

**RT-11**  
**February 1982**  
**AD-C740C-24**

**THE  
SOFTWARE  
DISPATCH**

**digital**

## RT-11 SOFTWARE DISPATCH

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The RT-11 Software Dispatch complements the RT-11 Software Dispatch Review. 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 Dispatch Review).

### PRODUCTS SUPPORTED in the RT-11 SOFTWARE DISPATCH

BASIC-11/RT-11 V2  
CTS-300 V6  
DECnet-RT V1.1  
FMS-11/RT-11 V1.1  
FORTRAN GRAPHICS  
PACKAGE V1.1

FORTRAN/RT-11 LAB Extensions V1  
FORTRAN IV/RT-11 V2.5  
GAMMA-11 F/B V3  
LSP-11 V1.1  
MSB11 V1  
MSB/FORTRAN IV V1

MU BASIC-11/RT-11 V2  
PLOT 11/RT-11 V1.1  
RT-11 V4  
RT-11 2780/3780  
Protocol Emulator V4  
SSP-11 V1.2

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PRODUCT AVAILABILITY DATES - RT-11

FEBRUARY 1982

The following are dates products have become available. Customers who are in warranty or have a Software Product Service contract during the month the product became available are eligible to receive the update. Customers who are eligible and have not received the update should contact their local Digital office.

Autopatch is distributed to Software Product Service Basic contract customers and to Self-Maintenance contract customers who have selected this option. DECsupport contract customers will receive Autopatch as part of their Preventive Maintenance.

<u>PRODUCT</u>	<u>VERSION</u>	<u>AVAILABLE</u>
LSP-11	1.2	NOV 81
SSP-11	1.3	NOV 81
RT-11 AUTOPATCH	D	NOV 81

# SPR USER LETTER

Submitted by Sheila Hatchell, 8/11 Administration

## How to Make the Best Use of the SPR Form

### What We Can Do for You:

1. Blank SPR forms are returned with each SPR acknowledgement and 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.

RT-11 Software Dispatch, February 1982

RT-11 V4.0  
System Utilities  
PIP.SAV V07.00G

Seq 7.1.10 M

1 of 1

### ALLOCATE AND DELETE WORK INCORRECTLY WITH COPY OPERATIONS (DBF)

The following two problems are corrected with the patch given below:

- a. PIP gives a "?PIP-F-Illegal command" error message when /D is used with a copy operation to delete the input file after the operation completes.
- b. When /ALLOCATE is used with a copy operation, the current date is put on the output file. The date of the input file should be used as the date of the output file.

1. The following is a required patch to the PIP.SAV utility program. It must be installed in all copies of the utility.

NOTE: Since patching the distribution medium is not recommended, the patch must be installed every time you copy the program from the distribution medium.

2. This patch is installed using SIPP, the Save Image Patching Program. First, ensure that a copy of the file PIP.SAV is on a mounted volume. Create the file, PIP.008 as follows. Replace 'DK:' in the patch below with the name of the device that contains the program file.

```
RUN SIPP
DK:PIP.SAV/A/C
0
3632
110
^Z                               (up-arrow/Z)
6050
200
^Z                               (up-arrow/Z)
14546
1007
^Y                               (up-arrow/Y)
25464
^C                               (CTRL/C to exit)
```

3. To apply the patch to PIP.SAV type:

```
@PIP.008
```

The resulting version of the utility will be PIP V07.00H

4. Save the new version of the utility on a backup volume.

RT-11 V4.0

Seq 8.1.4 M

System Subroutine Library (SYSLIB)

SYSLIB.OBJ

Supersedes article dated January, 1982

1 of 3

VIRTUAL OVERLAY HANDLER CORRECTION (LCP)

\*\*\*\*\*REPLACEMENT ARTICLE\*\*\*\*\*
\* NOTE: This patch is incorporated in RT-11 V4/0 Autopatch Kit "E" \*
\*\*\*\*\*

The Virtual Overlay Handler issues a .CRAW request each time a virtual overlay is called, which implicitly eliminates the window and re-creates it prior to mapping it. Checks are now added to determine if, in fact, the window elimination and mapping are required.

- 1. The following patch is a required patch to module \$OVRHV of SYSLIB. It must be installed in all copies of the module.

To install the patch, first create a patch file for input to the PAT utility. Using an editor, create a file called OVRHV.001 on your system volume. Enter the text below into the file. The syntax of OVRHV.001 must strictly adhered to that below or a checksum error will be produced when installing the patch. The special symbol "<tab>" indicates the TAB character. All other blank spaces in the text should be entered in the file as single blank spaces. The symbol "<ret>" indicates the RETURN key.

```
.TITLE<tab>VHANDL EXTENDED MEMORY OVERLAY HANDLER
.IDENT<tab>/V04.00/
.ENABL<tab>GBL
.PSECT<tab>$OHAND,GBL
L3$ = .+30
L9$ = .+172
AREA = .+230
. = .+72
<tab>TSTB<tab>@R2
<tab>BEQ<tab>66$
<tab>MOV<tab>@2(R2),R0
<tab>BEQ<tab>66$
<tab>CMP<tab>$OVTB-6(R0),R2
<tab>BEQ<tab>67$
66$:<tab>MOV<tab>#AREA,R0
<tab>MOV<tab>R2,2(R0)
<tab>MOV<tab>R1,-(SP)
<tab>MOV<tab>2(R1),R1
<tab>CALL<tab>$$CRAW
<tab>MOV<tab>(SP)+,R1
<tab>BCS<tab>L9$
67$:<tab>MOV<tab>2(R2),R2
<tab>BR<tab>L3$
.PSECT<tab>$OTABL,GBL
$OVTB::
<tab>.END
```

RT-11 V4.0

Seq 8.1.4 M

System Subroutine Library (SYSLIB)

SYSLIB.OBJ

Supercedes article dated January 1982

2 of 3

Next, using an editor, create a file called CRAW.001 on your system volume. Enter the text below into the file. The syntax of CRAW.001 must strictly adhered to that below. The special symbol "<tab>" indicates the TAB character. All other blank spaces in the text should be entered in the file as single blank spaces. The symbol "<ret>" indicates the RETURN key.

```
.TITLE<tab>CRAW
.IDENT<tab>/V04.00/
.PSECT<tab>$$CRAW,GBL
$$CRAW::
<tab>ASH<tab>#-5,R1
<tab>MOV<tab>R1,12(R2)
<tab>MOV<tab>#30.*^0400+2,@R0
<tab>EMT<tab>375
<tab>RETURN
<tab>.END
```

2. Assemble the patch files by typing

```
.MACRO/OBJ:OVRHV.PAT OVRHV.001
ERRORS DETECTED: 0

.MACRO CRAW.001
ERRORS DETECTED: 0
```

3. Extract the modules \$OVRH and \$OVRHV from SYSLIB using the LIBR utility and store them in files OVRH and OVRHV, respectively.

```
.R LIBR
*OVRH=SYSLIB/E
Global? $OVRH
Global? <ret>
*OVRHV=SYSLIB/E
Global? $OVRHV
Global? <ret>
*^C
```

4. Now apply the patch to OVRHV using the PAT utility.

```
.R PAT
*OVRHV=OVRHV/C:64360,OVRHV.PAT/C:22653
```

RT-11 V4.0

Seq 8.1.4 M

System Subroutine Library (SYSLIB)

SYSLIB.OBJ

Supercedes article dated January 1982

3 of 3

5. Replace the unpatched version of \$OVRHV in SYSLIB with the patched version using the LIBR utility. The module \$OVRH must be re-inserted to insure that it follows the \$OVRHV module in the library. The new module, \$\$CRAW, is also added to the library.

```
.R LIBR
*DK:SYSLIB=DK:SYSLIB/D
Module Name? OHANDL
Module Name? VHANDL
Module Name? <ret>
*DK:SYSLIB=DK:OVRHV,DK:OVRH/G,DK:CRAW,DK:SYSLIB
Global? $OVRH
Global? <cr>
*^C
```

6. Save the patched version of the module on a backup volume.

FORTRAN IV V2.5  
for RT-11 V4.0  
OTS

Seq. 45.2.15 M  
1 of 2

BOUNDARY CONDITION ON FORMATTED I/O CORRUPTS I/O IN PAT 6(PAT 23)

NOTE:

This patch invalidates the results of PAT 6.

PROBLEM:

The FORTRAN IV OTS does not correctly reset internal pointers when complete blocks of data have been read by a READ statement.

SOLUTION:

1. Type in the following MACRO files: PAT23A.MAC, PAT23B.MAC

PAT23A.MAC:

```

        .TITLE  $PUTREC
        .IDENT  /005/
        .PSECT  OTS$I
        .GLOBL  $PUTBLK

S=.
.=S+246
        JMP     ZAPCNT

.=S+252
CON:
.=S+306
ZAPCNT:
        CMP     #1000,16(R4)
        BNE    SAVPTR
        JSR    PC,$PUTBLK
        CLR    16(R4)

SAVPTR:
        MOV    16(R4),R2
        JMP    CON
        .END

```

PAT23B.MAC:

```

        .TITLE  $GETREC
        .IDENT  /004/
        .PSECT  OTS$I

S=.
.=S+176
        MOV    R1,30(R3)
        .END

```

FORTRAN IV V2.5  
for RT-11 V4.0  
OTS

Seq. 45.2.15 M  
2 of 2

2. Assemble the patches using MACRO-11

```
.R MACRO
*PAT23A=PAT23A
*PAT23B=PAT23B
*^C
```

3. Install the patches, using PAT, to the most recently patched OTSCOM.OBJ file:

NOTE: Make a copy of OTSCOM.OBJ before you patch it just in case something goes wrong.

```
.R PAT
*OTSCOM=OTSCOM/C:55721,PAT23A/C:14432
.R PAT
*OTSCOM=OTSCOM/C:47643,PAT23B/C:7054
```

4. Rebuild the OTS using the procedure described in the FORTRAN IV Installation Guide.
5. Test the patches by creating and compiling the following FORTRAN program.

```
INTEGER IBUF(32)
DO 20 I=1,8
WRITE(21,10)
10  FORMAT(1X,62('X'))
20  CONTINUE
REWIND 21
DO 40 I=1,8
READ(21,30)IBUFF
30  FORMAT(32A2)
40  CONTINUE
WRITE(21,50)
50  FORMAT(' THE END ')
STOP
END
```

Which should produce a file, FTN21.DAT, which will be two blocks in length. The file should contain eight rows of 62 X's followed by the string:

THE END

FORTTRAN IV V2.5  
for RT-11 V4.0  
OTS

Seq. 45.2.16 M  
1 of 2

BOUNDARY CONDITION ON FORMATTED I/O BACKSPACE CORRUPTS I/O (PAT 24)

PROBLEM:

The FORTTRAN IV OTS does not correctly reset internal pointers when when a BACKSPACE occurs on a boundary between two blocks.

SOLUTION:

1. Type in the following MACRO file: PAT24.MAC.

PAT24.MAC:

```
                .TITLE  $BACKSPACE
                .IDENT  /003/
                .PSECT  OTS$I
                .GLOBL  $GETBLK

S=.
.=S+256
                JMP     PATBCK

DONE1:
.=S+310
PATBCK:
                MOV     R0,16(R4)
                BNE     DONE1
                TST     26(R4)
                BEQ     DONE1
                JSR     PC,$GETBLK
                BR      DONE1
                .END
```

2. Assemble the patches using MACRO-11

```
.R MACRO
*PAT24=PAT24
*^C
```

3. Install the patches, using PAT, to the most recently patched OTSCOM.OBJ file:

NOTE: Make a copy of OTSCOM.OBJ before you patch it just in case something goes wrong.

```
.R PAT
*OTSCOM=OTSCOM/C:063250,PAT24/C:014601
```

FORTRAN IV V2.5  
for RT-11 V4.0  
OTS

Seq. 45.2.16 M  
2 of 2

4. Rebuild the OTS using the procedure described in the FORTRAN IV Installation Guide.
5. Test the patches by creating and compiling the following FORTRAN program.

```
          DO 50 I=1,9  
          WRITE(3,945)I  
945      FORMAT(63('X')/I4)  
          BACKSPACE 3  
50      CONTINUE  
          STOP  
          END
```

Which should produce a file, FIN3.DAT, which will be two blocks in length. The file should contain nine rows of 62 X's followed by the string:

FORTRAN IV V2.5  
for RT-11 V4.0  
OTS

Seq. 45.2.17 M

1 of 2

CORRECTION OF ASSIGN FILENAME HANDLING WHEN ICNT EQUALS ZERO(PAT 25)

PROBLEM:

The FORTRAN IV OTS does not correctly interpret the file name provided when using CALL ASSIGN when the ICNT parameter equals zero.

SOLUTION:

1. Type in the following MACRO file: PAT25.MAC

PAT25.MAC:

```
        .TITLE  $ASSIGN/OPEN
        .IDENT  /008/
        .PSECT  OTS$I

S=.
.=S+46
        JMP     RESET

GETCT:
.=S+56
NOCNT:
.=S+426
        BEQ     TRYAGN
.=S+456
EOS:

.=S+502
TRYAGN: CMPB    @R0,#40
        BEQ     EOS
        ISIB   @R0
        BEQ     EOS
        MOVB   (R0)+,(R2)+
        BR     TRYAGN

RESET:  DECB   R4
        BLE   2$
        JMP   GETCT

2$:    CLR   R1
        JMP   NOCNT
        .END
```

FORTRAN IV V2.5  
for RT-11 V4.0  
OIS

Seq. 45.2.17 M

2 of 2

2. Assemble the patches using MACRO-11

```
.R MACRO
*PAT25=PAT25
*^C
```

3. Install the patches, using PAT, to the most recently patched OISCOM.OBJ file:

NOTE: Make a copy of OISCOM.OBJ before you patch it just in case something goes wrong.

```
.R PAT
*OISCOM=OISCOM/C:103565,PAT25/C:014640
```

4. Rebuild the OIS using the procedure described in the FORTRAN IV Installation Guide.
5. Test the patches by creating and compiling the following FORTRAN program.

```
        BYTE    NAME(8)
        NAME(1)='A'
        NAME(2)='S'
        NAME(3)='G'
        NAME(4)='.'
        NAME(5)='C'
        NAME(6)='H'
        NAME(7)='K'
        NAME(8)=' '
        CALL ASSIGN(21,NAME,0)
        WRITE(21,10) NAME
10      FORMAT(' NAME IS ',10A1)
        END
```

Which will produce a file ASG.CHK when the patch has been successfully installed with the contents:

```
NAME IS ASG.CHK
```

CTS-300 V6  
for RT-11 V4.0  
SUD VA06-00E  
(PATCH 31)

Seq 51.16.06 M  
1 of 2

SUD MESSAGES OVER 100 CHARACTERS IN LENGTH ARE NOT RECEIVED CORRECTLY

A problem occurs when running a DIBOL program under SUD that sends a message to another program. The 100th thru 150th characters of the message are not received correctly.

Patch 31 corrects the problem of SUD handling messages. Messages of up to a length of 150 characters can now be sent. Patch 31 also changes the version number of SUD to VA06-00F.

#### NOTE

The patch is made by fixing a module in the DIBOL library and then rebuilding the library. Therefore, this patch will only work on programs that are linked with the 'new' DIBOL library. Programs that do not have any problems with sending messages need not be relinked.

Using the editor, create the following two files exactly as shown. Name them as indicated in the comment line that is the first line of each file. Then, to install the patch, follow the procedure shown following the files.

CTS-300 V6  
for RT-11 V4.0  
SUD VA06-00E  
(PATCH 31)

Seq 51.16.06 M

2 of 2

;P031A.MAC

```
.TITLE $DIRTX
.CSECT $DIRT
P031:
    ., +50
    JMP P031A
    NOP

.PSECT $P031
P031A: ADD #4, P031+370
      MOV #TMPSTK, SP
      JMP P031+56
      .BLKW 32.
TMPSTK: .WORD 0
      .END
```

;P031B.MAC

```
.TITLE DIRT
.CSECT $DIRT

., +11215
.ASCII /F/
.END
```

.RENAME (SDIRT,DIRTX,DIBOL).OBJ \*.OLD

Files renamed:

```
DK:SDIRT.OBJ to DK:SDIRT.OLD
DK:DIRTX.OBJ to DK:DIRTX.OLD
DK:DIBOL.OBJ to DK:DIBOL.OLD
```

.MACRO P031A,P031B

ERRORS DETECTED: 0

ERRORS DETECTED: 0

.R PAT

\*DIRTX.OBJ=DIRTX.OLD/C:106705,P031A/C:016730

.R PAT

\*SDIRT.OBJ=SDIRT.OLD/C:077252,P031B/C:005610

.R LIBR

\*DIBOL.OBJ/A=DIBOL.OLD,DIRTX/R

\*^C

.R CTSGEN ;FOR SINGLE USER DIBOL

RT-11 Software Dispatch, February 1982

CTS-300 V06  
for RT-11 V4.0  
TSD VB06-00I  
XMTSD VC06-00L  
(PATCH 30)

Seq 51.18.10 M  
Seq 51.20.13 M

1 of 4

CORRECTION FOR SIDE EFFECTS FROM PATCH 27

Patch 30 corrects some problems that may occur with the installation of Patch 27 to CTS-300 V6, "NO ERROR 22 RETURNED", which was published in the November 1981 issue of the RT-11 Software Dispatch. When the DIBS-11 application package is run, for example, repeated Error 11's (CHANNEL NOT OPEN) will occur and the program will terminate.

Please note that Patch 30 does not replace Patch 27; it must be installed in sequence in addition to all other mandatory patches.

The version number of TSD changes to VB06-00J and XMTSD changes to VC06-00M.

Using the editor, create the following source files. Name them as indicated in the comment line that begins each file. Then, to install the patch, follow the procedure shown following the files.

CTS-300 V06  
 for RT-11 V4.0  
 TSD VB06-00I  
 XMTSD VC06-00L  
 (PATCH 30)

Seq 51.18.10 M  
 Seq 51.20.13 M  
 2 of 4

#P030A.MAC

```

        .TITLE  $DIO
        .PSECT  $DIO
        .GLOBL  $JOB,CLISAM
P030:
        . =      .+3644
        JSR     PC,P030A
        . =      P030+3746
        JMP     P030B
        . =      P030+4056
        JMP     P030C
        . =      P030+12116
        JSR     PC,P030D

        .PSECT  $P030A
P030A:  BISR   #1,27(R0)
        JSR     PC,P030+4310
        RTS     PC
P030B:  BNE    3$
        TSTB   2(R0)
        JMP     P030+3754
3$:     BITB   #1,27(R0)
        BEQ    6$
        MOV    R2,R3
        ASL    R3
        ASL    R3
        SUB    R2,R3
        ADD    #SAVE,R3
        MOV    (R3),10(R0)
        MOV    2(R3),12(R0)
        MOV    4(R3),16(R0)
6$:     JMP     P030+3764
P030C:  BICB   #1,27(R0)
        CMPB   2(R0),#376
        JMP     P030+4064
P030D:  JSR     PC,CLISAM
        MOV    (R4),R1
        RTS     PC
SAVE:   .BLKW 48.
        .END
    
```

#P030B.MAC

```

        .TITLE  $DISAM
        .PSECT  $DISAM
        .GLOBL  WB
P030:
        . =      . + 5156
        JMP     P030A

        .PSECT  $P030B
P030A:  BITB   #2,27(R0)
        BNE    1$
        BISR   #2,27(R0)
        JSR     PC,WB
1$:     BICB   #2,27(R0)
        JMP     P030+5200
        .END
    
```

CTS-300 V06  
 for RT-11 V4.0  
 TSD VB06-00I  
 XMTSD VC06-00L  
 (PATCH 30)

Seq 51.18.10 M

Seq 51.20.13 M

3 of 4

```

;P030C.MAC

        .TITLE  $KDIO
        .PSECT  $DIO
        .GLOBL  $JOB,CLISAM
P030:
        . =      .+3176
        JSR     PC,P030A
        . =      P030+3300
        JMP     P030B
        . =      P030+3410
        JMP     P030C
        . =      P030+11224
        JSR     PC,P030D

        .PSECT  $P030C
P030A:  BISB    #1,27(R0)
        JSR     PC,P030+3642
        RTS     PC
P030B:  BNE     3$
        TSTB   2(R0)
        JMP     P030+3306
3$:     BITB   #1,27(R0)
        BEQ    6$
        MOV    R2,R3
        ASL   R3
        ASL   R3
        SUB    R2,R3
        ADD    #SAVE,R3
        MOV    (R3),10(R0)
        MOV    2(R3),12(R0)
        MOV    4(R3),16(R0)
6$:     JMP     P030+3316
P030C:  BICB    #1,27(R0)
        CMPB   2(R0),#376
        JMP     P030+3416
P030D:  JSR     PC,CLISAM
        MOV    (R4),R1
        RTS     PC
SAVE:   .BLKW  48.
        .END
    
```

```

;P030D.MAC

        .TITLE  $KISAM
        .PSECT  $KISAM
        .GLOBL  WB
P030:
        . =      . + 5116
        JMP     P030A

        .PSECT  $P030D
P030A:  BITB    #2,27(R0)
        BNE    1$
        BISB   #2,27(R0)
        JSR    PC,WB
1$:     BICB    #2,27(R0)
        JMP    P030+5140
        .END
    
```

!P030V1.MAC

```
.TITLE DTO
.CSECT DTO

.=      .+4563
.ASCII  /J/
.END
```

4 of 4

!P030V2.MAC

```
.TITLE $KDTO
.PSECT DATXX

.=      .+42
.BYTE   'M
.END
```

```
.RENAME (DIO,DISAM,DTO).OBJ *.OLD
Files renamed:
DK:DIO.OBJ      to DK:DIO.OLD
DK:DISAM.OBJ    to DK:DISAM.OLD
DK:DTO.OBJ      to DK:DTO.OLD
```

```
.RENAME (KDIO,KISAM,KDTO).OBJ *.OLD
Files renamed:
DK:KDIO.OBJ     to DK:KDIO.OLD
DK:KISAM.OBJ    to DK:KISAM.OLD
DK:KDTO.OBJ     to DK:KDTO.OLD
```

```
.MACRO P030A,P030B,P030C,P030D,P030V1,P030V2
ERRORS DETECTED: 0
ERRORS DETECTED: 0
ERRORS DETECTED: 0
ERRORS DETECTED: 0
ERRORS DETECTED: 0
ERRORS DETECTED: 0
```

```
.R PAT
*KDIO.OBJ=KDIO.OLD/C:045603,P030A/C:051303
```

```
.R PAT
*DISAM.OBJ=DISAM.OLD/C:133404,P030B/C:021236
```

```
.R PAT
*KDIO.OBJ=KDIO.OLD/C:065671,P030C/C:050502
```

```
.R PAT
*KISAM.OBJ=KISAM.OLD/C:162225,P030D/C:021150
```

```
.R PAT
*DTO.OBJ=DTO.OLD/C:130717,P030V1/C:03251
```

```
.R PAT
*KDTO.OBJ=KDTO.OLD/C:060527,P030V2/C:004722
```

```
.R CTSGEN      $FOR NORMAL TSD
```

```
.R CTSGEN      $FOR EXTENDED MEMORY TSD
```

RT-11 Software Dispatch, February 1982

CTS-300 V6  
for RT-11 V4.0  
TSD VB06-00J  
XMTSD VC06-00M  
(PATCH 32)

Seq 51.18.11 M  
Seq 51.20.14 M  
1 of 3

LINE PRINTER IS SOMETIMES INCORRECTLY CONSIDERED IN USE

In TSD and XMTSD, if a program is run that opens the line printer but there is insufficient memory for the run time system to load the line printer handler then an ~~ERROR 9 - NOT ENOUGH MEMORY~~ is generated. This is what should happen; but any further attempts to use the line printer will fail with ERROR 37 - DEVICE IN USE.

Patch 32 ensures that the run time system properly recovers after an ERROR 9 - NOT ENOUGH MEMORY and that the line printer will be considered available. The version numbers of TSD and XMTSD are changed to VB06-00K and VC06-00N respectively.

Using the editor, create the following four files exactly as shown. Name them as indicated in the comment line that is the first line of each file. Then, to install the patch, follow the procedure shown following the files.

CTS-300 V6  
 for RT-11 V4.0  
 TSD VB06-00J  
 XMTSD VC06-00M  
 (PATCH 32)

Seq 51.18.11 M  
 Seq 51.20.14 M

2 of 3

;P032A.MAC

```

        .TITLE  $DIO
        .CSECT  $DIO
        .GLOBL  $ACGO,RTCHNL

        JB=%5
P032:  ., +3126          ; CLOM:
        JSR    PC,P032A
        NOP
        NOP
        .,=P032+11650
        JMP    P032B
        .,=P032+11734
        BGE    P032+11722

        .PSECT  $P032
P032A: MOV    (R4),R1
        JSR    PC,P032+11640 ; JSR PC,LPCHK
        MOVB  $ACGO(JB),R0
        JSR    PC,RTCHNL
        RTS    PC
P032B: JSR    PC,P032+11716 ; JSR PC,LPIDEN
        TST   R2
        BMI   1$
        JMP   P032+ 11654
1$:    RTS    PC
        .END
    
```

;P032B.MAC

```

        .TITLE  $KDIO
        .CSECT  $DIO
        .GLOBL  $ACGO,RTCHNL

        JB=%5
P032:  ., +2510
        JSR    PC,P032A
        NOP
        NOP
        .,=P032+10756
        JMP    P032B
        .,=P032+11042
        BGE    P032+11030

        .PSECT  $P032
P032A: MOV    (R4),R1
        JSR    PC,P032+10746 ; JSR PC,LPCHK
        MOVB  $ACGO(JB),R0
        JSR    PC,RTCHNL
        RTS    PC
P032B: JSR    PC,P032+11024 ; JSR PC,LPIDEN
        TST   R2
        BMI   1$
        JMP   P032+ 10762
1$:    RTS    PC
        .END
    
```

CTS-300 V6  
for RT-11 V4.0  
TSD VB06-00J  
XMTSD VC06-00M  
(PATCH 32)

Seq 51.18.11 M  
Seq 51.20.14 M

3 of 3

#P032V1.MAC

.TITLE DTO  
.CSECT DTO  
  
.=.+4563  
.ASCII /K/  
.END

#P032V2.MAC

.TITLE #KDTO  
.PSECT DATXX  
  
.=.+42  
.BYTE 'N  
.END

.RENAME (DIO,KDIO,DTO,KDTO).OBJ \*.OLD

Files renamed:

DK:DIO.OBJ to DK:DIO.OLD  
DK:KDIO.OBJ to DK:KDIO.OLD  
DK:DTO.OBJ to DK:DTO.OLD  
DK:KDTO.OBJ to DK:KDTO.OLD

.MACRO P032A,P032B,P032V1,P032V2

ERRORS DETECTED: 0  
ERRORS DETECTED: 0  
ERRORS DETECTED: 0  
ERRORS DETECTED: 0

.R PAT

\*DIO.OBJ=DIO.OLD/C:103310,P032A/C:033664

.R PAT

\*KDIO.OBJ=KDIO.OLD/C:122574,P032B/C:032520

.R PAT

\*DTO.OBJ=DTO.OLD/C:131601,P032V1/C:003252

.R PAT

\*KDTO.OBJ=KDTO.OLD/C:061673,P032V2/C:004723

.R CTSGEN ~~FOR NORMAL TSD~~

.R CTSGEN #FOR EXTENDED MEMORY TSD

RT-11 Software Dispatch, February 1982

CTS-300 V06  
for RT-11 V4.0  
DOCUMENTATION

Seq 51.21.10 N

1 of 1

SOME NOTES ON RT-11 PATCH SEQ 6.13.6 M TO LS.MAC FOR CTS-300 USERS

The latest RT-11 patch to LS.MAC entitled 'LS HANDLER SET "NOHANG" PROBLEM' (SEQ 6.13.6M) was published in the January 1982 issue of the RT-11 Software Dispatch and can be applied as published to the CTS-300 version of LS.MAC.

However, the installation procedure for this patch differs slightly for CTS-300 users. If you are a CTS-300 user, you should follow steps 1 through 3. After completing step 3, run SYSGEN to install the patch and ignore the remaining instructions.

RT-11 V4.0  
 CUMULATIVE INDEX  
 FEBRUARY 1982

This is a complete listing of all articles for RT-11 V4.0 and related products. In the case of subordinate software, missing sequence numbers may pertain to problems unique to interaction with previous versions of the same product or other major operating systems.

**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 modification or because they are not consistent with the design 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.

**+ =** Articles appeared in the RT-11 Software Dispatch Review, March 1980.

\*The "Autopatch Kit" column in the list which follows indicates the first RT-11 V4.0 Autopatch Kit in which the associated patch was included. Unless otherwise indicated, the patches also appear in subsequent Autopatch Kits as well. Note that Autopatch Kit "D" is the latest kit available from the SDC.

<u>Component</u>	<u>Autopatch Kit</u>	<u>Sequence</u>	<u>Mon/Yr</u>
RT-11 V4.0			
MONITOR PATCHES			
ISSUING .SETTOP #-2 AND .EXIT UNDER XM MONITOR MAY			
CORRUPT SYSTEM DISK	A	1.1.1 M	Jul 80
IMPLEMENTING INTERNAL HANDLER QUEUEING IN FB AND XM MONITORS	A	1.1.2 M	Jul 80
ADDING HIGH SPEED RING BUFFER SUPPORT	A	1.1.3 M	Jul 80
CORRUPTION OF CSI TEXT UNDER XM MONITOR	A	1.1.4 M	Jul 80
MISSING COLON IN BOOT XX CAUSES SYSTEM HALT	A	1.1.5 M	Jul 80
TYPING ^U WHILE IN A ^X SEQUENCE UNDER A SYSTEM JOB	A	1.1.6 M	Sep 80
ABNORMAL TERMINATION OF FG JOB WHICH IS USING CSI	A	1.1.7 M	Nov 80
MISCELLANEOUS MRRT-11 BUGS	A	1.1.8 M	Nov 80
MRRT-11 MINIMAL FILE SUPPORT PROBLEM	A	1.1.9 M	Nov 80
INCORRECT LIMIT CHECKS ON PRIVILEGED BACKGROUND JOBS USING			
VIRTUAL OVERLAYS	A	1.1.10 M	Nov 80
MULTI-TERMINAL MONITORS DON'T ALWAYS PROCESS CTRL/F PROPERLY	A	1.1.11 M	Nov 80
MONITOR CHANGES AND CORRECTIONS	A	1.1.12 M	Dec 80
MONITOR CORRECTIONS	B	1.1.13 M	Jan 81
MONITOR UPDATES	B	1.1.14 M	Feb 81
ABORT I/O IN PROGRESS HANDLER BIT	B	1.1.15 M	Apr 81
CORRECTIONS FOR DISTRIBUTED AND SYSTEM GENERATED MONITORS	C	1.1.16 M	Jun 81
PRINT COMMAND RESTRICTION		1.1.17 R	Jul 81
UPDATES TO MONITOR FILES	D	1.1.18 M	Oct 81
CORRECTIONS TO THE MONITOR		1.1.19 M	Jan 82

<u>Component</u>	<u>Autopatch Kit</u>	<u>Sequence</u>	<u>Mon/Yr</u>
<u>DEVICE HANDLER SOURCES</u>			
<u>DEVICE HANDLER NOTES</u>			
RL02s AT REV. LEVEL "F" FAIL DURING RT-11 SYSGEN		6.1.1 N	Oct 80
<u>DD.MAC</u>			
DD PRIMARY BOOTSTRAP PROBLEM	A	6.4.1 M	Jul 80
<u>DL.MAC</u>			
PATCH XM VERSION OF DL HANDLER .SPFUN GET SIZE ROUTINE	A	6.5.1 M	Dec 80
ERRORS ON RL01 DISK DRIVES AFTER DISK PACKS ARE CHANGED	B	6.5.2 M	Jan 81
<u>DM.MAC</u>			
ERRORS IN DM OFFSET POSITIONING AND ERROR LOGGING	A	6.6.1 M	Jul 80
<u>DY.MAC</u>			
DELETED DATA MARK MAY BE LOST IF BUFFER STARTS ON PAR BOUNDARY	D	6.11.1 M	Aug 81
<u>LP.MAC</u>			
LP SET NOHANG MAY CRASH SYSTEM	A	6.12.1 M	Sep 80
<u>LS.MAC</u>			
LS SET NOHANG MAY CRASH SYSTEM	A	6.13.1 M	Sep 80
PROBLEMS WITH LS HANDLER	B	6.13.2 M	Jan 81
USING AN LA120 TERMINAL AS A LINE PRINTER WITH THE LS HANDLER		6.13.3 N	Jul 81
SET LS NOHANG IS CURRENTLY INOPERATIVE	C	6.13.4 M	Jul 81
RACE CONDITION IN LS HANDLER	D	6.13.5 M	Aug 81
LS HANDLER SET "NOHANG" PROBLEM		6.13.6 M	Jan 82
<u>PD.MAC</u>			
CORRECTION TO PDT ERROR LOGGING SUPPORT	B	6.16.1 M	Apr 81
<u>MAG TAPE HANDLERS</u>			
BUFFER CLEARING ON SHORT READ IN XM MONITOR	A	6.20.1 M	Jul 80
LINKING AN XM, NON-FILESTRUCTURED TS HANDLER GENERATES AN UNDEFINED GLOBAL	A	6.20.2 M	Aug 80
INCORRECT READ ERROR RECOVERY IN MT HANDLER	A	6.20.3 M	Sep 80
TS-11 DOES NOT RECOVER FROM SOFT ERROR ON WRITE EOF	C	6.20.4 M	Jul 81
<u>SYSTEM UTILITIES</u>			
<u>PIP.SAV</u>			
ERRORS IN PIP	A	7.1.1 M	Sep 80
COPY/PREDELETE COMMAND		7.1.2 N	Sep 80
MATCHING FILE SPECIFICATIONS ERRORS	B	7.1.3 M	Feb 81
COPY/BINARY/WAIT AND LOG HEADER PROBLEMS	B	7.1.4 M	Apr 81
COPY/PREDELETE AND COPY/NOREPLACE WORK INCORRECTLY WITH /WAIT	C	7.1.5 M	Jun 81
ERROR WITH RENAME/NOREPLACE	C	7.1.6 M	Jul 81
/POSITION:N SWITCH FOR MAGTAPE INPUT WORKS INCORRECTLY		7.1.7 M	Oct 81
COPY/BINARY STOPS PROCESSING AFTER ENCOUNTERING AN OBJ LIBRARY FILE		7.1.8 M	Nov 81
COPYING FILES TO UNINITIALIZED DISKS		7.1.9 N	Nov 81
ALLOCATE AND DELETE WORK INCORRECTLY WITH COPY OPERATIONS		7.1.10 M	Feb 82
<u>DUP.SAV</u>			
MISSING COLON IN BOOT XX CAUSES SYSTEM HALT	A	7.2.1 M	Jul 80
SQUEEZE CREATES <UNUSED> ENTRIES OF LENGTH ZERO BEFORE .BAD FILES	A	7.2.2 M	Aug 80
PROBLEMS WITH COPY/DEVICE AND INITIALIZE	A	7.2.3 M	Dec 80
BOOTSTRAPPING AN UNPATCHED MONITOR FROM A PATCHED SYSTEM	B	7.2.4 N	Jan 81
.SPFUN RETURN BUFFER PROCESSED INCORRECTLY FOR RK06/7	B	7.2.5 M	Jan 81
USE OF INITIALIZE/RESTORE ON MEDIA SUPPORTING BAD BLOCK REPLACEMENT		7.2.6 N	May 81
PROBLEMS WITH INIT/BAD AND COPY/DEVICE	C	7.2.7 M	May 81
PROBLEMS WITH INITIALIZE COMMAND	C	7.2.8 M	Jun 81
ATTEMPT TO RESTORE UNCLOSED TENTATIVE FILES FAILS	C	7.2.9 M	Jul 81
/V WITH NO DEVICE SPECIFICATION GIVES WRONG ERROR MESSAGE	D	7.2.10 M	Sep 81
OUTPUT ERROR DURING COPY/DEVICE TO MAGTAPE CAUSES SYSTEM ERROR		7.2.11 M	Oct 81
USE OF COPY/DEV/FILE WITHOUT FILE SPECIFICATION		7.2.12 M	Nov 81

<u>Component</u>	<u>Autopatch Kit</u>	<u>Sequence</u>	<u>Mon/Yr</u>
<b>DIR.SAV</b>			
DIR/OUT COMMAND PRODUCES DEVICE NOT ACTIVE MESSAGE	A	7.3.1 M	Jul 80
DIR/VOL GIVES ?MON-F-TRAP TO 4	A	7.3.2 M	Dec 80
LOSS OF LAST PRINT CHARACTER IN DIRECTORY LISTING	D	7.3.3 M	Sep 81
<b>RESORC.SAV</b>			
RESORC MAY REPORT INCORRECT JOB NAMES ON A SHOW JOBS COMMAND	A	7.5.1 M	Aug 80
ADD CIS DETECTION CAPABILITY TO RESORC	B	7.5.2 M	May 81
PROBLEM WITH IDENTIFYING 11/23 PROCESSOR	D	7.5.3 M	Sep 81
<b>LINK.SAV</b>			
LINK BYTE RELOCATION AND DIRECTORY SIZE	A	7.9.1 M	Jul 80
LINK MAP PROCESSING ERROR	A	7.9.2 M	Aug 80
LINK MAP ERROR AND MULTIPLE DEFINITION LIBRARIES	A	7.9.3 M	Oct 80
RT-11 V4 LINKER RESTRICTION	B	7.9.4 R	Jan 81
LINK TRANSFER ADDRESS CALCULATION BUGS	B	7.9.5 M	Mar 81
LINK ADDITIONS AND CORRECTIONS	D	7.9.6 M	Aug 81
LINK UPGRADE		7.9.7 M	Nov 81
LINK ERROR IN LIBRARY MODULE TRANSFER ADDRESS PROCESSING		7.9.8 M	Jan 82
LINK LIBRARY MODULE PLACEMENT ERROR		7.9.9 M	Jan 82
<b>LIBR.SAV</b>			
A LIBR COMMAND WITH NO FILE-SPEC CAN CAUSE A SYSTEM CRASH	A	7.10.1 M	Jul 80
LIBR ERRORS	C	7.10.2 M	Jul 81
LIBR CORRUPTS FORM LIBRARY DIRECTORY	C	7.10.3 M	Jun 81
LIBR ERROR IN GENERATING ENTRY POINT TABLE		7.10.4 M	Jan 82
LIBR RESTRICTION		7.10.5 N	Jan 82
<b>FILEX.SAV</b>			
FILEX WILDCARD TRANSFERS CAUSE MONITOR TRAP	A	7.11.1 M	Aug 80
FILEX CREATES ZERO FILLED INTERCHANGE RECORDS	A	7.11.2 M	Sep 80
SIZE CALCULATION PROBLEM IN FILEX	D	7.11.3 M	Aug 81
RECORDS DROPPED BY FILEX	D	7.11.4 M	Sep 81
<b>SRCCOM.SAV</b>			
COMPARING TWO FILES MAY CAUSE TRAP TO 4	A	7.12.1 M	Aug 80
BLANK LINE COMPARISON FOR SLIDING MATCH	A	7.12.2 M	Dec 80
<b>BINCOM.SAV</b>			
BINCOM GENERATES ERRONEOUS ERROR MESSAGE	B	7.13.1 M	Apr 81
ERRONEOUS DOUBLE PRECISION CALCULATION IN BINCOM	C	7.13.2 M	Jun 81
BINCOM PLACES TAB CHARACTER AFTER OFFSET IN SIPP COMMAND FILE		7.13.3 M	Jan 82
<b>DUMP.SAV</b>			
BLOCK NUMBERS OUTPUT FROM DUMP	D	7.14.1 M	Aug 81
<b>SLP.SAV</b>			
TERMINATION OF PATCHING SESSION WITH SLP FATAL ERRORS	A	7.15.1 M	Nov 80
SLP GENERATES FATAL ERROR TRAP	B	7.15.2 M	Jan 81
SLP ERROR	B	7.15.3 M	Mar 81
<b>SIPP.SAV</b>			
CORRUPTION OF MULTI-BLOCK LOG FILES	A	7.16.1 M	Jul 80
<b>PAT.SAV</b>			
USE OF THE PAT UTILITY WITH RT-11 V3B PATCHES		7.17.1 N+	Mar 80
<b>HELP.SAV</b>			
PROBLEMS WITH HELP UTILITY	A	7.19.1 M	Nov 80
<b>EDIT.SAV</b>			
EDIT MISHANDLES OUTPUT FILE FULL ERROR	B	7.20.1 M	Nov 81
<b>SYSTEM SUBROUTINE LIBRARY (SYSLIB)</b>			
<u>SYSLIB.OBJ</u>			
PATCH TO ICSI	A	8.1.1 M	Oct 80
IASIGN REDEFINITIONS	A	8.1.2 M	Oct 80
ILUN RESTRICTION		8.1.3 R	Feb 81
VIRTUAL OVERLAY HANDLER CORRECTION		8.1.4 M	Feb 82

<u>Component</u>	<u>Autopatch Kit</u>	<u>Sequence</u>	<u>Mon/Yr</u>
<u>SYSTEM MACRO LIBRARY</u>			
.SPFUN PROGRAMMED REQUEST	A	9.1.1 M	Dec 80
ABORT I/O PROGRESS SUPPORT FOR SYSMAC	B	9.1.2 M	Apr 81
.CMKT PROGRAMMED REQUEST	C	9.1.3 M	Jun 81
<u>SYSTEM GENERATION PACKAGE</u>			
SYSGEN CREATES ONE MORE DEVICE SLOT THAN REQUESTED	A	10.3.1 M	Dec 80
ASSEMBLY ERROR AFTER SYSGEN	B	10.3.2 M	Mar 81
<u>DOCUMENTATION</u>			
<u>RT-11 SYSTEM RELEASE NOTES</u>			
RT-11 V4.0 DOCUMENTATION CORRECTIONS AND ADDITIONS		11.2.1 N	Jul 80
DOCUMENTATION CORRECTIONS		11.2.2 N	Aug 80
CHANGES TO DUP /I OPTION		11.2.3 N	Apr 81
INCORRECT DUP CUSTOMIZATION PATCHES		11.2.4 N	Sep 81
<u>RT-11 INSTALLATION AND SYSTEM GENERATION GUIDE</u>			
RT-11 V4.0 DOCUMENTATION CORRECTIONS AND ADDITIONS		11.3.1 N	Jul 80
CORRECTION TO AN OPTIONAL PATCH TO LINK		11.3.2 N	Aug 80
DOCUMENTATION ERROR: REFERENCE TO RLO2 OMITTED FROM SYSGEN DIALOGUE		11.3.3 N	Oct 80
INCORRECT LINK MAPS FOR DISTRIBUTED MONITORS		11.3.4 N	Dec 80
INCORRECT PATCH FOR CHANGING QUEUE WORK FILE SIZE		11.3.5 N	Dec 80
CHANGING DEFAULT NUMBER OF DIRECTORY SEGMENTS		11.3.6 N	Apr 81
<u>INTRODUCTION TO RT-11</u>			
RT-11 V4.0 DOCUMENTATION CORRECTIONS AND ADDITIONS		11.4.1 N	Jul 80
<u>RT-11 SYSTEM USER'S GUIDE</u>			
RT-11 DOCUMENTATION CORRECTIONS AND ADDITIONS		11.5.1 N	Jul 80
CORRECTIONS TO SLP CHAPTER: RT-11 SYSTEM USER'S GUIDE		11.5.2 N	Oct 80
DIFFERENCES BETWEEN DEVICE COPYING COMMANDS		11.5.3 N	Dec 80
<u>RT-11 SYSTEM MESSAGE MANUAL</u>			
RT-11 V4.0 DOCUMENTATION CORRECTIONS AND ADDITIONS		11.6.1 N	Jul 80
CORRECTIONS TO SLP MESSAGES IN "RT-11 SYSTEM MESSAGE MANUAL"		11.6.2 N	Nov 80
NEW SLP ERROR MESSAGE		11.6.3 N	Feb 81
PIP ERROR MESSAGES MISSING		11.6.4 N	Oct 81
<u>RT-11 POCKET GUIDE</u>			
RT-11 V4.0 DOCUMENTATION CORRECTIONS AND ADDITIONS		11.7.1 N	Jul 80
<u>RT-11 PROGRAMMER'S REFERENCE MANUAL</u>			
DOCUMENTATION CORRECTIONS		11.8.1 N	Sep 80
INCORRECT PROGRAMMED REQUEST EXAMPLES		11.8.2 N	Mar 81
UNDOCUMENTED .SERR ERROR CODE		11.8.3 N	Dec 81
<u>RT-11 SOFTWARE SUPPORT MANUAL</u>			
RT-11 V4.0 DOCUMENTATION CORRECTIONS AND ADDITIONS		11.9.1 N	Jul 80
SOFTWARE SUPPORT MANUAL CORRECTION		11.9.2 N	Jun 81
ERROR IN DESCRIPTION OF .DRSET MACRO		11.9.3 N	Sep 81
<u>DEBUGGING UTILITIES</u>			
<u>VDT.OBJ</u>			
NOTES ON USING ODT OR VDT IN AN XM ENVIRONMENT		12.2.1 N	Jan 81
<u>BATCH PACKAGE</u>			
<u>BATCH.SAV</u>			
PATCH BATCH TO USE MONITOR SUFFIX	A	15.1.1 M	Oct 80
<u>SPOOLING PACKAGE</u>			
<u>QUEUE.REL</u>			
SUPERFLUOUS LINEFEED FROM QUEUE	B	16.1.1 M	Mar 81
NARROW BANNER PAGES FROM QUEUE	C	16.1.2 F	May 81
/R FOLLOWING /S IF NO OUPUT QUEUED MAY CAUSE FATAL ERROR IN QUEUE	D	16.1.3 M	Aug 81
<u>QUEMAN.SAV</u>			
PROBLEMS WITH QUEMAN	B	16.2.1 M	Jan 81

<u>Component</u>	<u>Autopatch Kit</u>	<u>Sequence</u>	<u>Mon/Yr</u>
<u>KEYPAD EDITOR</u>			
KED			
MAKE TERMINAL SETUP OPTIONAL IF MTATCH FAILS	A	17.1.1 F	Aug 80
PROVIDE A .CHAIN INTERFACE FOR KED	A	17.1.2 F	Aug 80
PROVIDE REASONABLE ACTIONS AND ERROR MESSAGES WHEN DEALING WITH DEGENERATE FILES	A	17.1.3 M	Oct 80
SEARCH FAILS IF TARGET IF FIRST OR LAST STRING IN THE FILE	A	17.1.4 M	Nov 80
KNOWN ERRORS AND RESTRICTIONS		17.1.5 R	Dec 80
"SET SEARCH EXACT JUNK" COMMAND CRASHES KED	C	17.1.6 M	Jul 81
REPEATED USE OF THE "APPEND" FUNCTION CRASHES KED	C	17.1.7 M	Dec 81
DISABLE REVERSE VIDEO DISPLAY BY KED	C	17.1.8 F	Jul 81
FILE SAMPLE.KED OMITTED FROM DISTRIBUTION		17.1.9 N	Aug 81
KED DOCUMENTATION CORRECTION		17.1.10 N	Nov 81
K52			
MAKE TERMINAL SETUP OPTIONAL IF MTATCH FAILS	A	17.2.1 F	Aug 80
PROVIDE A .CHAIN INTERFACE FOR K52	A	17.2.2 F	Aug 80
PROVIDE REASONABLE ACTIONS AND ERROR MESSAGES WHEN DEALING WITH DEGENERATE FILES	A	17.2.3 M	Oct 80
SEARCH FAILS IF TARGET IS FIRST OR LAST STRING IN THE FILE	A	17.2.4 M	Nov 80
KNOWN ERRORS AND RESTRICTIONS		17.2.5 R	Dec 80
"SET SEARCH EXACT JUNK" COMMAND CRASHES K52	C	17.2.6 M	Jul 81
REPEATED USE OF THE "APPEND" FUNCTION CRASHES K52	C	17.2.7 M	Dec 81
NO EQUIVALENT PATCH FOR K52 FOR SEQ 17.1.8		17.2.8 N	Aug 81
FILE SAMPLE.KED OMITTED FROM DISTRIBUTION		17.2.9 N	Aug 81
KED DOCUMENTATION CORRECTION		17.2.10 N	Dec 81
<u>AUTOMATED PATCHING FACILITY PACKAGE</u>			
PACKAGE NOTES			
AUTOPATCH SERVICE FOR RT-11		19.1.1 N	Jun 81
FMS-11/RT-11 V1.1			
ANNOUNCING FMS-11/RT-11 V1.1		33.1 N	Aug 80
FRED V1.1			
ZERO IMPURE AREA SIZE PROBLEM		33.3.1 M	Sep 81
BASIC-11/RT-11 V2.0			
INTERPRETER			
REPUBLICANION OF PATCHES		35.1.1 N+	Mar 80
PRINT USING - PATCH A	A	35.1.2 M+	Mar 80
RESEQ - PATCH B	A	35.1.3 M+	Mar 80
EDITING A DIM #n STATEMENT - PATCH C	A	35.1.4 M+	Mar 80
DOUBLE PRECISION HANG - PATCH D	A	35.1.5 M+	Mar 80
SAVE dev: AND REPLACE dev: - PATCH E	A	35.1.6 M+	Mar 80
SINGLE PRECISION HANG AND NUMERIC CONVERSION PROBLEM - PATCH F	A	35.1.7 M+	Mar 80
SAVE .XXX & UNSAVE .XXX - PATCH G	A	35.1.8 M+	Mar 80
NEW - PATCH H	A	35.1.9 M+	Mar 80
RESEQ - PATCH I	A	35.1.10 M+	Mar 80
LISTNH / OLD - PATCH J	A	35.1.11 M+	Mar 80
SYS(1) - PATCH K	A	35.1.12 M+	Mar 80
CALL - PATCH L	A	35.1.13 M+	Mar 80
DOUBLE PRECISION INTEGER VARIABLES - PATCH M	A	35.1.14 M+	Mar 80
FILESIZE 0 - PATCH N	A	35.1.15 M+	Mar 80
INTEGERS IN DOUBLE PRECISION BASIC-11		35.1.16 N+	Mar 80
REM STATEMENTS ON MULTI-STATEMENT LINES - PATCH O	A	35.1.17 M+	Mar 80
INT FUNCTION - PATCH P FOR SINGLE USER BASIC-11	A	35.1.18 M	Nov 80
RETRACTED		35.1.19 M	May 81
PRINT USING - PATCH R FOR SINGLE USER BASIC-11	B	35.1.20 M	Jan 81
OMITTING TRIG FUNCTIONS FROM BASIC-11	B	35.1.21 N	Jan 81
STRING CONCATENATION - PATCH S FOR SINGLE USER BASIC-11	B	35.1.22 M	Mar 81
PROBLEM WITH BASIC-11 PATCH Q		35.1.23 N	May 81
UTILITIES			
CONVERSION PROGRAM		35.2.1 M+	Mar 80
BASIC-11/RT-11 V2 CONVERSION PROGRAM PATCH 1		35.2.2 M+	Mar 80

<u>Component</u>	<u>Autopatch Kit</u>	<u>Sequence</u>	<u>Mon/Yr</u>
<b>DOCUMENTATION</b>			
OVERLAYING WHILE IN A SUBROUTINE		35.3.1 R+	Mar 80
OPERATION OF CTRL/C, RCTRL/C AND SYS(6) FUNCTIONS AND THE CTRL/C COMMAND		35.3.2 N+	Mar 80
OPERATION OF OLD, RUN, CHAIN, AND OVERLAY WHEN THE SPECIFIED FILE IS NOT FOUND		35.3.3 N+	Mar 80
CREATING AND ACCESSING VIRTUAL ARRAY FILES		35.3.4 N+	Mar 80
STORAGE OF THE NULL CHARACTER IN STRING VARIABLES AND VIRTUAL STRING ARRAYS		35.3.5 N+	Mar 80
USE OF COMPILE COMMAND		35.3.6 N+	Mar 80
STRING MANIPULATION IN ASSEMBLY LANGUAGE ROUTINES		35.3.7 N+	Mar 80
MAXIMUM ARRAY SUBSCRIPT SIZE		35.3.8 N+	Mar 80
NEW MANUAL AVAILABLE FOR BASIC-11/RT-11		35.3.9 N	May 81

MU BASIC-11/RT-11 V2.0

**INTERPRETER**

CHAINING WITH COMMON - PATCH A		36.1.1 M+	Mar 80
VIRTUAL FILE I/O - PATCH B		36.1.2 M+	Mar 80
SYS(1,n) FUNCTION - PATCH C		36.1.3 M+	Mar 80
RESEQ - PATCH D		36.1.4 M+	Mar 80
VALUES IN PATCHES A, B, C		36.1.5 N+	Mar 80
LISTNH / OLD - PATCH E		36.1.6 M+	Mar 80
CALL - PATCH F		36.1.7 M+	Mar 80
DOUBLE PRECISION INTEGER VARIABLES - PATCH G		36.1.8 M+	Mar 80
INPUT #/PRINT # - PATCH H		36.1.9 M+	Mar 80
OLD OF A ZERO BLOCK FILE - PATCH I		36.1.10 M+	Mar 80
ADDITION TO PATCH B - PATCH J		36.1.11 M+	Mar 80
DEVICE MNEMONIC PROBLEM - PATCH K		36.1.12 M+	Mar 80
CLOSE - PATCH L		36.1.13 M+	Mar 80
REM STATEMENTS ON MULTI-STATEMENT LINES - PATCH M		36.1.14 M+	Mar 80
DEASSIGNING A TERMINAL - PATCH N		36.1.15 M+	Mar 80
INTEGERS IN DOUBLE PRECISION MU BASIC-11		36.1.16 N+	Mar 80
USE OF SYS(1,n) FUNCTION WHEN ',n' IS OMITTED - PATCH O		36.1.17 M+	Mar 80
DISABLING CR/LF USING TTYSET - PATCH P		36.1.18 M+	Mar 80
HANDLER FETCH ERROR MAY LEAD TO MONITOR FAULT - PATCH Q		36.1.19 M+	Mar 80
REMOTE LINES - PATCH R FOR MULTI-USER BASIC-11		36.1.20 M	Nov 80
INT FUNCTION - PATCH S FOR MULTI-USER BASIC-11		36.1.21 M	Nov 80
PRINT USING - REVISED PATCH T FOR MULTI USER BASIC-11		36.1.22 M	Apr 81
RETRACTED		36.1.23 MM	Jan 81
OMITTING TRIG FUNCTIONS FROM MU BASIC-11		36.1.24 N	Jan 81
SYS(1) FUNCTION - PATCH V FOR MULTI USER BASIC-11		36.1.25 M	Jan 81
STRING CONCATENATION - PATCH W FOR MULTI USER BASIC-11		36.1.26 M	Mar 81
CARD READER EOF - PATCH X FOR MULTI USER BASIC-11		36.1.27 M	May 81
CLOSE GIVES ILLEGAL FILES SPEC - PATCH Y FOR MULTI USER BASIC-11		36.1.28 M	May 81
TTYSET GIVES TRAP TO 10 - MU BASIC PATCH Z		36.1.29 M	May 81
PROBLEM WITH MU BASIC-11 PATCH U		36.1.30 N	Jul 81

**UTILITIES**

MU BASIC-11/RT-11 V2 CONFIGURATION PROGRAM PATCH 1		36.2.1 M+	Mar 80
MU BASIC-11/RT-11 V2 CONVERSION PROGRAM		36.2.2 F+	Mar 80

**DOCUMENTATION**

OPERATION OF CTRL/C, RCTRL/C AND SYS(6) FUNCTIONS AND THE CTRL/C COMMAND		36.3.1 N+	Mar 80
MEMORY REQUIREMENTS OF OPTIONAL FUNCTIONS, ETC.		36.3.2 N+	Mar 80
OPERATION OF OLD, RUN, CHAIN AND OVERLAY WHEN THE SPECIFIED FILE IS NOT FOUND		36.3.3 N+	Mar 80
CREATING AND ACCESSING VIRTUAL ARRAY FILES		36.3.4 N+	Mar 80
STORAGE OF THE NULL CHARACTER IN STRING VARIABLES AND VIRTUAL STRING ARRAYS		36.3.5 N+	Mar 80
USE OF COMPILE COMMAND		36.3.6 N+	Mar 80
STRING MANIPULATION IN ASSEMBLY LANGUAGE ROUTINES		36.3.7 N+	Mar 80
ERROR IN TABLE 4-1 OF THE USER'S GUIDE		36.3.8 N+	Mar 80
RESTRICTION ON USR RESIDENCY WHEN RUNNING IN FOREGROUND		36.3.9 N+	Mar 80
MAXIMUM ARRAY SUBSCRIPT SIZE		36.3.10 N+	Mar 80
ASSEMBLING SOURCE FILES (SOURCE LICENSE HOLDERS ONLY)		36.3.11 N+	Mar 80
USE OF PATCH UTILITY		36.3.12 N+	Mar 80

<u>Component</u>	<u>Autopatch Kit</u>	<u>Sequence</u>	<u>Mon/Yr</u>
APL-11 V2.0			
PACKAGE NOTES			
APL IS AVAILABLE IN THE DECUS LIBRARY		38.1.1 N	Sep 81
FORTRAN IV/RT-11 V2.1			
COMPILER			
PATCH 1		44.1.1 M+	Mar 80
PATCH 2		44.1.2 M+	Mar 80
PATCH 3		44.1.3 M+	Mar 80
REGISTER ALLOCATION - PATCH 8		44.1.4 M+	Mar 80
FORTRAN FAILS TO COMPILE DO-LOOPS - PATCH 11		44.1.5 M+	Mar 80
COMMON SUBEXPRESSION OPTIMIZATION - PATCH 17		44.1.6 M+	Mar 80
BYTE COMPARISON AND COMMON SUBEXPRESSION OPTIMIZATION - PATCH 20		44.1.7 M+	Mar 80
DIRECT ACCESS READ - PATCH 21		44.1.8 M+	Mar 80
COMPLEX VARIABLE TO CONSTANT COMPARISON - PATCH 22		44.1.9 M+	Mar 80
OTS			
PATCH 4		44.2.1 M+	Mar 80
CARRIAGE CONTROL OPTION - PATCH 5		44.2.2 M+	Mar 80
OPEN FAILURE WITH TYPE='OLD' - PATCH 6		44.2.3 M+	Mar 80
FORTRAN LIBRARY FUNCTION ERRST - PATCH 7		44.2.4 M+	Mar 80
SMALLER EXECUTION-TIME PROGRAMS		44.2.5 N+	Mar 80
FORTRAN OTS - PATCH 9		44.2.6 M+	Mar 80
I/O FROM A FORTRAN COMPLETION ROUTINE - PATCH 10		44.2.7 M+	Mar 80
CALL CLOSE (FORTRAN LIBRARY SUBROUTINE) - PATCH 12		44.2.8 M+	Mar 80
UNFORMATTED BYTE I/O - PATCH 13		44.2.9 F+	Mar 80
LIST DIRECTED INPUT ERRORS - PATCH 14		44.2.10 M+	Mar 80
DISP='DELETE' OPTION - PATCH 15		44.2.11 M+	Mar 80
FORMATTED RECORD OUTPUT - PATCH 16		44.2.12 M+	Mar 80
CALL ASSIGN CARRIAGE CONTROL - PATCH 18		44.2.13 M+	Mar 80
NON-PLAS VIRTUAL ARRAY INITIALIZATION - PATCH 19		44.2.14 M+	Mar 80
DOCUMENTATION			
FORTRAN IV V2.1 MAINTENANCE RELEASE		44.3.1 N+	Mar 80
INSTALLING FORTRAN IV V2.1 UNDER RT-11 V4		44.3.2 N	Aug 80
FORTRAN IV/RT-11 V2.5			
COMPILER			
ANNOUNCING PDP-11 FORTRAN IV/RT-11 V2.5		45.1.1 N	Sep 80
THE COMPILER INCORRECTLY PARSES SOME EXPRESSIONS IN I/O LISTS	A	45.1.2 M	Nov 80
THE COMPILER INCORRECTLY CONVERTS INTEGER TO BYTE IN LOGICAL EXPRESSIONS	A	45.1.3 M	Nov 80
THE COMPILER GENERATES INCORRECT CODE FOR EQUIVALENCED ARRAYS (PAT 12)	D	45.1.4 M	Sep 81
THE COMPILER INCORRECTLY INTERPRETS COMMENTS WITH TABS (PAT 17)		45.1.5 M	Nov 81
MISSING END IN MAIN PROGRAM CAN CAUSE COMPILER CRASH (PAT 18)		45.1.6 M	Nov 81
THE COMPILER INCORRECTLY OPTIMIZES ARRAY ELEMENTS PASSED AS ARGUMENTS (PAT 20)		45.1.7 M	Dec 81
THE COMPILER INCORRECTLY PARSES PARENTHESES IN QUOTED STRINGS (PAT 21)		45.1.8 M	Jan 82
THE COMPILER CRASHES WHILE ACCESSING AN ODD ADDRESS IN PAT 12 (PAT 22)		45.1.9 M	Jan 82
OTS			
THE OTS DOES NOT SET DEFAULT CARRIAGE CONTROL FOR SERIAL LINE PRINTER	B	45.2.1 M	Jan 81
THE LUN IS NOT SAVED WHEN AN ERROR OCCURS WHILE OPENING A FILE	B	45.2.2 M	Jul 81
PATCH TO ALLOW THE PLACEMENT OF THE FORTRAN OTS WORK AREA <del>BETWEEN THE PROGRAM'S HIGH LIMIT AND THE BASE OF THE FIRST</del> VIRTUAL OVERLAY FOR PRIVILEGED FORTRAN JOBS	B	45.2.3 F	Feb 81
BOUNDARY CONDITION ON FORMATTED I/O CORRUPTS I/O (PAT 6)	B	45.2.4 M	Mar 81
DEFAULT CARRIAGE CONTROL FOR IMPLIED SEQUENTIAL ACCESS FILES (PAT 7)	C	45.2.5 M	Jul 81
STANDALONE FORTRAN YIELDS RUN-TIME ERROR 64 (PAT 8)	B	45.2.6 M	Apr 81
DISPOSE = 'KEEP' NOT RECOGNIZED WITH READONLY OPEN PARAMETER (PAT 9)	C	45.2.7 M	Jul 81

<u>Component</u>	<u>Autopatch Kit</u>	<u>Sequence</u>	<u>Mon/Yr</u>
THE DATE ROUTINE DOES NOT PERMIT BYTE ALIGNED PARAMETERS (PAT10)	C	45.2.8 M	Jul 81
IMPLICIT READ FAILURE MAY HALT PROCESSOR (PAT 11)	C	45.2.9 M	Jul 81
FPU DOUBLE PRECISION SINE/COSINE MODULE ERRORS (PAT 13)	D	45.2.10 M	Sep 81
EMBEDDED BLANKS OVERRIDE THE ICNT PARAMETER IN THE ASSIGN ROUTINE		45.2.11 M	Oct 81
THE DEFAULT CARRIAGE CONTROL FOR THE ASSIGN ROUTINE IS INCORRECT		45.2.12 M	Oct 81
CORRECTION FOR UNIT CLOSING (PAT 16)		45.2.13 M	Nov 81
LIST DIRECTED INPUT CONVERSION ERROR (PAT 19)		45.2.14 M	Dec 81
BOUNDARY CONDITION ON FORMATTED I/O CORRUPTS I/O IN PAT 6 (PAT 23)		45.2.15 M	Feb 82
BOUNDARY CONDITION ON FORMATTED I/O BACKSPACE CORRUPTS I/O		45.2.16 M	Feb 82
CORRECTION OF ASSIGN FILENAME HANDLING WHEN ICNT EQUALS ZERO		45.2.17 M	Feb 82

#### GAMMA V3.1

FGAMMA-FRAMES 3 TO 10 OF GSA STUDY SOMETIMES CORRUPT		49.2.1 M	Jul 81
SYSTEM MAY HANG WHEN DISK SQUEEZED		49.2.2 M	Oct 81
STATIC STUDIES ON LARGE DEVICES		49.2.3 M	Jan 82
STATIC STUDY ACQUISITION ON LARGE DEVICES		49.4.1 M	Jan 82
ISOMETRIC DISPLAY IMAGES USE INCORRECT INTENSITY LEVELS		49.5.1 M	Oct 81
SLICE - LAST POINT IS NOT PLOTTED		49.5.2 M	Nov 81
SLICE - <CR>, <LF> NOT ISSUED AFTER PRINTING SLICE DATA		49.5.3 M	Jan 82
PATCHING THE RT-11 MONITOR FOR GAMMA-11		49.11.1 M	Nov 81
ERROR IN THE BASIC SUPPORT ROUTINE GPMR		49.12.1 M	Dec 81
ERROR IN FORTRAN SUPPORT SUBROUTINE GPMR		49.13.1 M	Dec 81

#### DECnet-RT V1.1

<b>NETGEN</b>			
FULL DUPLEX, EXTENDED MEMORY DUP DRIVER WON'T BUILD		50.3.1 M	Aug 80
<b>DDCMP</b>			
DDCMP BRANCH OUT OF RANGE AND Q ELEMENT RETURN PROBLEMS		50.5.1 M	Aug 80
<b>NSP</b>			
NSP CORRUPTS PHYSICAL LINE ERROR CODE		50.6.1 M	Aug 80
<b>NFT</b>			
NFT INCORRECTLY ALLOCATES RT-11 QUEUE ELEMENTS		50.9.1 M	Jun 80
<b>FAL</b>			
FAL INCORRECTLY ALLOCATES RT-11 QUEUE ELEMENTS		50.10.1 M	Jun 80
FAL MAY HANG ON ASCII TRANSFERS OF UNFILLED BLOCKS		50.10.2 M	Aug 80
FAL WILL NOT ALLOW ACCESS COMPLETE AFTER CONTROL CONNECT		50.10.3 M	Aug 80
<b>NFARS</b>			
DAP ROUTINES DO NOT REPORT PHYSICAL LINE ERRORS		50.11.1 M	Nov 80
DAP ATTEMPTS TO MULTIPLY RETURN BUFFERS ON ERROR		50.11.2 M	Aug 80
DAP SEND ONE CHARACTER ON ZERO LENGTH TRANSMITS		50.11.3 M	Nov 80
DAPAST CLEARS THE USER CHANNEL NUMBER TOO SOON		50.11.4 M	Aug 80
<b>FORTRAN USER INTERFACES</b>			
NOTES ON THE USE OF THE DECnet-RT FORTRAN INTERFACES		50.16.1 M	Jun 80
<b>MACRO USER INTERFACES</b>			
NOTES ON DECnet-RT MACRO PROGRAMMING		50.16.2 N	Jun 80

#### CTS-300 V6.0

<b>DBUILD</b>			
CORRECTION FOR THREE DECFORM PROBLEMS		51.2.1 M	Oct 81

<u>Component</u>	<u>Autopatch Kit</u>	<u>Sequence</u>	<u>Mon/Yr</u>
DECFORM			
PROBLEM WITH DECFORM AND THE VT100		51.4.1 M	Nov 80
CORRECTION FOR THREE DECFORM PROBLEMS		51.4.2 M	Oct 81
DECFORM WITH VT100 TERMINAL CAUSES BAD CHARACTER ON TYPE-AHEAD		51.4.3 M	Nov 81
DIBOL			
TWO CORRECTIONS TO XCALL PAK/UNPAK		51.5.1 M	Aug 81
DICOMP			
FOUR DICOMP ERRORS FIXED		51.6.1 M	Oct 81
DKED			
TWO PROBLEMS WITH DKED		51.7 M	Aug 80
DKED SELECT/CUT AND KEYPAD ERRORS		51.7.2 M	Sep 80
DKED INCORRECTLY HANDLES CONTINUED LINES		51.7.3 M	Oct 81
ISMUTL			
CORRECTIONS FOR ISAM UTILITY ERRORS		51.8.1 M	Nov 81
LPTSPL			
TSD SPOOLER GETS CONFUSED		51.9.1 M	Nov 80
SORTM			
SORT SENDS MESSAGES INDISCRIMINATELY		51.14.1 M	Jan 81
SUD			
CORRECTIONS TO DIBOL RUN TIME SYSTEMS		51.16.1 M	Jan 81
PROBLEMS WITH XCALL RENAM AND ERROR 6		51.16.2 M	Feb 81
NO ERROR 22 RETURNED		51.16.3 M	Nov 81
DIBOL STACK OVERFLOW ON OPEN		51.16.4 M	Nov 81
PROBLEMS WITH STACK OVERFLOW AND INCREMENT		51.16.5 M	Dec 81
SUD MESSAGES OVER 100 CHARACTERS IN LENGTH ARE NOT RECEIVED CORRECTLY		51.16.6 M	Feb 82
TDIBOL			
PROBLEM WITH XCALL PAK		51.17 M	Aug 80
PROBLEM UNPACKING DATA		51.17.2 M	Sep 80
TWO CORRECTIONS TO XCALL PAK/UNPAK		51.17.3 M	Aug 81
TSD			
CORRECTIONS TO DIBOL RUN TIME SYSTEMS		51.18.1 M	Jan 81
PROBLEMS WITH XCALL RENAM AND ERROR 6		51.18.2 M	Feb 81
INCORRECT TERMINAL WIDTHS AND CIS PROBLEM		51.18.3 M	Aug 81
CORRECTION TO TSD/XMTSD		51.18.4 M	Sep 81
CORRECTION FOR ISAM PROBLEM		51.18.5 M	Oct 81
"SEND" STARTS MULTIPLE JOBS		51.18.6 M	Oct 81
NO ERROR 22 RETURNED		51.18.7 M	Nov 81
DIBOL STACK OVERFLOW ON OPEN		51.18.8 M	Nov 81
PROBLEMS WITH STACK OVERFLOW AND INCREMENT		51.18.9 M	Dec 81
CORRECTION FOR SIDE EFFECTS FROM PATCH 27		51.18.10 M	Feb 82
LINE PRINTER IS SOMETIMES INCORRECTLY CONSIDERED IN USE		51.18.11 M	Feb 82
XMTSD			
CONFLICT BETWEEN XMTSD AND RT-11 OVER CHANNEL 16		51.20 M	Aug 80
CORRECTIONS TO DIBOL RUN TIME SYSTEMS		51.20.2 M	Jan 81
PROBLEMS WITH XCALL RENAM AND ERROR 6		51.20.3 M	Feb 81
PATCH FOR XMTSD WITH CIS		51.20.4 M	Apr 81
INCORRECT TERMINAL WIDTHS AND CIS PROBLEM		51.20.5 M	Aug 81
XMTSD HANGS WHEN LP IS OFF-LINE		51.20.6 M	Sep 81
CORRECTION TO TSD/XMTSD		51.20.7 M	Sep 81
CORRECTION FOR ISAM PROBLEM		51.20.8 M	Oct 81
"SEND" STARTS MULTIPLE JOBS		51.20.9 M	Oct 81
NO ERROR 22 RETURNED		51.20.10 M	Nov 81
DIBOL STACK OVERFLOW ON OPEN		51.20.11 M	Nov 81
PROBLEMS WITH STACK OVERFLOW AND INCREMENT		51.20.12 M	Dec 81
CORRECTION FOR SIDE EFFECTS FROM PATCH 27		51.20.13 M	Feb 82
LINE PRINTER IS SOMETIMES INCORRECTLY CONSIDERED IN USE		51.20.14 M	Feb 82

<u>Component</u>	<u>Autopatch Kit</u>	<u>Sequence</u>	<u>Mon/Yr</u>
<b>DOCUMENTATION</b>			
CTS-300 VERSION 6 IS RELEASED		51.21 N	Aug 80
TWO RT-11 PATCHES MODIFIED FOR CTS-300 USE		51.21.2 N	Oct 80
RT-11 PATCH TO LS.MAC MODIFIED FOR CTS-300 USE		51.21.3 N	Feb 81
ADDITIONS TO CTS-300 DOCUMENTATION ON PRINT UTILITY		51.21.4 N	Mar 81
LIST OF SEQUENCE NUMBERS FOR CTS-300 V6		51.21.5 N	Mar 81
SOME NOTES ON RT-11 PATCH SEQ 6.13.3 M TO LS.MAC FOR CTS-300 USERS		51.21.6 M	Jul 81
SOME NOTES ON RT-11 PATCH SEQ 6.13.4 M TO LS.MAC FOR CTS-300 USERS		51.21.7 N	Aug 81
SOME NOTES ON RT-11 PATCH SEQ 6.13.5 M TO LS.MAC FOR CTS-300 USERS		51.21.8 N	Aug 81
AVOIDING POSSIBLE PROBLEM WITH ISAM FILES		51.21.9 N	Dec 81
SOME NOTES ON RT-11 PATCH SEQ 6.13.6 M TO LS.MAC FOR CTS-300 USERS		51.21.10 N	Feb 82
<b>LS.MAC</b>			
SPECIAL CTS-300 PATCH FOR LS.MAC		51.23.1 M	Feb 81
CORRECTION TO CTS-300 PATCH 11 (SEQ 51.23.1 M) TO LS.MAC		51.23.2 M	Jun 81
<b>SYSTBL.CND</b>			
RT-11 PATCH TO SYSTBL.CND MODIFIED FOR CTS-300 USE		51.25.1 M	Mar 81
RT-11 PATCH SEQ 10.3.2 M TO SYSTBL.CND MODIFIED FOR CTS-300 USE		51.25.2 M	Apr 81
<b>GAMMA-11 V3.0</b>			
<b>BGAMMA/FGAMMA</b>			
PROBLEMS WITH GAMMA-11 V3.0		54.1.1 M	Jun 81
FGAMMA-FRAMES 3 TO 10 OF GSA STUDY SOMETIMES CORRUPT		54.1.2 M	Jul 81
ISOMETRIC DISPLAY IMAGES USE INCORRECT INTENSITY LEVELS		54.1.3 M	Sep 81
SYSTEM MAY HANG WHEN DISK SQUEEZED		54.1.4 M	Oct 81
<b>CTS-300 DICAM (3271) V3.1</b>			
INCORRECT ACK SENT IN CONVERSATIONAL MODE		55.1.1 M	Jul 81
LOOP WHEN CLOSE IS ISSUED WITH OUTSTANDING I/O REQUESTS		55.1.2 M	Jul 81
<b>CTS-300 RDCP (2780/3780) V2.0</b>			
ABNORMAL TERMINATION AND LISTING PROBLEMS		56.1.1 M	Dec 80
SUBSCRIPT ERROR IN RDCP EDITOR		56.1.2 M	Dec 80
MEMORY CORRUPTION PROBLEM		56.1.3 M	Dec 80

# Software Product Description

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PRODUCT NAME: **QUILL**, Version 1.0

SPD 12.55.0

## DESCRIPTION:

QUILL is an application product designed to create impromptu reports and terminal queries from existing data files. Through the use of English language-like commands, a novice operator can design the desired output without the need for programming. QUILL is available on the CTS-300 Operating System for the Datasystem-300 Computer Series.

QUILL has an additional output command that creates a list document (file) for the word processing application DECType-300. By issuing commands similar to making a query, QUILL will create the list document on disk, which can be accessed by DECType's list processing facility or editor.

QUILL uses dictionaries to describe data files. Logical field names assigned to each field will be used with QUILL's various commands to extract the desired data. QUILL's dictionaries will support CTS-300 fixed-length, sequential, and ISAM file structures.

### Dictionary Features

- Overlaid field description that redefines physical areas in the file
- Definition of a secondary dictionary that permits two files to be used as if they were one
- A password can be assigned to a dictionary that would require the operator to identify it to the system upon use of the dictionary
- Field names can be left blank, which would restrict use of the physical area in the file
- A data file can have multiple dictionaries, which define it in various formats for different users
- Maintenance routines are supplied to create, modify, copy, delete, and print the dictionaries

Through the use of relational, arithmetic, and Boolean expressions, the operator locates desired records in the data file. QUILL establishes a collection of pointers to the desired records. These pointers can then be sorted in a new sequence by one or more fields. After a collection has been established and optionally sorted, the operator can then create a query, a report, and/or a

DECType-300 list document. Ease of use is supported by operational defaults that assist in creating simple queries and reports. Math functions enable new temporary fields to be created for output. Additional commands are supplied by QUILL to create more complex output in the form of a report.

QUILL can create a file containing the sequence of commands used to produce the desired output. This file of commands can then be executed to produce similarly formatted output from current sets of data. The file can be called interactively or by another program.

### Commands

**READY** — Identifies the appropriate dictionary to be used.

**FIND** — Establishes a collection of pointers to the desired records in the data file.

**SORT** — Arranges the pointers in the collection in a desired sequence. One or more fields can be sorted in either ascending or descending order.

**LIST** — Allows selected data to be displayed on the terminal. All of the record's contents or selected fields can be displayed. Arithmetic expressions can be utilized to create new temporary fields. Column headings can default to the field names or can be changed.

**REPORT** — Invokes the report writer. With a series of additional sub-commands a report can be designed and printed to a specified printer or disk. The report layout can be controlled by QUILL or overridden by the operator. Summary lines such as subtotals and totals can be used.

**DOCUMENT** — Invokes the facility to create a DECType-300 list document in the required format. The field names can default to the dictionary's names or can be changed. Temporary fields can be used with the math options to create new fields in the list document.

**LOG** — Initiates the creation of a log file. This file contains commands and statements that are executed in a QUILL session. LOG END specifies the end of the log file.

**DO** — Initiates the commands in an existing log file. This allows a series of QUILL commands and statements to be executed without operator interaction.

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**HELP** — Displays helpful operating information on the commands. HELP followed by an individual command will display more detailed information.

**SHOW** — Displays a description of the readied dictionary.

**STATUS** — Displays the other commands that are available during various stages of QUILL execution. It also shows what dictionary is readied and, if applicable, how the collection was established.

**EXIT** — Terminates the QUILL session.

The HELP and STATUS commands are always available to assist the QUILL operator.

**MINIMUM HARDWARE REQUIRED:**

Any valid CTS-300 system configuration with

- At least 64KB of dedicated main memory
- VT100 with Advanced Video Option

QUILL executes only under the "SUD" and "XMTSD" run-time systems.

**OPTIONAL HARDWARE:**

Supports any hardware device supported by the prerequisite software except a VT52.

**PREREQUISITE SOFTWARE:**

CTS-300 Operating System, Version 7.0

**OPTIONAL SOFTWARE:**

None

**TRAINING CREDITS:**

None

**SUPPORT CATEGORY:**

DIGITAL SUPPORTED

QUILL is a DIGITAL Supported Software Product.

**SOFTWARE INSTALLATION:**

CUSTOMER INSTALLED

QUILL is a software product engineered to be installed by the customer and includes other Software Product Support services listed below.

**SOFTWARE PRODUCT SUPPORT:**

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

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The following key (H, Q, V, X, Z) represents the distribution media for the product and must be specified at the end of the ordering number, e.g., QJA09-AH = binaries on RL02 Disk Cartridge.

- H = RL02 Disk Cartridge
- Q = RL01 Disk Cartridge
- V = RK07 Disk Cartridge
- X = RX02 Double Density Diskette
- Z = No Hardware Dependency

QJA09 -A— Single-use license, binaries, documentation, support services (media: H, Q, V, X)

QJA09 -D— Single-use license-only option, no binaries, no documentation, no support services (media: Z)

*Update/Unsupported Options*

Users of QUILL whose specified Support Category warranty has expired may order under license the following software option as an update to an earlier version. The option may also be purchased for use on a second or subsequent CPU, in conjunction with a binary, single-use, license-only option. Options are distributed in binary form on the appropriate medium and include no installation or other services unless specifically stated.

QJA09 -H— Binaries, documentation (media: H, Q, V, X)

QJA09 -H— Right to copy for single-use, no binaries, no documentation (media: Z)

*Miscellaneous Options*

QJA09 -G— Documentation-only kit (media: Z)

**ADDITIONAL SERVICES:**

Basic Service is available to licensed customers as a post-warranty Software Product Service for this software product.

The prerequisite being the purchase of the equivalent level CTS-300 Software Product Service. Customers should contact their local DIGITAL office for additional information on the availability of this service.

# Software Product Description

**PRODUCT NAME: GAMMA-11 F/B, Version 3.1**

**SPD 15.60.9**

## **DESCRIPTION:**

GAMMA-11 F/B is a hardware/software system designed for nuclear medicine. GAMMA-11 F/B can acquire, store, display, and manipulate images from the gamma camera in order to supply quantitative, meaningful clinical information.

In the foreground/background configuration, gamma camera data acquisition can take place independently of another process. This configuration includes two terminals. One terminal is designated the foreground acquisition terminal for the gamma camera and controls the setup and initiation of data collection. The other terminal, designated the background terminal, can be used simultaneously with the foreground terminal for data analysis by GAMMA-11 F/B programs, for program development in BASIC or FORTRAN, or for running any other programs that do not need immediate access to the disks for successful completion.

Only one terminal is included in the single-job configuration. This configuration has all the capabilities of the foreground/background system, except that data acquisition and processing can not be carried out simultaneously.

### **Data Acquisition**

GAMMA-11 F/B programs allow data acquired to be stored in seven different size matrices for static studies and five different size matrices for dynamic studies. A user can thus choose the proper size and resolution for the job at hand. List mode acquisition (i.e., unstructured data) is available. Static studies can be collected and terminated by a preset time, preset count, or matrix element overflow. Static studies can be linked to provide easy collection of and access to sequential static views. Dynamic studies are collected at a specified frame rate. List mode studies can be acquired with an effective frame rate of 100 frames per second.

An external synchronizing time marker can be included when acquiring either dynamic or list mode studies. When acquired with the time marker, these modes are

called Gate Synchronized Acquisition (GSA) and Physiological List Mode (PLM), respectively and are used primarily for cardiac studies.

GSA data is stored in 32 x 32, 64 x 64, or 128 x 128 matrices. The maximum number of images per study is determined by the amount of memory. During GSA acquisition (background) images are displayed 'live' on the video display.

The heart cycle time (or time between external synchronized events) is continuously monitored and displayed. During GSA acquisition (foreground) there is no live display of images; however, heart cycle time is monitored and displayed.

For GSA data acquisition, the operator can either choose fixed time intervals for each image or allow the program to divide the heart cycle time (averaged over 30 seconds) by the number of images chosen. A heart cycle time window can be selected, so that if a given cycle time falls outside of this window, then the following cycle is rejected.

Acquisition in 128 x 128 word matrix and 256 x 256 byte matrix requires the NCV11 interface. 256 x 256 byte acquisition requires a minimum of 64KW of memory and is foreground only. For display of 256 x 256 images, two additional M7068 bit maps are required (four total).

Physiological List Mode studies are acquired with one millisecond time intervals.

Data is reframed by creating a number of images based on the interval between successive external time markers.

With dual isotope collection, two separate images (one for each isotope) can be collected simultaneously. This capability does not apply to GSA or PLM.

**NOTE:** This gamma camera must also have the dual isotope option.

Once collection parameters and procedures are established, they can be set up as protocols or predefined studies. Up to 20 predefined studies can be used to speed setup, to minimize error, and to standardize collection procedures.

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**Patient Study Index**

Once collected, patient studies are identified by a system-generated index file. Each study is identified by patient name, number, organ, study type, and acquisition date. Studies are selected for analysis by index number; the user need not be concerned with the physical location of disk data.

**Patient Monitor**

Patient Monitor (background) displays live camera data prior to acquisition. It allows for patient positioning and validation of external trigger input for GSA or PLM. Foreground patient monitors have a pseudodisplay. The display is made up of 4-5 ASCII characters.

**Data Analysis and Display**

Data is displayed on the VSV01 color video monitor. The VSV01 color display includes a hardware character generator permitting display of patient identification and image counting statistics along with the image. All photographs taken from the display are thus positively identified.

**Display Features**

- Color or monochrome display
- 64 colors; 16 colors displayed simultaneously
- Up to 31 color spectra defined
- Intensity or isometric display
- 4- or 8-image display (16 with optional VSV01 bit maps)
- Normal or magnified display
- Lower and upper thresholding with or without contrast enhancement
- Dual/full size image display (split screen or overlaid)
- Negative image display
- Display 256 x 256 byte data (with optional VSV01 bit maps)

**Data Manipulation Features**

- Skip frames (forward or backward)
- Sequential frame add
- Image rotation (90-degree steps)
- Image translation (horizontal and vertical)
- Nonuniformity correction
- Frame algebra — add, subtract, multiply, divide or merge frames; add, subtract, or multiply frames by a constant
- 9-point smoothing
- 9 save areas for temporary storage of images or ROI curves
- Up to 55 optional save areas for temporary storage of images
- Slice profiles (vertical or horizontal)
- Isocontour generation
- Interpolation of images (optional VSV01 bit maps required for 256 x 256 byte interpolation)
- Select quarter of image

**Region of Interest Features**

- Regular (keyboard controlled)

- Irregular (joystick controlled)
- Circumference or fill mode definition (irregular)
- Pertinent count rate information for each region displayed with image
- Up to 12 regions displayed
- Simultaneous display of curves and images with ROIs outlined
- Select regions by thresholding (irregular)
- Select regions in magnified mode (irregular)
- Time/activity curves displayed normally, averaged, or overlaid
- Ability to expand selected portions of ROI curves

**Dynamic Playback**

- Sequences of preprocessed images can be displayed in cine mode.
- Two to four playback buffers can be combined into one and displayed synchronously.
- Speed and direction of playback can be controlled via the joystick or keyboard.

**Predefined Analysis Features**

- Multiple commands can be entered on a single line
- Predefined analysis procedures (macros) can be created, edited, saved, and executed from the system disk
- Predefined analysis can be linked with predefined study acquisition to semiautomate the system.
- Macros can call FORTRAN or BASIC programs; special calls allow macro reentry.

**Miscellaneous Features**

- Dual isotope display and processing
- Additional disk space not required for reconstructed images in list mode analysis
- Comment editor

**Utility Programs**

Study Deletion — This function requires user verification to prevent accidental deletion of important data.

Study Transfer — This function transfers patient studies between any two RT-11 file-structured devices (disks, magnetic tape, floppy disks, etc.).

**MINIMUM HARDWARE REQUIRED:**

Any UNIBUS PDP-11 (except PDP 11/70, 11/44) with line frequency clock that meets the following main memory requirements:

- 32K bytes for single-job operation with RK05 as system disk
- 64K bytes for foreground/background operation with RK05 as system disk
- 64K bytes for single job operation with RL01, RL02, or RK07 as system disks
- 96K bytes for foreground/background operation with RL01, RL02, or RK07 disks

Mass Storage (one of the following):

- One RK05, RL01, or RL02 disk with a second disk or RT-11 supported magnetic tape unit
- One RK07 disk and an RT-11 supported magnetic tape unit (except TS-11)
- Two RK05, RL01, or RL02 disks

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**Terminals**

- Any console terminal supported by the RT-11 software. (Two terminals are required for foreground/background operation. The foreground terminal must operate at 1200 baud or greater.) Foreground terminal requires a DL11 and must be VT52 or VT100.

**Display**

- VSV01 Video Display

**Interface (one of the following):**

- NC11 gamma camera interface with KW11-P (AR11 needed for foreground/background operation and/or GSA or PLM), or
- NCV11 gamma camera interface (includes KVV11; AR11 not needed)

**OPTIONAL HARDWARE:**

- Any RT-11 supported mass storage device for off-line data storage except TA11 cassette and TU58
- A system total of 256K bytes main memory

**PREREQUISITE SOFTWARE:**

None

**OPTIONAL SOFTWARE:**

FORTRAN IV/RT-11, Version 2.5

**TRAINING CREDITS:**

TWO (2) — Training credits apply only to options that include support services. Consult the latest Educational Services Catalog at your local office for the available courses, course requirements, and guidelines.

**SUPPORT CATEGORY:**

DIGITAL SUPPORTED

GAMMA-11 F/B 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:**

GAMMA-11 F/B 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 (A, D) represents the form of power source for the product and must be specified at the end of the number, i.e., GMA34-MA = system using 115 volt/60 Hertz power.

A = 115 volt/60 Hertz

D = 230 volt/50 Hertz

The following key (D, E, H, Q, X, Z) represents the distribution media for the product and must be specified at the end of the order number, e.g., QJ721-ED = sources on 9-track 800 BPI Magtape (NRZI).

D = 9-track 800 BPI Magtape (NRZI)

E = RK05 Disk Cartridge

H = RL02 Disk Cartridge

Q = RL01 Disk Cartridge

X = RX02 Floppy Diskette

Z = No hardware dependency

GMA34 -M— GAMMA-11 single job system includes hardware, single-use license for GAMMA-11, RT-11, BASIC-11/RT-11, binaries on RX02 disk, documentation, support services (power: A, D)

GMS34 -M— GAMMA-11 foreground/background job system includes hardware, single-use license for GAMMA-11, RT-11, BASIC-11/RT-11, binaries on RL02 disk, documentation, support services (power: A, D)

*Sources/Listings Options*

QJ721 -E— GAMMA-11 sources (media: D, E, H, Q, X)

*Update Options*

Users of GAMMA-11 F/B 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.

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QJ721 -H— Binaries, documentation (media: D, E, H, Q, X)

QJ721 -H— Right to copy for single-use, no binaries, no documentation (media: Z)

NOTE: RT-11 and BASIC Updates are not included in GAMMA-11 F/B Update Options.

*Miscellaneous Options*

QJ721 -G— Documentation-only kit (media: Z)

**ADDITIONAL SERVICES:**

The following post-warranty Software Product Services for this software product are available to licensed customers:

- Self-Maintenance Service
- Basic Service

The prerequisite being the purchase of the equivalent level RT-11 Software Product Service. Customers should contact their local DIGITAL office for additional information on the availability of these services.



## WHY YOU SHOULD JOIN DECUS

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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.

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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

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July 1980

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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).

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