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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, and OS/78. 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 Report (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 V3 (V7.00)
COS-310/2780 RDCP V6.05, V7
FOCAL/MPS V1
OS/8 V3D
OS/8 FORTRAN IV V3D
OS/8 EXTENSION KIT V3D
RT-8 V2B
OS/8 FORTRAN IV PLOTTER V3C
OS/8 MACREL/LINKER V1A
OS/78 V1, V2

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.

Software binary and sources are provided under licenses only. The standard Terms and Conditions, OEM Agreement, and/or Quantity Discount Agreement contain the licenses for all binaries other than DECsystem-10

Eleanor F. Hunter, Editor
Roxanne Alexander, Associate Editor

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SPR USER LETTER

The Dispatch **SPR User Letter** has been revised to reflect the new SPR form which has been available and has been in distribution for several months. This new SPR form can be readily identified by the priority section which uses a 1-5 numbering scheme rather than high, medium and low. 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. Your local office is provided status for submitted SPRs upon request by contacting SPR Administration.

4. Information is provided to the pertinent District Software Managers on High Priority SPRs that are submitted by customers in their districts.

5. SPRs marked PROBLEM/Error will have a response for supported Category A and B products. These SPRs should refer to suspected deficiencies in the software.

6. 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. Customer Name and Address and Problem Statement should always be typed or printed clearly.

2. An SPR should be submitted with only one problem on it. Putting more than one problem on an SPR can greatly lengthen the turn-around 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 most 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. Should you ever receive an unacceptable SPR response, please contact us or the appropriate SPR Center so that the response may be addressed.

8. SPRs should not be used for problems concerning software policy, software distribution, or hardware. The local office should be contacted in these cases.

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PDP-8 GENERAL INFORMATION

OBSOLETE PRODUCTS:

The following kits have been obsoleted and removed from the Master Price List:

CAPS-8	QF007-AN,EC,FZ
DECnet-8	QF680-XC,XY,FR
OS/8 Industrial BASIC	QF090-AC,AN QF095-AC,AN,AY,EC,FZ

OS/8 HANDBOOK SUPERSEDED

The OS/8 Handbook and the OS/8 Handbook Update (Order Numbers DEC-S8-OSHBA-A-D and DEC-S8-OSHBA-A-DN4 respectively) have been superseded by a set of five manuals. These manuals are:

OS/8 System Generation Notes; **AA-H606A-TA**

OS/8 System Reference Manual; **AA-H607A-TA**

OS/8 TECO Reference Manual; **AA-H608A-TA**

OS/8 Language Reference Manual; **AA-H609A-TA**

OS/8 Error Messages; **AA-H610A-TA**

These manuals are standard format 8½ x 11 documents suitable for looseleaf binders. They may be ordered through your local Digital office.

COS-31Ø V7.ØØ
MONITOR V7.ØØB
(V7.ØØ, PATCH 6)

Seq 7 M

1 of 3

USING SOURCE FILES AS INPUT TO A DIBOL PROGRAM (MD)

PROBLEM

When using seven source files as input to a DIBOL program, an ON ERROR statement preceeding the INIT statement fails to work. The run-time system responds with "I/O ERROR ON RXØ; RETRY?"

SOLUTION

The following patch to the COS-31Ø Monitor corrects this problem. It also changes the version number of the Monitor to V7.ØØC.

COS-31Ø V7.ØØ
MONITOR V7.ØØB
(V7.ØØ, PATCH 6)

Seq 7 M

2 of 3

```
RUN PATCH
COS PATCH SYSTEM VERSION V7.ØØ
FILE NAME:/N
PATCHING MONITOR
BLOCK: 27
LOCATION: 156
OLD VALUE: 2143
NEW VALUE: 2127
LOCATION: END
RELATIVE CHECKSUM: 7764
NEW BLOCK PATCHED OK
BLOCK: 36
LOCATION: 303
OLD VALUE: 1031
NEW VALUE: 1167
LOCATION: END
RELATIVE CHECKSUM: 0136
NEW BLOCK PATCHED OK
BLOCK: 37
LOCATION: 10
OLD VALUE: 1631
NEW VALUE: 2370
LOCATION: 11
OLD VALUE: 7450
NEW VALUE: 1767
LOCATION: 12
OLD VALUE: 5600
NEW VALUE: 7450
LOCATION: 13
OLD VALUE: 2231
NEW VALUE: 5600
LOCATION: 14
OLD VALUE: 7112
NEW VALUE: 2367
LOCATION: 15
OLD VALUE: 7012
NEW VALUE: 7112
LOCATION: 16
OLD VALUE: 3451
NEW VALUE: 7012
LOCATION: 17
OLD VALUE: 1451
NEW VALUE: 3451
LOCATION: 20
OLD VALUE: 7010
NEW VALUE: 1451
LOCATION: 21
OLD VALUE: 0002
NEW VALUE: 7010
LOCATION: 22
OLD VALUE: 3453
NEW VALUE: 0002
LOCATION: 23
OLD VALUE: 1451
NEW VALUE: 3453
```

```
LOCATION: 24
OLD VALUE: 0174
NEW VALUE: 1451
LOCATION: 25
OLD VALUE: 3452
NEW VALUE: 0174
LOCATION: 26
OLD VALUE: 3451
NEW VALUE: 3452
LOCATION: 27
OLD VALUE: 2200
NEW VALUE: 3451
LOCATION: 30
OLD VALUE: 5600
NEW VALUE: 2200
LOCATION: 31
OLD VALUE: 6370
NEW VALUE: 5600
LOCATION: 167
OLD VALUE: 1014
NEW VALUE: 6370
LOCATION: 170
OLD VALUE: 3014
NEW VALUE: 7767
LOCATION: END
RELATIVE CHECKSUM: 6623
NEW BLOCK PATCHED OK
BLOCK: 27
LOCATION: 156
OLD VALUE: 2127
NEW VALUE: 2144
LOCATION: END
RELATIVE CHECKSUM: 0015
NEW BLOCK PATCHED OK
BLOCK: END
04 BLOCK(S) PATCHED IN THIS FILE
FILE NAME:/X
```

COS-31Ø V7.ØØ
SYSGEN V7.ØØB
(V7.ØØ, PATCH 7)

ACCESSING RXØ1 DRIVES 2 AND 3 (MD)

PROBLEM

Some RXØ1 drives may have slightly different operating characteristics from the majority of RXØ1 drives that have been shipped. This variation in the hardware prohibits accessing drives 2 and 3 with a standard RXØ1 handler.

SOLUTION

The following patch to SYSGEN corrects this problem. It also changes the version number of SYSGEN to V7.ØØC. SYSGEN/C must be run after the patch has been made to install the modified RX handler in the monitor.

COS-31Ø V7.ØØ
SYSGEN V7.ØØB
(V7.ØØ, PATCH 7)

Seq 8 M

2 of 3

```
.R PATCH
COS PATCH SYSTEM  VERSION V7.ØØ
FILE NAME: SYSGEN
BLOCK: 17
LOCATION: 301
OLD VALUE: 2143
NEW VALUE: 3071
LOCATION: END
RELATIVE CHECKSUM: 0726
NEW BLOCK PATCHED OK
BLOCK: 2
LOCATION: 342
OLD VALUE: 7421
NEW VALUE: 3347
LOCATION: 343
OLD VALUE: 7501
NEW VALUE: 1347
LOCATION: 345
OLD VALUE: 3347
NEW VALUE: 1347
LOCATION: 346
OLD VALUE: 7501
NEW VALUE: 3661
LOCATION: 347
OLD VALUE: 1347
NEW VALUE: 3021
LOCATION: 350
OLD VALUE: 3662
NEW VALUE: 2210
LOCATION: 351
OLD VALUE: 3021
NEW VALUE: 7327
LOCATION: 352
OLD VALUE:2210
NEW VALUE: 0375
LOCATION: 353
OLD VALUE: 7327
NEW VALUE: 7010
LOCATION: 354
OLD VALUE: 0375
NEW VALUE: 6750
LOCATION: 355
OLD VALUE: 7010
NEW VALUE: 7004
LOCATION: 356
OLD VALUE: 6750
NEW VALUE: 7006
LOCATION: 357
OLD VALUE: 7004
NEW VALUE: 3627
LOCATION: 360
OLD VALUE: 7006
NEW VALUE: 6754
```

COS-31Ø V7.ØØ
SYSGEN V7.ØØB
(V7.ØØ, PATCH 7)

Seq 8 M

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```
  LOCATION: 361
 OLD VALUE: 3627
 NEW VALUE: 7000
 LOCATION: 374
 OLD VALUE: 7420
 NEW VALUE: 7026
 LOCATION: 375
 OLD VALUE: 7305
 NEW VALUE: 3641
 LOCATION: 376
 OLD VALUE: 3643
 NEW VALUE: 7001
 LOCATION: 377
 OLD VALUE: 7001
 NEW VALUE: 0375
 LOCATION: END
 RELATIVE CHECKSUM: 1173
 NEW BLOCK PATCHED OK
 BLOCK: 3
 LOCATION: 0
 OLD VALUE: 0375
 NEW VALUE: 7640
 LOCATION: 1
 OLD VALUE: 7640
 NEW VALUE: 7332
 LOCATION: 2
 OLD VALUE: 7332
 NEW VALUE: 7003
 LOCATION: 3
 OLD VALUE: 7003
 NEW VALUE: 1641
 LOCATION: 4
 OLD VALUE: 1643
 NEW VALUE: 3636
 LOCATION: 5
 OLD VALUE: 3640
 NEW VALUE: 4322
 LOCATION: 6
 OLD VALUE: 4322
 NEW VALUE: 6643
 LOCATION: 66
 OLD VALUE: 1643
 NEW VALUE: 1641
 LOCATION: END
 RELATIVE CHECKSUM: 6240
 NEW BLOCK PATCHED OK
 BLOCK: 17
 LOCATION: 301
 OLD VALUE: 3071
 NEW VALUE: 2144
 LOCATION: END
 RELATIVE CHECKSUM: 7053
 NEW BLOCK PATCHED OK
 BLOCK: END
 04 BLOCK(S) PATCHED IN THIS FILE
 FILE NAME: /X
 EXIT
```

COS-31Ø V8.ØØ
(V8.ØØ PATCH 1)

Seq 2 M

1 of 2

COPYING FILES USING SYSGEN/B (MD)

PROBLEM

When executing SYSGEN/B to build a new system, if the response to IS EVERYTHING CORRECT? is NO, the switch for the question DO YOU WANT TO COPY YOUR FILES is not reset. This can result in copying files when not requested.

SOLUTION

The following patch to SYSGEN corrects this problem. It also changes the version number of SYSGEN to V8.ØØA.

1. Create a PATCH command file (PTØ1) using the following editor commands:

```
.ER
.LN
.0100 SYSGEN
.0110 15
.0120 152
.0130 4540
.0140 153
.0150 4541
.0160 154
.0170 5555
.0180 155
.0190 0255
.0200 254
.0210 5152
.0220 255
.0230 3335
.0240 END
.0250 0531
.0260 20
.0270 314
.0280 2142
.0290 END
.0300 0041
.0310 END
.0320 /X
.0330   <ctrl/z>
.WR PT01
```

2. Check the PTØ1 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,PTØ1
```

COS-31Ø V8.ØØ
(V8.ØØ PATCH 1)

Seq 2 M

2 of 2

PATCH will respond by displaying the PATCH dialogue and returning to the Monitor. If PATCH does not return to the Monitor, check the PTØ1 command file to insure that it was entered correctly.

3. Install the patch by entering the following command:

```
.R PATCH,PTØ1/C
```

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

COS-31Ø V8.ØØ
(V8.ØØ PATCH 2)

Seq 3 M

1 of 2

HALF-BLOCK TRANSFERS USING RX HANDLER (MD)

PROBLEM: There are occasions when the RX handler is called upon to read or write only half a block. The most common of these occasions (but definitely not the only one) is when adding an entry to a directory. On systems that are SYSGENed for both RXØ1s and RKØ5s, the RX handler transfers a full block causing part of the program or data area to be unexpectedly altered. When adding an entry to a directory, this results in corruption of the directory.

SOLUTION: The attached patch to SYSGEN corrects this problem. It also changes the version number of SYSGEN to V8.ØØB.

1. Create a PATCH command file (PTØ2) using the following editor commands.

```
.ER
.LN
.Ø1ØØ SYSGEN
.Ø11Ø 2
.Ø12Ø 171
.Ø13Ø 5265
.Ø14Ø 3Ø5
.Ø15Ø 7576
.Ø16Ø END
.Ø17Ø ØØØ3
.Ø18Ø 2Ø
.Ø19Ø 314
.Ø2ØØ 2143
.Ø21Ø END
.Ø22Ø ØØØ1
.Ø23Ø END
.Ø24Ø /X
.Ø25Ø   <ctr/z>
.WR PTØ2
```

2. Check the PTØ2 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,PTØ2
```

   PATCH will respond by displaying the PATCH dialogue, and returning to the Monitor. If PATCH does not return to the Monitor, check the PTØ2 command file to insure that it was entered correctly.

3. Install the patch by entering the following command:

```
.R PATCH,PTØ2/C
```

COS-31Ø V8.ØØ
(V8.ØØ PATCH 2)

Seq 3 M

2 of 2

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

4. If you are running a system that is SYSGENed for RXØ1s and RKØ5s, you must run SYSGEN/C after installing the patch.

COS-31Ø V8.ØØ
(V8.ØØ PATCH 3)

Seq 4 M

1 of 2

USING COMMAND FILES WITH PIP (MD)

PROBLEM

PIP fails to get the response to the prompt MORE? from the command file when copying data files using option D.

SOLUTION

The following patch to PIP corrects this problem. It also changes the version number of PIP to V8.ØØA.

1. Create a PATCH command file (PT03) using the following editor commands:

```
.ER
.LN
.0100 PIP
.0110 02
.0120 371
.0130 2706
.0140 END
.0150 0332
.0160 06
.0170 306
.0180 0000
.0190 307
.0200 4501
.0210 310
.0220 1713
.0230 311
.0240 1314
.0250 312
.0260 5706
.0270 313
.0280 4000
.0290 314
.0300 7447
.0310 END
.0320 4667
.0330 10
.0340 104
.0350 2142
.0360 END
.0370 0041
.0380 END
.0390 /X
.0400   <ctrl/z>
.WR PT03
```

COS-31Ø V8.ØØ
(V8.ØØ PATCH 3)

Seq 4 M

2 of 2

2. Check the PT03 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,PT03
```

PATCH will respond by displaying the PATCH dialogue and returning to the Monitor. If PATCH does not return to the Monitor, check the PT03 command file to insure that it was entered correctly.

3. Install the patch by entering the following command:

```
.R PATCH,PT03/C
```

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

OS/8 V3D
UTILITIES
FOTP V9A

Seq 21.19.1 M

1 of 1

Supersedes article dated Aug/Sept 78

INCORRECT DIRECTORY VALIDATION (SR)

Problem: If a device contains many files and the directory contains no additional information words (i.e., no dates) then FOTP may think the directory is invalid.

Diagnosis: FOTP checks the validity of a directory by several means. One method is a range check on the number of file entries in the first directory segment. If the directory had been built with 0 additional information words (/Z=100), then the segment can contain more entries than FOTP believes is possible.

Solution: Modify FOTP so that it permits a directory segment with as many as 71 entries. To do this, install the following patch:

```
.GET SYS:FOTP
.ODT
12375/7700 7671
14346/7700 7671
15036/7101 7102
^C
.SAVE SYS:FOTP
```

This patch upgrades FOTP to Version 9B. Most users are not affected by this patch.

OS/8 V3D DEVICE EXTENSIONS
NOTES & DOCUMENTATION

NOTES ON VERSION NUMBERS (RY)

Here are some corrections to the OS/8 Device Extensions User's Guide (AA-D319A-TA) and notes about version numbers for the Device Extensions kit.

1. The version number, both for the binary and source of RESORC.SV and RESORC.MA on page 1 of the document should be 5A instead of 4A.

2. The verion number of BOOT.SV on page 1 of the document should be 5A instead of 7A.

3. The version number both for the binary and source of RXCOPY.SV and RXCOPY.PA on page 1 of the document should be 4B instead of 5A.

4. The Software Distribution Center's copy of the FORTRAN IV sources for FRTS.SV is version 5A.

5. The Device Extensions kit binary of BUILD.SV should be V7A and NOT V6A. Version 7A is the BUILD.SV that will work under Batch.

OS/8 V3D DEVICE EXTENSIONS
NOTES & DOCUMENTATION

Seq 35.1.2 N

1 of 1

NOTES ABOUT OS/8 V3D DEVICE EXTENSIONS (RJ)

The OS/8 V3D Device Extensions kit is now shipping from the Software Distribution Center. The following are some notes about the kit.

1. Only updated CUSPs are included in the kit. FOTP and DIRECT were not included for that reason. If you use the kit as the System (SYS:) device, you can get these and other CUSPs to run in two ways.

   First, move FOTP and DIRECT to SYS: using PIP in image mode. For example, if DEV is some OS/8 device,

   ```
   .R PIP
   *FOTP.SV<DEV:FOTP.SV/I
   ```

   The second method is to run the CUSP on the other device. For example,

   ```
   .RUN DEV DIRECT
   *TTY:<SYS:
   ```

2. The version of BUILD on the binary kit does not include the device drivers. If you wish to add handlers to your Device Extensions kit monitor, use the older version of BUILD in your OS/8 V3D kit, BUILD V6A.

3. The RX01 and DECtape binary kits were shipped with a disabled CCL. After starting these kits, type,

   ```
   .R CCL
   ```

   to enable CCL. You need to do this only once.

OS/8 V3D DEVICE EXTENSIONS
NOTES & DOCUMENTATION

Seq 35.1.3 M

1 of 1

FRTS PATCH (DK/JB)

If you have followed the steps on page 3 of the OS/8 Device Extensions User's Guide (AA-D319A-TA) for loading FRTS, serious problems are created. In other words, DO NOT follow the procedures in the document.

However, if you have already applied these patches, without making a back-up copy of your original FRTS.SV file from your OS/8 V3D Extensions kit, please acquire another copy from the Software Distribution Center.

There are two patches (in succession) that MUST be applied to your system. First, the ABSLDR patch is needed, and, second, a new loading sequence is required for FRTS. The ABSLDR patch is described in the April-May 1979 issue of DSN (35.18.1).

Once the ABSLDR patch has been installed and saved, type the following,

```
.LOAD SYS:FRTS.SV/I$*FPAT.BN$
.SAVE SYS:FRTS;0200=0000
```

Note that $ = ALTMODE.

OS/8 V3D DEVICE EXTENSIONS
NOTES AND DOCUMENTATION

Seq 35.1.4 N

1 of 1

BUILD DOCUMENTATION (RJ)

On page 3 of the OS/8 Device Extensions Release Notes (AA-H565A-TA), Section 3.2, the following is stated.

> "The BUILD program has been modified to write block 64, which has been reserved in previous versions. It will also run now under BATCH."

Add to this section,

> "To end a BATCH run of BUILD, use the END command to return to the BATCH stream."

It is suggested that if you are running BUILD under BATCH, type the following to test the END command.

```
(BATCH stream)
.R BUILD
PRINT
END
(more BATCH stream)
```

PRINT will output to the logical device of BATCH.

A word of caution:
Only use the BUILD.SV from your Device Extensions kit with BATCH. If you run BUILD under BATCH, and if you modify the save image file of BUILD.SV (by using SAVE SYS:BUILD), you will not be able to run BUILD again under BATCH. It is suggested that you rename your BUILD file by another name (for example, SAVE SYS:BUILT).

On page 4 of the OS/8 Device Extensions Release Notes (AA-H565A-TA) there is an error in Section 5.0. Change BRTS.SV to BLOAD.SV. The BRTS.SV file is not in the Device Extensions package.

OS/8 V3D DEVICE EXTENSIONS
MONITOR V3S

Seq 35.2.1 M

1 of 1

MONITOR V3S PATCH (JB)

If you attempt to load programs with two segments in field zero, the second segment loads above location 7400. The patch to correct this is a follows:

```
.R FUTIL
7.31/0323      0324
7.707/1052     1777
7.724/5777     5465
7.761/2052     2777
7.777/1600     1761
WRITE
CTRL/C
```

This patch changes the internal version number of the Monitor from V3S to V3T.

OS/8 V3D DEVICE EXTENSIONS
FUTIL V8A

FUTIL UNDER BATCH PATCH (JB)

The system will hang while running FUTIL under BATCH. This is due to the fact that the job status word and the start location are incorrect. The patch to correct this problem is as follows:

Type,

```
.R FUTIL  <CR>
SET MODE SAVE  <CR>
FILE FUTIL  <CR>
```

The system will respond with,

```
FUTIL.SV nnnn-xxxx
```

Type,

```
12520/0100     0200  <CR>
SET MODE N  <CR>
nnnn.2/2000    6400  <CR>
nnnn.0003/6400      0400  <CR>
WRITE
CTRL/C
```

nnnn is the first block where the file resides. Type the number of this block where nnnn is represented. This patch upgrades FUTIL from V8A to V8B.

OS/8 V3D DEVICE EXTENSIONS
ABSLDR V6A

Seq 35.18.1 M

1 of 1

ABSLDR PATCH (JB)

The following patch to ABSLDR is required in order for the /I option of ABSLDR to work properly. Type the following patch.

```
.GET SYS:ABSLDR
.ODT
12200/6601      6602
12542/3070      4760
12560/nnnn      4140
13655/0350      4656
13656/3020      4126
14126/nnnn      0000
14127/nnnn      2326
14130/nnnn      0337
14131/nnnn      3020
14132/nnnn      1020
14133/nnnn      7112
14134/nnnn      7010
14135/nnnn      3070
14136/nnnn      5726
14137/nnnn      0070
14140/nnnn      0000
14141/nnnn      3070
14142/nnnn      3020
14143/nnnn      5740
CTRL/C
.SAVE SYS:ABSLDR
```

The internal version of ABSLDR is now raised from V6A to V6B.

OS/8 V3D DEVICE EXTENSIONS
NOTES & DOCUMENTATION
BASIC V5

Seq 35.5Ø.1

1 of 2

OS/8 DEVICE EXTENSIONS BASIC DOCUMENTATION (RJ/JB)

If you have followed the steps on page 3 of the OS/8 Device Extensions User's Guide (AA-D319A-TA) for loading BRTS.SV, serious problems are created. In other words, DO NOT follow the procedures in the document.

However, if you have already applied these patches, without making a back-up copy of your original BRTS.SV file from your OS/8 V3D Extension kit, please acquire another one from the Software Distribution Center.

These patches MUST be applied to your system if you wish to run BASIC V5 with RX02's or RL01's as SYS:.

1. Install your ABSLDR patch as described in this issue of DSN (April-May 1979, #35.18.1 M). This patch is REQUIRED.

2. Once the ABSLDR patch has been correctly installed and saved, carefully type the following.

```
.LOAD SYS:BRTS.SV/I$*BPAT.BN$
.SAVE SYS:BRTS.SV 0-6777;7605
```

   Note that $ = ALTMODE.

3. Install the BASIC Editor V5A patch as previously described in the Aug-Sept 1978 DSN, #31.12.1 M. Note that this patch changes BASIC.SV from V5A to V5B.

4. Install the BRTS.SV V5A patch as previously described in the March 1978 DSN, #31.11.1 M. Note that this patch upgrades BRTS.SV V5A to V5B.

5. Now, from your OS/8 V3D kit, use all of your modules EXCEPT BLOAD.SV. It is important that you use only the BLOAD.SV that was supplied with your Device Extensions kit. This is the most up-to-date BLOAD.SV. Patch this BLOAD.SV with

```
.GET SYS:BLOAD.SV
.ODT
3027/6501      6502
CTRL/C
.SAVE SYS:BLOAD.SV
```

   to upgrade BLOAD.SV to V5B.

6. Now, patch BRTS.SV to upgrade the version number from V5B to V5C.

```
.GET SYS:BRTS.SV
.ODT
1116/0302      0303
CTRL/C
.SAVE SYS:BRTS.SV
```

7. Now, patch BASIC.FF (no version number change) with the following.

```
.GET SYS:BASIC.FF
.ODT
14543/nnnn     4745
14544/nnnn     5726
14545/nnnn     1345
CTRL/C
.SAVE SYS:BASIC.FF
```

8. Remember that the old BASIC compiler does not use all of memory unless told to do so. You must use "/K=n", where, n = the number of the highest field.

   For example, in a 16K word system, the highest field is 3, so you must compile as follows for large programs:

```
.COMPILE PROG/K=3
```

Your modules now will be updated to the following version numbers,

BASIC.SV	V5B
BRTS.SV	V5C
BLOAD.SV	V5B
BCOMP.SV	V5A (no changes)
BASIC.FF	Patched with no version number

and, they should run with RX02 or RL01 as the system device.

OS/78 V2
BASIC
BLOAD.SV V6B

Seq 71.72.2 M

1 of 1

SAVE FILE FOR LARGE BASIC PROGRAMS

There is a problem with creating a save file for large BASIC programs. This patch is an addition to the BLOAD.SV V6A patch that was published in the August-September 1978 issue of the Digital Software News, article 71.72.1 M, Large Core Image Save Program. The patch is as follows:

```
.GET SYS:BLOAD
.ODT
2151/2653       0253
3035/6602       6603
CTRL/C
.SAVE SYS:BLOAD
```

This patch upgrades the internal version number of BLOAD from V6B to V6C.

8 DIGITAL SOFTWARE NEWS
CUMULATIVE INDEX
APRIL/MAY 1979

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!

The following numerical system has been grouped in logical order.

Retracted articles are indicated: RETRACTION.

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

M = Mandatory patch. These are critical patches which each customer is required to install.

O = Optional patch. These articles are applicable only if the reported problems have occurred at the customer site or if they are unique to his operation.

R = Restriction. These problems are not patchable in released software. Restrictions are reviewed and corrected when possible as part of the normal release cycle.

N = NOTE. This information may be helpful to the user.

Component	Sequence	Mon/Yr
COS-310/2780 RCDP V6.05		
LOST RECORDS, INCORRECT RECORDS, CRASHES	01 M	Feb 78
INCORRECT SEGMENT LENGTHS	02 M	Feb 78
SOURCE FILE	03 M	Feb 78
SOURCE/DATA FILE OVERFLOW	04 M	Feb 78
TEMPORARY FILE BLOCK	05 M	Feb 78
FATAL ERROR MESSAGES	06 M	Feb 78
POSSIBLE SYSTEM CRASH OR LOOP WHEN EXITING	07 M	May 78
DECNET/8 V1		
NSP		
DISCONNECT BUG	01 M	Feb 78
MACREL/LINKER V1		
NOTES/PROGRAMMING HINTS		
HARDWARE RESTRICTIONS	01 N	Dec 77
OS/8 V3C		
BUILD		
CORRECTION FOR OS/8 HANDBOOK	06	Jul 76
CAMP		
CAMP FAILS TO UNLOAD MULTIPLE RK8E DRIVERS	01	Jan 77
CCL		
DEFAULT EXTENSIONS FOR TECO	03	Sep 76
ADDING A NEW CCL COMMAND	06	May 76
CREF		
FIXING PROBLEMS: /M, FIXMRI, DOLLAR SIGN BUG, AND JSW	10	Sep 76
FIXTAB	11	Sep 76
DIRECT		
DIRECT /B DOES NOT PRINT A SPACE	04	Sep 76
DOCUMENTATION		
OS/8 HANDBOOK		
DOCUMENTATION CHANGE	11	May 76
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FAULTY DESCRIPTION FOR ERROR PERFORMANCE	13	Nov 76
FORTRAN II		
FORTRAN II LIBRARY	10	Jan 77
HANDLERS		
MAGNETIC TAPE	07a	Sep 76
OPTIONAL PATCH TO NULL HANDLER	10	Sep 76
RK8 SYSTEM HANDLER DOES NOT ALWAYS RETRY ERRORS	13	May 76
MONITOR		
JSW BIT II AFFECTS SAVE	01 N	Feb 78
PROPER SETTING OF JSW BEFORE CHAINING	02 N	Feb 78
PAPER TAPE KIT		
OS/8 V3C PAPER TAPE KIT	01	Jan 77
TDINIT		
PROBLEM WITH TD8E SYSTEMS	01	Aug 76
UTILITIES		
HOW TO COPY LARGE FILES WITH PIP10	02	Apr 77
UNDEFINED PASS1 ARGUMENTS IN ZBLOCK	12	Apr 77

Component	Sequence	Mon/Yr
OS/8 EXTENSION KIT V3C		
BASIC		
USE OF DUMMY ARGUMENTS IN BASIC	05	Sep 76
RETRACTION	20	XXX XX
BRTS GETS LOST	24	Jun 76
RESTRICTION ON EXTENDED RANGE FOR-NEXT LOOPS	25	Sep 76
BLOAD NOT RESTORING LOCATION 7600 PROPERLY	26	Jul 76
BAD LOCATION IN BASIC.FF	28	Sep 76
BRTS DOES REPETITIVE MULTIPLIES	31	Nov 76
ERROR IN BASIC EDITOR	32	Nov 76
RETRACTION	33	XXX XX
BASIC HALTS THE SYSTEM	35	Mar 77
LIMITATION OF RND	36	Oct 77
BATCH		
CANNOT MOVE BATCH INPUT FILE	05	Mar 76
RESTARTING BATCH	06	Sep 76
"MANUAL HELP MESSAGE" PRINTED ERRONEOUSLY	08	Jul 76
RUNNING BATCH IN 32K	09	Sep 76
GENIOX (formerly indexed under OS/8 V3C)		
GENIOX QUESTIONS	01	Nov 76
MARK SENSE BATCH		
MARK SENSE BATCH FORTRAN II READS THROUGH DOLLAR SIGNS	02	Jun 76
TECO		
CONDITIONS INSIDE ITERATIONS	04	Jul 76
OS/8 FORTRAN IV V3C		
POSSIBLE ERRONEOUS STATEMENT NUMBER IF ERROR TRACEBACK	02	Sep 76
USE OF EAE MODE A UNDER FRTS	15	Sep 76
PASSING ARGUMENTS	16	Sep 76
ERROR IN SINH FUNCTION	23	Sep 76
RETRACTION	25	XXX XX
FPP-8A	27	Aug 76
VERSION AND OUTPUT FILE ERRORS	28	Oct 76
RUNTIME SYSTEM PROBLEM	29	Oct 76
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FORMATTED INPUT RECORDS LONGER THAN 132 CHARACTERS	33	Nov 76
FRTS DOES NOT FLAG FIELD OVERFLOW PROPERLY ON OUTPUT	34	Feb 77
PLOT, ADC, AND REALTM MODULES	35	Jan 77
RUNNING FORTRAN IV UNDER BATCH IN 32K	36	Apr 77
RETRACTION	37	XXX XX
FORTRAN IV V3C CRASHES	38	Jun 77
B AND D FORMAT CONVERSION	39	Aug 77
EQUIVALENCE STATEMENT IN FORTRAN IV V3C	40	Oct 77
QUESTIONS CONCERNING ARRAY SIZES	41	Oct 77
COMPILER GENERATES WRONG LENGTH	42	Oct 77
OS/8 FORTRAN IV PLOTTER V3C		
FORTRAN IV PLOTTER ROUTINE, PSCALE, HANGS IN ENDLESS LOOP	01	Apr 77
PLOTTER OUTPUT PROBLEM	02	Aug 77
OS/8 INDUSTRIAL BASIC V3		
INCORRECT SOFTWARE CORE SIZE	03	May 76
RESTRICTION ON EXTENDED RANGE FOR-NEXT LOOPS (See BASIC, Seq 25)	05	Sep 76
.SV FILES CANNOT BE CHAINED	06	Oct 76
NONEXISTENT CHARACTERS ERRONEOUSLY MATCHED	07	Mar 76
INDUSTRIAL BASIC EDITOR GARBAGE	08	Jun 77

Component	Sequence	Mon/Yr
OS/78 V1		
NOTES/PROGRAMMING HINTS		
FUNCTIONALITY	01 N	Dec 77
RESTARTING OS/78	02 N	Jan 78
UTILITIES		
CANNOT MOVE BATCH INPUT FILE	01 R	Sep 77
SUGGESTED PATCH	02 O	Jan 78
OS/78 BASIC V1		
RESTRICTION ON EXTENDED RANGE FOR-NEXT LOOPS	01 R	Sep 77
OS/78 FORTRAN IV V1		
FRTS.SV V5		
FORMATTED INPUT RECORDS LONGER THAN 132 CHARACTERS	01 O	Sep 77
F4.SV V4		
PASSING ARGUMENTS	01 R	Sep 77
THE "EQUIVALENCE" STATEMENT	02 M	Sep 77
COMPILER VERSION NUMBER	03 N	Sep 77
QUESTIONS CONCERNING ARRAY SIZES	04	Oct 77
COMPILER GENERATES WRONG LENGTH	05 O	Oct 77
RTS/8 V2/V2B		
EXECUTIVE		
CANNOT FREE PARTITION WITH WAITM	01	Mar 76
RTS-EXEC NON RESIDENT TASK PROBLEM	02	Jun 77
MCR		
SOME TIME-OF-DAY REQUESTS RUN 24 HOURS LATE	01	Mar 76
DATE PROBLEM	02 M	Feb 78
OS/8 SUPPORT TASK		
SOURCE CHANGE FOR EXECUTING BATCH	01	Feb 76
USING OS/I SUPPORT	02	Mar 76
COMMUNICATING BETWEEN OS/8 AND RTS-8	03	Mar 76
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PWRF		
RTS/8 POWER FAIL PROBLEM ON PDP8-A	01	Jun 77
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DEFICIENCY IN TTY TASK	01	Mar 76
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UDCICS ERROR	01	Feb 78
OS/8 V3D		

*Articles dated October 1977 appeared in OS/8 V3D Software Review, October 1977.

DOCUMENTATION		
FAULTY DESCRIPTION FOR ERROR PERFORMANCE	01 N*	Oct 77
HANDLER		
CTRL/Z AND NULL	01 O*	Oct 77
NOTES/PROGRAMMING HINTS		
DATE ALGORITHM	01 N	Dec 77
UTILITIES		
ADDING A NEW CCL COMMAND	01 N*	Oct 77
DEFAULT EXTENSIONS FOR TECO	02 O*	Oct 77
HOW TO COPY LARGE FILES	03 O*	Oct 77

Component	Sequence	Mon/Yr
OS/8 EXTENSION KIT V3D		
BASIC		
RESTRICTION ON EXTENDED RANGE FOR-NEXT LOOPS	01 R	Oct 77
BATCH		
CANNOT MOVE BATCH INPUT FILE	01 R	Oct 77
RESTARTING BATCH	02 N	Oct 77
RUNNING BATCH IN 32K	03 O	Oct 77
MSBAT		
MARK SENSE BATCH FORTRAN II READS THROUGH DOLLAR SIGNS	01 O	Oct 77
GENIOX		
GENIOX QUESTIONS	01 N	Oct 77
OS/8 FORTRAN IV V3D		
FORLIB.RL V5A		
PLOT, ADC, AND REALTM MODULES	01 N	Oct 77
F4.SV V4A		
PASSING ARGUMENTS	01 R	Oct 77
EQUIVALENCE STATEMENT	02 M	Oct 77
COMPILER VERSION NUMBERS	03 N	Oct 77
COMPILER GENERATES WRONG LENGTH	04 O	Oct 77
QUESTIONS CONCERNING ARRAY SIZES	05	Oct 77
FRTS V5A		
USE OF EAE MODE A	01 R	Oct 77
FORMATTED INPUT RECORDS LONGER THAN 132 CHARACTERS	02 O	Oct 77
RUNNING FORTRAN IV UNDER BATCH IN 32K	03 O	Oct 77
FPP-8A	04 O	Oct 77
IMPORTANT!		

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

M = Mandatory patch. These are critical patches which each customer is required to install.

O = Optional patch. These articles are applicable only if the reported problems have occurred at the customer site or if they are unique to his operation.

R = Restriction. These problems are not patchable in released software. Restrictions are reviewed and corrected when possible as part of the normal release cycle.

N = NOTE. This information may be helpful to the user.

Component	Sequence	Mon/Yr
DECNET-8 V1		
DOCUMENTATION		
ERROR IN DECNET MANUAL	10.0.1 N	May 78
NSP		
BYTES LOST IN INTERRUPT MESSAGE	10.2.1 M	Sep 78
OS/8 V3C		
MONITOR		
CCL		
ERROR IN CCL (VERSION G) SOURCE PAPERTAPE	20.3.1 O	May 78

Component	Sequence	Mon/Yr
OS/8 V3D		
MONITOR		
NOTES & DOCUMENTATION		
USING THE PDP-8/A PARALLEL PORT FOR A LINEPRINTER	21.1.1 N	Mar 78
SOFTWARE REVIEW CORRECTION	21.1.2 N	May 78
PROBLEM WHEN YOU DESTROY BATCH	21.1.3 N	Aug/Sep 78
CCL		
DEFAULT EXTENSIONS TO TECO	21.3.1 O	May 78
UTILITIES		
CREF		
BUG WITH FIXTAB	21.15.1 M	May 78
EDIT		
EDIT PROBLEM WITH NO FORMFEED AT END OF THE INPUT FILE	21.17.1 M	Mar 78
FOTP		
INCORRECT DIRECTORY VALIDATION	21.19.1 M	Apr/May 79
MCPIP		
DATE-78 PATCH FOR MCPIP	21.21.1 M	Mar 78
PAL8		
INCORRECT CORE SIZE ROUTINE	21.22.1 M	Aug/Sep 78
ERRONEOUS LINK GENERATION NOTED ON PAGE DIRECTIVE	21.22.2 M	Aug/Sep 78
PIP		
PIP /Y OPTION DOES NOT WORK PROPERLY WHEN TRANSFERRING A SYSTEM HEAD FROM A DEVICE WHICH IS NOT CO-RESIDENT WITH SYS.	21.23.1 M	Aug/Sep 78
PIP10		
DATE '78 PATCH TO PIP10	21.24.1 M	Dec 78/Jan 79
SET		
USING SET WITH TWO-PAGE SYSTEM HANDLERS	21.26.1 M	May 78
SCOPE RUBOUTS FAIL IN SET	21.26.2 M	May 78
PARSING OF = IN TTY WIDTH OPTION	21.26.3 M	Aug/Sep 78
HANDLERS		
ASR33		
HOW TO WRITE TWO-PAGE SYSTEM HANDLERS	21.40.1 N	May 78
LPQ		
LDP01 HANDLER FAILS TO RECOGNIZE TABS	21.49.1 M	Mar 78
OS/8 EXTENSION KIT V3C		
BASIC		
BRTS		
BASIC FAILS TO OUTPUT 132 CHARACTERS TO LA-36	30.11.1 O	Mar 78
MSBAT		
DIM STATEMENT NOT WORKING IN MSBAT	30.22.1 M	Dec 78/Jan 79
OS/8 EXTENSION KIT V3D		
BASIC		
BASIC		
GOOD RANDOM NUMBERS FOR OS/8 BASIC	31.1.1 N	May 78
BASIC.UF		
BASIC.UF INCOMPATIBLE FROM OS/8 V3C	31.5.1 M	Aug/Sep 78
BRTS		
IOTABLE OVERFLOW	31.11.1 M	Mar 78
BASIC PNT FUNCTION	31.11.2 M	Jul 78
LINE SIZE ON OUTPUT OF BASIC	31.11.3 O	Jul 78

Component	Sequence	Mon/Yr
BASIC		
BASIC EDITOR HAS A FIELD BOUNDARY BUG	31.12.1 M	Aug/Sep 78
TECO		
CHANGING THE DEFAULT EU VALUE	31.20.1 O	Mar 78
CHANGING THE DEFAULT EH VALUE	31.20.2 O	Mar 78
REMOVING YANK PROTECTION	31.20.3 O	Mar 78
SCOPE SUPPORT FOR VT05 USERS	31.20.4 O	Mar 78
PROBLEM WITH AY COMMAND	31.20.5 M	Mar 78
CONDITIONALS INSIDE ITERATIONS	31.20.6 M	Mar 78
ECHOING OF WARNING BELLS	31.20.7 M	Mar 78
CTRL/U SOMETIMES FAILS AFTER *	31.20.8 M	May 78
MULTIPLYING BY 0 IN TECO	31.20.10 M	May 78
Q-REGISTERS DON'T WORK IN 8K	31.20.11 M	MAY 78
CAN'T SKIP OVER A "W"	31.20.12 M	May 78
UNSPECIFIED ITERATIONS AFTER INSERTS	31.20.13 M	Jul 78
NEW FEATURES IN TECO V5	31.20.14 N	Aug/Sep 78
FUTIL		
FUTIL PATCH	31.21.1 M	May 78
PATCH TO FIX 'SHOW CCB' AND MAPPING OF 'CD' MODULES	31.21.2 M	Aug/Sep 78
-237 PATCH	31.21.3 O	Aug/Sep 78
MSBAT		
DIM STATEMENT NOT WORKING IN MSBAT	31.22.1 M	Dec 78/Jan 79
BATCH		
MANUAL INTERVENTION REQUIRED ERRONEOUSLY	31.23.1 M	Aug/Sep 78
NOTES & DOCUMENTATION		
NOTES ON VERSION NUMBERS	35.1.1 N	Apr/May 79
NOTES ABOUT OS/8 V3D DEVICE EXTENSIONS	35.1.2 N	Apr/May 79
FRTS PATCH	35.1.3 M	Apr/May 79
BUILD DOCUMENTATION	35.1.4 N	Apr/May 79
MONITOR V3S		
MONITOR V3S PATCH	35.2.1 M	Apr/May 79
FUTIL V8A		
FUTIL UNDER BATCH PATCH	35.13.1 M	Apr/May 79
ABSLDR V6A		
ABSLDR PATCH	35.18.1 M	Apr/May 79
NOTES & DOCUMENTATION		
BASIC V5		
OS/8 DEVICE EXTENSIONS BASIC DOCUMENTATION	35.50.1 M	Apr/May 79

OS/8 V3D MACREL/LINKER V1A

USING FUTIL TO DEBUG OVERLAYS	40.0.1 N	May 78
LINK		
PATCH V1D TO LINK	40.2.1 M	May 78
PATCH V1E TO LINK	40.2.2 M	May 78
LINK CORRECTIONS	40.2.3 M	May 78
MACREL		
PATCH V1D TO MACREL	40.5.1 M	May 78
PATCH V1E TO MACREL	40.5.2 M	May 78
OVRDRV		
PATCH V1B TO OVRDRV.MA	40.6.1 M	May 78

Component	Sequence	Mon/Yr
OS/8 FORTRAN IV V3C		
F4		
FORTRAN COMPILER FAILS TO RECOGNIZE " AS AN ERROR	50.3.1 M	Mar 78
OS/8 FORTRAN IV V3D		
F4		
FORTRAN COMPILER FAILS TO RECOGNIZE " AS AN ERROR	51.3.1 M	Jul 78
FORTRAN COMPILER NOT RECOGNIZING SYNTAX ERROR	51.3.2 M	Jul 78
FORTRAN RUNTIME SYSTEM 2 PAGE HANDLER	51.3.3 O	Aug/Sep 78
RTS/8 V2B		
PARAM		
INCORRECT CLOCK VALUE IN PARAM FILE	61.2.1 N	Aug/Sep 78
OS8SUP		
OS/8 TASKS HANGS WITH TIME SHARE NOT ENABLED	61.3.2 O	Aug/Sep 78
CLOCK		
PROBLEM WITH DOUBLE PRECISION CLOCK REQUESTS	61.16.1 M	Aug/Sep 78
OS/78 V1		
HANDLERS		
LPQ		
LPQ01 HANDLER FAILS TO RECOGNIZE TABS	70.49.1 M	May 78
BASIC		
GOOD RANDOM NUMBERS FOR OS/8 BASIC	70.70.1 N	Aug/Sep 78
F4.SV		
FORTRAN COMPILER FAILS TO RECOGNIZE " AS AN ERROR	70.93.1 M	Aug/Sep 78
OS/78 V2		
NOTES & DOCUMENTATION		
WRITING A SYMBIONT FOR OS/78 V2	71.1.1 N	Feb/Mar 79
UTILITIES		
BITMAP FAILS WITH SPOOLER RUNNING	71.12.1 M	Aug/Sep 78
BASIC		
BCOMP		
STRING ARRAY CONCATENATION	71.71.1 N	Aug/Sep 78
BLOAD.SV V6B		
LARGE CORE IMAGE SAVE PROBLEM	71.72.1 M	Aug/Sep 78
SAVE FILE FOR LARGE BASIC PROGRAMS	71.72.2 M	Apr/May 79

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Software Product Description

PRODUCT NAME: OS/8 MACREL/LINKER, Version 2A **SPD 4.8.1**

DESCRIPTION:

MACREL/LINKER is an assembly language programming system. It contains the functions of the OS/8 PAL8 assembler and Absolute Loader programs with major enhancements. MACREL is a macro assembler producing relocatable modules. LINKER is a linking loader.

MACREL offers the following capabilities and features:

- Executes on any OS/8 configuration.
- Assembles current PAL-8 source modules with minor changes.
- Includes macros for program control of assembly functions, conditional assembly directives, program sectioning directives and user defined functions.
- Allows users to create MACRO definitions and call them in program modules.
- Allows users to create programs consisting of program sections. A program section can be located anywhere in memory, or restricted to particular pages or fields (or both) when loaded. Program sections can be absolute, relocatable, floating, data, page 0, or index register sections.
- Allows users to define groups of code as macros a convenient way technique to repeat selected areas of assembly language code.
- Provides improved text creation capabilities at assembly time.
- Allows assembly of a user program into as much as 128K of user memory.
- Permits overlay and level number specification in the assembly module.
- Allows use of secondary reference symbols.

NOTE:

Symbol tables are limited in 8K-word configurations.

LINKER offers the following capabilities and features:

- Executes under any OS/8 configuration.
- Takes output from the MACREL assembler and creates an executable image file by creating a Core Control Block and appending the linked and relocated object code.
- Provides a structure for program overlays.
- If the user so designates, LINKER allocates memory for the user's program sections, overlay structures, or real-time tasks, and produces an optional load map of the result.
- Links global references among sections, drawing upon library components, if necessary.
- Allows linking of a user program into as much as 128K of user memory
- Permits specification of overlay and level numbers in the assembly module rather than just at link time.
- Allows use of secondary reference type symbols.

MINIMUM HARDWARE REQUIRED:

Any valid OS/8 Operating System with at least 12K words of memory.

OPTIONAL HARDWARE:

None

PREREQUISITE SOFTWARE:

OS/8 Operating System, Version 3D or later or OS/78 Operating System, Version 1 or later

OPTIONAL SOFTWARE:

None

TRAINING CREDITS:

None

SUPPORT CATEGORY:

B — Software Support will be provided as stated in the Software Support Categories Addendum to this SPD.

UPDATE POLICY:

Software Updates, if any, released by DIGITAL during the one (1) year period following installation, will be provided to the customer for a media charge (includes no installation). After the first year, updates, if any, will be made available according to then prevailing DIGITAL policies.

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.

Source and/or listing options are only available after the purchase of at least one binary license and after a source license agreement is in effect.

The following key (C, Y) represents the distribution media for the product and must be specified at the end of the order number, e.g., QF019-AC = binaries on DECtape.

C = DECtape
Y = RX01 Floppy Diskette

QF019 -A— Single-use license, binaries, documentation, support services (media: C, Y)

Source/Listing Options

QF019 -E— All sources (media: C, Y)

Update Options:

Users of OS/8 MACREL/LINKER whose specified Support Category warranty has expired may order under license the following software update at the then current charge for such update. The update is distributed in source or binary form on the appropriate medium and inciudes no installation or other services unless specifically stated.

QF019 -H— Binaries, documentation (media: C, Y)

QF019 -H— Right to copy for single-use (under existing license), no binaries, no documentation, no support services (media: Z)

Users of OS/8 MACREL/LINKER whose specified Support Category warranty has not expired may order under license the following software update for the then current media charge. The update is distributed in source or binary form on the appropriate medium and includes no installation or other services unless specifically stated.

QF019 -W— Binaries, documentation (media: C, Y)

ADDITIONAL SERVICES:

None

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Software Product Description

PRODUCT NAME: RTS/8, Version 3.0, Real Time Operating System **SPD 4.20.6**

DESCRIPTION:

RTS/8 is a highly flexible, event-driven, multitasking, multiprogramming real time operating system, which runs on all PDP-8 family computers except PDP-8/S. The RTS/8 system allows up to 127 tasks to run concurrently. Tasks compete for resources on a fixed-priority basis, RTS/8 may be entirely memory resident or it may include non-resident modules. Each system is custom-configured by the user, with the aid of an English language question/answer System Generating Program, running under the OS/8 operating system.

OS/8 can also run in RTS/8 background and may be used for development work, in larger configurations. The RTS/8 Executive Module is entirely memory resident. Its size can range from 640 to 2,000 words of memory, depending on the number of tasks included in the system.

Some other RTS/8 features are:

- Maximum of 126 foreground tasks and one background (the OS/8 module) task.
- Fixed task priority.
- Tasks can be scheduled by themselves, by another task or by the operator.
- Tasks can be scheduled for immediate execution, at a fixed interval from the time requested, or a specific time of day.
- Tasks can be swapped into and out of memory as required.
- The RTS/8 executive provides facilities for tasks to communicate with other tasks.

The following modules (tasks) are provided by DIGITAL in source form. The sysgen procedure is used to create parameter and batch files. The batch files are run to create a specialized RTS/8 system.

RTS/8 Executive (monitor)

- Controls task execution
- Schedules events (if a clock is available on the system)
- Sends messages to system tasks
- Suspends task execution

Memory Management Swap Module

This module swaps tasks into and out of memory as required. SWAP determines whether a task is already in memory, or whether a task must be swapped out to make room for a new task.

Monitor Console Routine (MCR) Module

The Monitor Console Routine provides the operator/programmer with functions to control, inspect, debug, suspend, schedule, and print the status of tasks within the system.

Mass Storage Modules

This group of drivers accepts the same request message format to read or write blocks on the following storage devices:

- RX8 Floppy Diskette
- RX28 Floppy Diskette
- RK8-E Cartridge Disk
- TC08 DECtape
- RL8-A Cartridge Disk

OS/8 File Modules

This module provides the user the ability to look up, create and delete files in OS/8 directories from a foreground task. This module, when used in conjunction with one or more of the previously mentioned mass storage modules, allows the programmer the capability to read or write OS/8 files onto the previously mentioned storage device.

OS/8 Background Module

The combination of the previously mentioned device drivers and the OS/8 background module allows the execution of any of the OS/8 operating system utilities (i.e., PAL8, EDITOR, TECO, BATCH, BASIC, but excluding Industrial BASIC, BUILD, BOOT, RXCOPY) to run under the RTS/8 executive. OS/8 can be run in the top two or more memory fields under control of the KM8-E, (standard on PDP-8/E, F, M with 8K or more memory) or time shared PDP-8 (KT08) hardware option. Alternately, OS/8 backgrounds up to 32K in size may be run under the KT8-A Memory Expansion Control. The OS/8 background terminal may be shared with the foreground or be on a separate terminal.

Clock Module

This accepts requests (in the form of RTS/8 messages) to perform actions after a specified time has elapsed.

Console Terminal Module; Non-console Terminal Module

These drivers handle a single terminal in either line or character mode. Input in line mode is terminated by a

carriage return or an ALTMODE character, and may be edited with a RUBOUT or CTRL/U character. In character mode, input is not echoed and is terminated by overflow of a specified character count. One terminal per system may be shared with the OS/8 background. One terminal per system may be designated to support emergency message breakthrough. Systems with a clock may support message timeout on all terminals.

Line Printer Module

The RTS/8 line printer supports an LE-8, LS8-F or LV-8 Line Printer. The structure of the calling sequence is identical to the line mode calling sequence of the terminal module.

Power Fail/Auto-restart Module

This module provides the mechanism by which the system can recover from a power failure. If a power low condition occurs, the processor state is saved and the processor is halted. When power is restored, the processor state is restored and control is transferred to the power fail module. This module is not supported with MOS Memory.

KL8-A Support Module

This module allows the use of one to three KL8-A serial 4-line handlers under RTS/8 control.

NULL8A Module

This module is a special null job for the PDP-8A which uses the LED lights to count in decimal at a rate of approximately one increment per second. (Null job is an idle mode indicator.)

Exit Module

This module, if present, allows tasks to perform special actions before an RTS/8 exit to OS/8 is completed.

NOTE:

KT8-A Memory Expansion to 128K is provided in all DIGITAL supported RTS/8 modules.

NOTE:

*Driver modules are included but not supported for LINCtape, RK08, DF32, RF08, CASSETTE.

NOTE:

*Simultaneous RL8-A and RK8-E DMA transfers are not allowed by the hardware. The software drivers are interlocked so that one at a time is in action.

MINIMUM HARDWARE REQUIRED:

Minimum RTS/8 configuration for a run-time system is as follows:

Without OS/8 background support:

- Any PDP-8 family processor (except a PDP-8/S) with a least 8K words of memory
- Console Terminal

With OS/8 background support:

- Any PDP-8 family processor (except a PDP-8/S or VT78) with at least 16K words of memory
- One terminal
- RX8, RX28, TC08, RK8-E, RL8-A

Minimum RTS/8 development configuration is a 16K OS/8 operating system configuration (which requires a PDP-8 with mass storage and an OS/8 supported terminal).

OPTIONAL HARDWARE:

Additional memory (up to 128K words system total)
DK8-EA, DK8-EC, DK8-EP Clocks
LA30-PA, VT05 Terminals (up to 2400 baud with KL8-JA)
VT50, VT52, VT100 Video Terminal (teletype level support)
LT33, LT35 Teletypewriters
TC08 DECtape (not TD8-E)
RK8-E Disk
RX8 Dual Diskette System (single density)
RX28 Dual Diskette System (double density)
DP8-E powerfail/auto-restart
LE-8, LS8-F, LV-8 Line Printer
LA30, LA36 Serial DECwriters
KL8-A 4 Channel Interface
RTS/8, Version 3 does not support the FPP8/A, FPP8/E, or FPP12 nor does it support use of these devices by the OS/8 monitor running in background.

PREREQUISITE SOFTWARE:

OS/8, Version 3D or later, and OS/8 MACREL/LINKER, Version 2.0 or later. The OS/8 Device Extension is required for RL8-A, RX28 or KT8-A.

OPTIONAL SOFTWARE:

None

TRAINING CREDITS:

None

SUPPORT CATEGORY:

B — Software Support will be provided as stated in the Software Support Categories Addendum to this SPD.

UPDATE POLICY:

Software Updates, if any, released by DIGITAL during the one (1) year period following installation, will be provided to the customer without additional charge (includes no installation). After the first year, updates, if any, will be made available according to then prevailing DIGITAL policies.

ORDERING INFORMATION:

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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.

Source options are only available after the purchase of at least one supported license and after a source license agreement is in effect. A separate binary license is not available for this software product.

The following key (C, Y) represents the distribution media for the product and must be specified at the end of the order number, e.g., QF020-XC = sources on DECtape.

C = DECtape
Y = RX01 Floppy Diskette

Source/Listing Options

QF020 -X— Single-use license, source license, sources, documentation, support services (media: C, Y)

Update Options

Users of RTS/8 whose specified Support Category warranty has expired may order under license the following software update at the then current charge for such update. The update is distributed in source form on the appropriate medium and includes no installation or other services unless specifically stated.

QF020 -N— RTS/8 Update Kit, updates Version 2B to Version 3 (media: C, Y)

Users of RTS/8, Version 2B, whose specified Support Category warranty has not expired may order under license the following software update for the then current media charge. The update is distributed in source form on the appropriate medium and includes no installation or other services unless specifically stated.

QF020 -V— RTS/8 Update Kit, updates Version 2B to Version 3 (media: C, Y)

ADDITIONAL SERVICES:

None

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Software Product Description

PRODUCT NAME: WPS-8/81, WPS-8/82, Version 3.1 **SPD 5.89.0**

DESCRIPTION:

WPS-8/81 and WPS-8/82 are hardware/software text processing system for office and business use. The WPS-8/81 has one (1) terminal and the WPS-8/82 has two (2) terminals. A menu-driven editor creates and updates documents stored on floppy disks. Up to 200 documents of various lengths, or up to a total of 125 pages can be stored on a single floppy disk. Editing capabilities make changes easy without retyping. Final or draft documents can be queued to a letter quality printer or a draft printer (if so equipped). Printing and editing can be done concurrently.

WPS-8/81 and WPS-8/82 enables the user to:

- Prepare and edit reports which 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.

System features include:

- Dynamic floppy disk file allocation
- Supports either two- or four-floppy system configuration
- Responsive menu-driven operation
- Easy-to-learn commands
- Special editing keypad
- Full editing features:
  1. cut and paste of blocks of text
  2. operations by grammatical entity (character, tab position, sentence, paragraph, page, section, line)
  3. boilerplate insert from library file
  4. shorthand expressions
  5. swap transposed character key
  6. delete and rubout by word and character
- Full control of tabs, margins, justification, and pagination:
  1. automatic centering of text on a line
  2. discretionary pagination control
  3. semi-automatic hyphenation
  4. 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
- Proportionally spaced printing
- 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

Communication Features:

Using the WPS-8 communications option, documents prepared under WPS-8 can be sent to a remote timesharing system or to another WPS-8 system. Transmission is serial asynchronous ASCII, RS-232-C compatible. A variety of transmission options is possible. Used in conjunction with a IAS, TOPS-10, TOPS-20, RSX-11M, RSTS/E or VAX/VMS timesharing system, WPS-8 allows data entry and verification to take place off-line. 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 IAS, TOPS-10, TOPS-20, RSX-11M, RSTS/E or VAX/VMS systems to a WPS-8 system for off-line editing, printing, and review using optional DX software on the system communicating with WPS-8.

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 insure accurate document transmission.

Features:

- Asynchronous serial transmission — RS-232-C compatible
- Speeds to 9600 baud optionally using XON/XOFF protocol
- Flexible control of keyboard, printer, and floppy
  1. input from keyboard, document, or remote host
  2. output to screen, printer, document, or remote host
  3. multiple combinations possible

- Special transmission mode between WPS-8 systems
  1. error detecting protocol
  2. format control information sent with documents
- Buffered operation
- Automatic document send and receive
- IBM Communicating Mag Card I support

MINIMUM HARDWARE REQUIRED:

WS81A-AA or WS81A-CA Word Processing System.
WS82B-AA or WS82B-CA Word Processing System.

OPTIONAL HARDWARE:

WPS-8/81:

- One WX81 add-on communication/OCR interface to WS81-AA
- One LQP8-EA letter quality printer, or one LA8-PA draft printer, and/or
- One LA180-EA serial draft printer
- One additional RX78 dual floppy drive

WPS-8/82:

- One WX82 add-on communication/OCR interface to WS82B-AA
- One LQP8-EA letter quality printer, or one LA8-PA draft printer, and/or
- One LA78-SA serial draft printer

PREREQUISITE SOFTWARE:

None

OPTIONAL SOFTWARE:

None

TRAINING CREDITS:

None

SUPPORT CATEGORY:

A — Software Support will be provided as stated in the Software Support Categories Addendum to this SPD.

Included in on-site installation is an explanation and demonstration of the system. Installation will be deemed complete when the DIGITAL Sample Procedure included with the software has been successfully executed.

UPDATE POLICY:

Software Updates, if any, released by DIGITAL during the one (1) year period following installation, will be provided to the customer for a media charge (includes no installation). After the first year, updates, if any, will be made available according to then prevailing DIGITAL policies.

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.

WS81A AA	WPS-8/81 Word Processing System with a 30" cabinet and one (1) VT100 terminal, single-use license, binaries, documentation on floppy disk (power: 115 volt/60 Hertz)
WS81A CA	WPS-8/81 Word Processing System with a 30" cabinet, one (1) VT100W terminal and communication option, single use license, binaries, documentation on floppy disk (power: 115 volt/60 Hertz)
WS81B AA	WPS-8/81 Word Processing System with a 40" cabinet, one (1) VT100W terminal, single-use license, binaries, documentation on floppy disk (power: 115 volt/60 Hertz)
WS81B CA	WPS-8/81 Word Processing System with a 40" cabinet, one (1) VT100W terminal and communication option, single-use license, binaries, documentation on floppy disk (power: 115 volt/60 Hertz)
WS82B AA	WPS-8/82 Word Processing System with a 40" cabinet and two (2) VT100W terminals, single-use license, binaries, documentation on floppy disk (power: 115 volt/60 Hertz)
WS82B CA	WPS-8/82 Word Processing System with a 40" cabinet, two (2) VT100W terminals and communication option, single use license, binaries, documentation on floppy disk (power: 115 volt/60 Hertz)

ADDITIONAL SERVICES:

None

The Digital Equipment Computer Users Society

DECUS

DECUS, the Digital Equipment Computer Users Society, was established in March of 1961 to advance the effective use of DIGITAL computers. It is a voluntary, not-for-profit users group, supported in part by Digital Equipment Corporation.

OBJECTIVES

The objectives of the Society 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 and 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.

ACTIVITIES

1. SYMPOSIA

Symposia are held throughout the year in each of the DECUS Chapters. These meetings provide a forum for users of DIGITAL computers to meet with other users and with DIGITAL management, engineers, and Software Services and Field Service representatives. They are an opportunity for users to participate in DIGITAL Product Workshops and Product Planning feedback sessions. The technical papers and presentations from each symposium are published as DECUS Proceedings after each meeting and provide a permanent record of the meetings activities.

2. SPECIAL USER GROUPS

DECUS encourages subgrouping of users with common interests and/or geographical proximity.

Special Interest Groups (SIGs) promote the interchange of specialized information and have no geographical limitations. Specializations may be for application areas, subject areas (such as languages), or specific operating systems. A group of users must petition the Chapter Executive Board for recognition as a Special Interest Group. The group must have a chairman, and its organization must meet the guidlines of the Chapter Executive Board.

Examples of active SIGs are users of RSX-11, RSTS, RT-11 users, business system users, etc. For additional information, contact your Chapter Executive Secretary.

One of the most successful subgroupings are Local Users Groups (LUGs). There are numerous active LUGs in Australia, Canada, Europe, and the U.S. Local User Groups are basically geographic in nature; however, they may be geographic and specific as well.

The largest Special User Group is composed of users of the DECsystem-10 and DECsystem-20.

3. STANDARDS

DECUS promotes user activity in reviewing DIGITAL standards. Users are given the opportunity to comment on DIGITAL standards prior to their finalization.

4. PROGRAM LIBRARY

One of the major activities of the users group is the DECUS Program Library. The Library contains programs written and submitted by users and is maintained and operated separate from the Digital Software Distribution Center. A wide range of software is available, including languages, editors, numerical functions, utilities, display routines, and various other types of application software.

Library catalogs, updated periodically, contain descriptive abstracts and ordering information.

Information and forms for submitting programs to the Library may be obtained from local DECUS offices.

Programs are available to all members on a request basis. Orders for programs are made on DECUS Library Order Forms and directed to the local DECUS Chapter office. Information on the nominal service charge applied to most programs is published in the Library Catalogs.

As of January 1979, the Library contained approximately 1500 active software packages.

MEMBERSHIP

Membership in DECUS is voluntary and is not subject to a membership fee. Members are invited to take an active interest in the Society by contributing to the Program Library, to DECUSCOPE, and by participating in its Special User Groups and symposia. There are two types of membership: Installation Membership and Associate Membership.

INSTALLATION

An organization, institution, or individual that has purchased, leased, or has on order a computer manufactured by Digital Equipment Corporation is eligible for Installation Membership in DECUS. Membership status is acquired by submitting a written application to the appropriate Chapter Executive Secretary for approval by the Chapter Executive Board.

On acceptance of the application for membership, literature covering numerous DECUS services is sent to the Installation Delegate for reference and aid in maintaining active participation in the Society.

ASSOCIATE

Any person, who is not an appointed Installation Delegate, who has a bona fide interest in DECUS is eligible for Associate Membership.

Like Installation Members, Associate Members receive DECUSCOPE, the Society's quarterly newsletter, automatically. They may receive other DECUS material on request. Written application indicating desire to join must be submitted to the appropriate Chapter Executive Secretary for approval by the Chapter Executive Board.

On acceptance of the application for membership, literature covering the numerous DECUS services is sent to the member for reference and to enable active participation in the Society.

To become a member of DECUS, please return this form to the appropriate Chapter office listed below.

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☐ Installation ☐ Associate

January 1979

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