a valuable adjunct to owning DIGITAL equipment on both the program exchange and the information exchange fronts.

continued

To obtain a DECUS membership form, complete the form below and return it to the appropriate chapter office.

CHAPTER	ADDRESS
AUSTRALIA (Australia, Brunei, Indonesia, Malaysia, New Zealand, Singapore)	DECUS Australia P.O. Box 384 Chatswood NSW 2067 Australia
CANADIAN (Canada)	DECUS Canada P.O. Box 13000 Kanata, Ontario K2K 2A6 Canada
EUROPEAN (Europe, Middle East, North Africa, Russia)	DECUS Europe P.O. Box 510 12, avenue des Morgines CH-1213 Petit-Lancy 1/GE Switzerland
U.S. (U.S. and all other countries)	DECUS U.S. Chapter One Iron Way Marlboro, Massachusetts 01752 U.S.A.

Please send me a DECUS membership form.

NAME: _____
(First) (Last/Family Name)

COMPANY: (INSTALLATION) _____

ADDRESS: _____

_____

_____

_____
(City, Town, State/Province, and Zip/Postal Code)

COUNTRY: _____

TELEPHONE: _____ TELEX _____

I obtained this form from _____

July 1980

SOFTWARE PROBLEMS OR ENHANCEMENTS

Questions, problems, and enhancements to DIGITAL software should be reported on a Software Performance Report (SPR) form and mailed to the SPR Center at one of the following Digital Offices: *(SPR forms are available from the SPR Center).*

Areas Covered	SPR Center
United States; remainder of Far East, Middle East, Africa Latin America	Administrative Services Group, SWS P.O. Box F Maynard, Ma 01754
Canada	Digital Equipment Canada P.O. Box 11500 Ottawa, Ontario Canada K2H 8K8
United Kingdom, Bahraine, Egypt, Iraq, Jordan, Kuwait, Lebanon, Libya, Qatar, Oman, Saudi Arabia, Syria, United Arab Emirates, Yemen, Arab Republic.	Digital Equipment Corp. LTD Fountain House Butts Centre GB - Reading RG17QN England
Australia-Melbourne	Digital Equipment Aust. PTY. LTD 60 Park Street So. Melbourne Victoria Australia 3205
Australia-Sydney	Digital Equipment Aust. PTY. LTD 123 125 Willoughby Rd. P. O. Box 491 Crows Nest NSW Australia 2065
Brazil	Digital Equipment Comercio Ind. Rua Batatais 429 Esq AL Campin 01423 Jardim Paulista Sao Paulo 0100 Brazil
Caribbean	De Latin America P. O. Box 11038 Fernando Juncos Sta. Santurce PR 00910
France	Digital Equipment France 18, rue Saarinen France Silic 225 F - 94528 Rungis - Cedex France
Italy	Digital Equipment S.P.A. Viale Fulvio Testi 117 I-20092 Cinisillo Balsamo Milan, Italy

Areas Covered	SPR Center
Japan	Digital Equipment Corp. INTL 3rd Floor Kowa Bldg. 8-7 Sanban Cho Chiyoda Ku Tokyo 102 Japan
New Zealand	Digital Equipment N.Z. LTD P.O. Box 17093 Greenlane, Auckland 5, New Zealand
Belgium, Holland, Luxemburg	Digital Equipment B.V. KAAP Horndreef 38 NL - Utrecht/Overvecht Holland
Sweden	Digital Equipment Corp. AB Englundavägen 7 S-171 24 Solna, Sweden
Denmark	Digital Equipment Corp. APS Kristineberg 3 DK-2100 Copenhagen Ø Denmark
Finland	Digital Equipment Corp. OY PL16 SF - 02201 ESPOO 20 Finland
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