The Software Dispatch

RT-11

August 1982

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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).

PRODUCTS SUPPORTED in the RT-11 SOFTWARE DISPATCH

BASIC-11/RT-11 V2
CTS-300 V6/V7
DECnet-RT V1.1
FMS-11/RT-11 V1.1
FORTRAN IV/RT-11 V2.5
GAMMA-11 F/B V3.1
LSP-11 V1.1
MSB11 V1.2
MSB/FORTRAN IV V1
RT-11 V4
RT-11 2780 3780 Protocol Emulator V4
SSP-11 V1.3

DISTRIBUTION

The RT-11 Software Dispatch is directed to one software contact for each software product. No mailing will be made to addresses without a software contact name. **Address change requests should be sent to the nearest DIGITAL field office. Include the new address and mailing label from the most recently received publication.**

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Ann Owens, Associate Editor

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PRODUCT AVAILABILITY DATES - RT-11

AUGUST 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. Autopatch will be installed for DECsupport contract customers as part of their Preventive Maintenance.

PRODUCT	VERSION	AVAILABLE
CTS-300	7.0	MAR 82
DECNET-RT	2.0	MAR 82
DECTYPE-300	1.2	APR 82
LSP-11	1.2	NOV 81
MACDBG	1.0	MAR 82
MU-BASIC	2.1	SEP 81
SSP-11	1.3	NOV 81
RT-11 AUTOPATCH	F	JUN 82
RGL FEP/RT-11	1.0	MAY 82
QUILL	1.0	MAR 82

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 V4.Ø
BATCH Package
BATCH.SAV VØ4.ØØD

Seq 15.1.2 M

1 of 1

BATCH $CREATE IGNORES BLANK LINES (MG)

Blank lines following the BATCH $CREATE command are not inserted in the output file.

1. The following is a required patch to the BATCH.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 BATCH.SAV is on a mounted volume. Create the file, BATCH.ØØ2 as follows. Replace 'DK:' in the patch below with the name of the device that contains the program file.

```
R SIPP
DK:BATCH.SAV/A/C
Ø
72ØØ
1Ø5
^Z                              (up-arrow/Z)
25172
43Ø
^Y                              (up-arrow/Y)
2453
^C                              (CTRL/C to exit)
```

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

```
@BATCH.ØØ2
```

   The resulting version of the utility will be BATCH VØ4.ØØE.

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

MIB MAY GIVE A HARDWARE READ ERROR DURING KERNEL INSTALLATION (SHD)

PROBLEM STATEMENT:

MIB may incorrectly issue the error message "MIB-F-Read error in - FILE.MIM" during kernel installation if there is only a small amount of free memory on the host system.

RESPONSE:

Increasing the memory available to MIB as buffer space may solve the problem. To accomplish this, unload any unused handlers or foreground jobs and retry the operation. This problem will be fixed in a future update kit.

MicroPOWER/PASCAL V1.Ø
for RT-11 V4.Ø
PAXM

Seq 37.4.1.1 N

1 of 1

SERA REQUEST FOR DISCONNECT MAY FAIL IN A MAPPED SYSTEM (SHD)

PROBLEM STATEMENT:

The SERA request may return an illegal address error in mapped systems when zero is specified. A zero argument is used to disconnect from the exception, but will return an error if the virtual address zero is not in the process's address space.

RESPONSE:

In order to avoid this problem from Macro-11, a SERA request can be issued specifying just one of the user defined bit masks (EX$US1 or EX$US2). This will disconnect the exception routine from any exception other than a user defined code. Note that a valid exception routine address must still be specified in the call. In order to avoid the problem from Pascal, it is necessary to use an assembly language subroutine to issue the SERA request, as described above. This problem will be fixed in a future update kit.

MicroPOWER/PASCAL V1.Ø
for RT-11 V4.Ø
PAXM

Seq 37.4.1.2 N

1 of 1

ILLEGAL ADDRESS ARGUMENT CAN CAUSE UNPREDICTABLE RESULTS (SHD)

PROBLEM STATEMENT:

If a primitive is issued in a mapped application with an invalid address as one of the arguments, the system may crash unpredictably. An invalid address is one that is either odd or not mapped in the process's address space. This is due to an extra word being left on the kernel stack.

RESPONSE:

In order to tell if an application has this problem, use PASDBG to set a breakpoint at the error exit from the kernel routine $CKWRD. Do this by typing the following 2 commands to PASDBG:

```
SET PROGRAM KERNEL
EXAMINE/INSTRUCTION $CKWRD
```

The instruction shown should be "BIT #1,@R0". Approximately 50 bytes higher in memory (larger number address) is an "SEC" instruction. Use PASDBG to set a breakpoint at this instruction. If the breakpoint occurs before the application crashes, this problem is probably the cause. In addition, it is now possible to see which primitive call in the application program has the incorrect argument and to correct it. This is done by issuing a "SHOW CALLS" statement to PASDBG, after having set the scope to the currently running process. This problem will be fixed in a future update kit.

MicroPOWER/PASCAL V1.Ø
for RT-11 V4.Ø
PAXU

Seq 37.4.1.3 N

1 of 1

DISPATCH TO UNMAPPED STACK OVERFLOW EXCEPTION IS INCORRECT (SHD)

PROBLEM STATEMENT:

In unmapped systems, the Kernel dispatches to the stack overflow exception front end incorrectly. This usually results in a random crash following a context switch of the process. The crash occurs because upon exit from the kernel, execution will resume at the address contained in R5 at the time of the exception.

RESPONSE:

In order to tell if an application has this problem, use PASDBG to set a breakpoint at the kernel routine which sets up the address, $USWIN. Do this by typing the following 2 commands to PASDBG:

```
SET PROGRAM KERNEL
EXAMINE/INSTRUCTION $USWIN
```

The instruction shown should be "MOV R5,R3". Approximately 214 bytes higher in memory (larger number address) is a "MOV #340,-(R4)" instruction. Use PASDBG to set a breakpoint at this instruction. If the breakpoint occurs before the application crashes, this problem is probably the cause. In addition, it is now possible to examine the process's stack and determine what caused the overflow condition. This problem will be fixed in a future update kit.

MicroPOWER/PASCAL V1.Ø
for RT-11 V4.Ø
KERNEL

Seq 37.4.1.4 N

1 of 1

STOPPED PROCESSES ARE PLACED IN THE INACTIVE QUEUE (SHD)

PROBLEM STATEMENT:

Processes that are terminated with stop requests are placed in the inactive queue and their PCB's are not deallocated. The inactive queue is only supposed to contain processes that were terminated due to unhandled exceptions. This can eventually use up all available pool space.

RESPONSE:

This problem will be fixed in a future update kit.

MicroPOWER/PASCAL V1.Ø
for RT-11 V1.Ø
KERNEL

Seq 37.4.1.5 N

1 of 1

PROCESS ON INACTIVE QUEUE DOES NOT HAVE POINTER TO EXCEPTION FRAME (SHD)

PROBLEM STATEMENT:

When the debugger is not being used, there is no way to reliably examine the exception stack frame of processes that are placed in the inactive queue. The inactive queue is used to store the PCBs of processes that were aborted due to unhandled exceptions. Access to the exception stack frame would allow the user to discover the cause of the exception.

RESPONSE:

This problem will be fixed in a future update kit by adding a field in the PCB that points to the exception stack frame. Currently PASDBG can be used to find out the cause of the exception, as the debugger is notified whenever an unhandled exception occurs.

MicroPOWER/PASCAL V1.Ø
for RT-11 V4.Ø
PASCAL COMPILER

Seq 37.5.1.1 N

1 of 1

CONFORMANT ARRAYS AND SINGLE CHARACTER LITERALS (NB)

PROBLEM STATEMENT:

A formal conformant array parameter declared as

VAR X:[READONLY] PACKED ARRAY[LB..UB:INTEGER] OF CHAR;

will cause a diagnostic to be generated if an actual parameter is passed which is a single character literal, although it will accept a string literal of more than one character.

RESPONSE:

There is not really a problem here. Note that a formal conformant array requires that the actual parameter also be an array and a single character literal is not an array. This may be circumvented by one of the following methods.

1) Make the literal have more than one character by adding an innocuous character (such as NUL, ex. 'A'(Ø)) to it.

2) Declare a local variable with type

PACKED ARRAY[1..1] OF CHAR;

and assign the literal to this variable's element 1. Then pass the variable as the actual parameter.

FORMAL PARAMETER LISTS WITH DEFAULT VALUES (NB)

PROBLEM STATEMENT:

If an identifier list is used in a formal parameter specification, and a default value is indicated after the type, the compiler will abort with the message:

"?PASOTS-F-Duplicate Dispose".

RESPONSE:

This occurs on parameter declarations of the form

A,B,C: <type> := <constant>;

and can be avoided by declaring the parameters individually, as follows:

```
A: <type> := <constant>;
B: <type> := <constant>;
C: <type> := <constant>;
```

This will be fixed in a future release of the product.

ATTRIBUTE [CONTEXT(MMU)] DOES NOT WORK (NB)

PROBLEM STATEMENT:

Specifying the attribute [CONTEXT(MMU)] on a PROGRAM or PROCESS does not cause the memory management unit (MMU) registers to be saved across a context switch. As a result, it is very likely that application code which modifies these registers will not operate correctly.

RESPONSE:

This problem will be fixed in the normal update process in the near future. In the interim, do not write programs which modify the MMU registers. This will not disallow extended memory programs as the registers are restored when a process is switched in; they are not saved though, when the process is switched out.

MicroPOWER/PASCAL V1.Ø
for RT-11 V4.Ø
PASCAL COMPILER

Seq 37.5.1.4 N

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ACCESSING UP-LEVEL LOCAL VARIABLES FROM [TERMINATE] PROCEDURES (BR)

PROBLEM STATEMENT:

Pascal scope rules permit a procedure to access up-level variables declared in any subprogram (procedure, function, or process) which contains this procedure. This feature may not work (in V1.0) if the procedure is a [TERMINATE] procedure. Unfortunately, there is no fool-proof way of determining when this feature fails.

RESPONSE:

Until this problem is fixed in a future release of MicroPower/Pascal, a workaround is to declare the wanted up-level variables with the static attribute.

MicroPOWER/PASCAL V1.Ø
for RT-11 V4.Ø
PASCAL COMPILER

CALLING THE ROUND (OR TRUNC, UROUND, UTRUNC) FUNCTION WITH NON-STATIC VARIABLES (BR)

PROBLEM STATEMENT:

Compiling a program, for a non-FPP target, containing a ROUND (or TRUNC, UROUND, UTRUNC) function call with a non-statically allocated real variable, will result in incorrect code being generated. A non-statically allocated variable is a subprogram input parameter or a subprogram local variable declared without the [STATIC] attribute.

RESPONSE:

This will be fixed in a future release of the product. Some possible workarounds follow. If the variable is a local variable, declare the variable with the [STATIC] attribute. If the variable is a parameter, assign it to a scratch statically allocated real variable and call the ROUND (or TRUNC, UROUND, UTRUNC) function with the scratch variable. If the subprogram is a process, the scratch assignment and ROUND (or TRUNC, UROUND, UTRUNC) call could be bracketed with a binary semaphore to insure that the operation is indivisible.

MicroPOWER/PASCAL V1.Ø
for RT-11 V4.Ø
OTS

Seq 37.6.1.1 N

1 of 1

KEF-11 FLOATING POINT STATUS WORD IS INCORRECTLY INITIALIZED (MN)

PROBLEM STATEMENT:

The KEF-11 floating point unit status register (FPS register) is incorrectly initialized for dynamic processes. The FPS register is initialized to Ø while it should be initialized to 7400(octal). This means that interrupts for integer conversion, overflow, underflow, and undefined variable are disabled. Therefore a MicroPower/Pascal application compiled with the I:FPP option will not be informed if any of these exceptions occurs. However, if you are using the symbolic debugger, PASDBG, it will display the exception.

RESPONSE:

This problem will be fixed in a future release of MicroPower/Pascal.

MicroPOWER/PASCAL V1.Ø
for RT-11 V4.Ø
OTS

Seq 37.6.1.2 N

1 of 1

THE NATURAL LOG FUNCTION RETURNS INCORRECT RESULTS (MN)

PROBLEM STATEMENT:

The FPP version of the natural log function (LN) returns the common log of the input parameter.

RESPONSE:

A workaround is to divide the result by 4.342944E-1 as shown in the following example.

```
Y := LN (X);
Y := Y / 4.342944E-1;
```

This problem will be fixed in a future release of MicroPower/Pascal.

MicroPOWER/PASCAL V1.Ø
for RT-11 V4.Ø
XL (SERIAL LINE) DRIVER

Seq 37.8.1.1 N
1 of 1

ERROR IN "DISCONNECT TRANSMIT RING BUFFER" FUNCTION (JH)

Problem Statement:

The XL driver does not process "disconnect transmit ring buffer" requests correctly. It correctly disconnects the ring buffer from the serial line, so that data from the ring buffer is no longer transmitted, and it makes the line available for block mode requests; however, it does not destroy the sub-process and deallocate the resources that were created to handle the ring buffer.

Response:

This problem will be fixed in a future update kit.

MicroPOWER/PASCAL V1.Ø
for RT-11 V4.Ø
XL (SERIAL LINE) DRIVER

Seq 37.8.1.2 N

1 of 1

BLOCK MODE READ REQUEST RETURNS INCORRECT DATA (JH)

Problem Statement:

The XL driver returns incorrect data when issued a block mode read request. The driver replies as though it has completed the request, but the data returned is not the correct data.

Response:

This will be fixed in a future update kit. The only available workaround is to use ring buffer mode for serial line I/O.

INCORRECT BYTE TO INTEGER CONVERSION (PAT 33)

PROBLEM:

The FORTRAN IV compiler initializes the string constant area to ASCII spaces. In some cases this causes an incorrect conversion from BYTE to INTEGER. This patch causes the string constant area to be initialized to ASCII nulls.

SOLUTION:

1. Type in the following MACRO files: FIXVER.C12, PAT33.MAC

FIXVER.C12:

```
                .TITLE  FROOT
                .IDENT  /019/
                .PSECT  ROOT
        .=.+370
                .ASCII  /5-12/
                .END
```

PAT33.MAC:

```
                .TITLE  F5
                .IDENT  /006/
                .PSECT  F5CB
        S=.
        .=S+4076
                CLR     R0
                NOP
                .END
```

2. Assemble the patches using MACRO-11

```
.R MACRO
*PAT33=PAT33.MAC
*FIXVER.P12=FIXVER.C12
*^C
```

3. Install the patches, using PAT, to the most recently patched F5.OBJ and FROOT.OBJ files:

   NOTE: Make a copy of F5.OBJ and FROOT.OBJ before you patch it just in case something goes wrong.

```
.R PAT
*F5=F5/C:137523,PAT33.OBJ/C:005365
.R PAT
*FROOT=FROOT/C:123664,FIXVER.P12/C:007100
```

4. Rebuild the compiler using the procedure described in the FORTRAN IV Installation Guide.

5. Test the patches by creating and compiling the following FORTRAN program.

```
LOGICAL*1       LL,BB
LL = (BB .AND. "111) .EQ. 'I'
END
```

Which should generate the following EIS inline code for the statement #0002 when the patch has been successfully installed.

```
MOV     #2,@$AOTS
CLR     R0
MOV     #111,R1
MOVB    BB,R2
MOV     R2,R3
COM     R3
BIC     R3,R1
CMP     R1,#111
BNE     .+4
DEC     R0
MOVB    R0,LL
```

COMPILER GENERATES FATAL ERROR IN REGISTER ALLOCATOR(PAT 34)

PROBLEM:

The FORTRAN IV compiler will hang during execution or generate a fatal error upon accessing an illegal address in the register allocation phase.

SOLUTION:

1. Type in the following MACRO files: PAT34.MAC, FIXVER.C13

FIXVER.C13:

```
            .TITLE  FROOT
            .IDENT  /020/
            .PSECT  ROOT
    .=.+370
            .ASCII  /5-13/
            .END
```

PAT34.MAC:

```
            .TITLE  REGALO
            .IDENT  /022/
            .PSECT  REGD2
    S=.
    .=S+112
    REGLIM:

            .PSECT  REGI2
    S=.
    .=S+4264
            JMP     LIMPAT
    .=S+4270
    RETPAS:
            .PSECT  PATREG,RW,D,LCL,CON
    LIMPAT:
            MOV     -4(R0),R0
            CMP     #REGLIM,R0
            BNE     RETREG
            MOV     (R0),R0
    RETREG: JMP     RETPAS
            .END
```

2. Assemble the patches using MACRO-11

```
.R MACRO
*PAT34=PAT34.MAC
*FIXVER.P13=FIXVER.C13
*^C
```

3. Install the patches, using PAT, to the most recently patched REGALO.OBJ and FROOT.OBJ files:

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

```
.R PAT
*REGALO=REGALO/C:007342,PAT34.OBJ/C:014767
.R PAT
*FROOT=FROOT/C:126150,FIXVER.P13/C:007140
```

4. Rebuild the compiler using the procedure described in the FORTRAN IV Installation Guide.

5. Test the patches by creating and compiling the following FORTRAN program.

```
                IMPLICIT INTEGER (A-Z)
                COMMON /DAZE/ DAYS(12),LEAP
                DO 10 I=1,MMX
                DAYINY=DAYINY+DAYS(I)
        10      CONTINUE
                DOM=7-MOD(AYR+AYR/4-CENT+CENT/4-1-LEAP,7)
                END
```

   The program will compile without errors when the patch has been successfully installed.

DYNAMIC CURVE RECALCULATION IN REGIONS OF INTEREST (SPR 11-46Ø42 KMW)

Dynamic curves are not always recalculated upon reentering irregular or regular regions of interest. As a result, the dynamic curves displayed may not always reflect the regions of interest displayed. The following patch will insure the recalculation of dynamic curves when entering regions of interest with an IR or RI command.

1. The patch below is a mandatory patch to the DATANL.SAV program. This patch must be applied to a copy of the DATANL.SAV program previously patched in Seq 49.5.3.

   NOTE
   Patching the distribution disk is not recommended. This patch must be installed each time you copy the Gamma-11 system from the distribution medium.

2. This patch is installed using SIPP, the Save Image Patching Program.

   Using an editor, create the file, DATANL.007, as follows. Replace 'DK:' in the patch below with the name of the device that contains the file, DATANL.SAV.

```
R SIPP
DK:DATANL.SAV/C
34
62556
254
424
^Z          (up-arrow/Z)
672
1226
^Z          (up-arrow/Z)
702
5067
130014
^Z
710
124570
^Y          (up-arrow/Y)
112157
^C          (up-arrow/C)
```

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

   @DATANL.007

4. Save the new version of DATANL.SAV on a backup volume.

$

GAMMA-11 V3.1 Seq 49.12.1 M
BASIC SUPPORT ROUTINES

Supersedes article dated DEC.81

ERROR IN THE BASIC SUPPORT ROUTINE GPMR (SPR 11-45964 KMW)

NOTE: This article replaces the one published in the RT-11 Software Dispatch, December 1981. It adds a procedure for applying object module patches to the Gamma-11 Basic subroutine modules. This procedure should only be performed if the user intends to relink the BASIC.SAV program.

If a program uses the routine GPMR to read values from the same frame in different studies the same value is returned each time.

To correct this problem follow the procedure below using a copy of the distribution disk.

DO NOT PATCH THE DISTRIBUTION DISK

1. Create the patch file BASIC.001 with the contents give below:

```
RUN SIPP
DK:BASIC.SAV/C
17
41540
3266
103430
5037
14266
^Y                      (UP-ARROW/Y)
176261
^C                      (UP-ARROW/C)
```

2. Replace 'DK:' in the patch file with the name of the device which contains the copy of BASIC.SAV to be patched.

3. Apply the patch by typing:

```
@BASIC.001
```

4. The following is a patch to the Gamma-11 Basic subroutine module, GMBAS2.OBJ. To install the patch, first create a patch file for input to the PAT utility. Using an editor, create a file called, GBAS01.PAT. Enter the text below into the file.

```
        .TITLE  F4BAS2 FORTRAN,BASIC COMMON ROUTINES
        .IDENT  /V3.001/
BEGIN=.
;
.=BEGIN+3266
        BCS     ERRRD
        CLR     OLDBLK
;
ERRRD=BEGIN+3644
;
        .CSECT  IMPUR1
;
OLDBLK=.+364
        .END
```

5. Assemble the patch file using the command

```
.MACRO GBAS01.PAT
```

The assembly should result in zero errors.

6. Patch the object module using the command lines:

NOTE: Make a copy of GMBAS2.OBJ before you patch in case an error occurs.

```
.R PAT
*GMBAS2=GMBAS2,GBAS01/C:7767
*^C
```

If an error message is printed, then an error has been made in applying the patch. The patching procedure must be repeated from step 4 above using a new copy of the module GMBAS2.OBJ.

7. Relink BASIC.SAV using the indirect command file, GMLNKB.COM, supplied on the Gamma-11 V3.1 binary distribution medium.

$

GAMMA-11 V3.1
BASIC SUPPORT ROUTINES

Seq 49.12.2 M

Supersedes article dated MAR.82

ERRORS IN THE BASIC SUPPORT ROUTINES GPLR AND GPF (SPR 11-45964 KMW)

NOTE: This article replaces the one published in the RT-11 Software Dispatch, March 1982. It adds a procedure for applying object module patches to the Gamma-11 Basic subroutine modules. This procedure should only be performed if the user intends to relink the BASIC.SAV program.

The following errors have been corrected in the BASIC support subroutines:

- The subroutine, GPLR, returns a time mark for each list mode element that is a multiple of 256(decimal), regardless of the actual list mode data contained in that element.

- When the subroutine, GPF, closes a patient study, it fails to clear the read only flag set by GPFR. Subsequent attempts to write to a save area file with the routine GSAW will prove unsuccessful.

1. The following is a required patch to the BASIC.SAV program (previously modified in Seq 49.12.1). It must be installed in all copies of the program.

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

   DO NOT PATCH THE DISTRIBUTION DISK

2. This patch is installed using SIPP, the Save Image Patching Program. First, ensure that a copy of the file BASIC.SAV is on a mounted volume. Using an editor, create the file, BASIC.002 with the contents given below. Replace 'DK:' in the patch below with the name of the device that contains the program file.

```
RUN SIPP
DK:BASIC.SAV/C
0
6000
32
3004
1401
455
5701
1453
12703
15000
20023
3042
2402
20113
^Z                          (UP-ARROW/Z)
62
5301
10146
42701
377
301
42700
177400
300
50001
12700
14756
61001
10167
6146
4767
174530
103404
4767
174512
^Z                          (UP-ARROW/Z)
```

```
132
174536
42716
177400
6316
12702
15432
62602
402
5037
14234
^Z                      (UP-ARROW/Z)
430
650
^Y                      (UP-ARROW/Y)
076577
^C                      (UP-ARROW/C)
```

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

   @BASIC.002

4. Save the new version of BASIC.SAV on a backup volume.

5. The following is a patch to the Gamma-11 Basic subroutine module, GMBAS1.OBJ. To install the patch, first create a patch file for input to the PAT utility. Using an editor, create a file called, GBAS02.PAT. Enter the text below into the file.

```
        .TITLE F4BAS BASIC AND FORTRAN SUPPORT
        .IDENT  /V3.1/
S=.
;
.=S+2402
2$:     JMP     PATCH2
        NOP
.=S+2410
RET:
;
.=S+2456
        NOP
.=S+2736
        JSR     PC,PATCH3
;
        .PSECT  $$PAT2
PATCH2: DEC     R1
        MOV     R1,-(SP)
        BIC     #377,R1
        JMP     RET
;
PATCH3: CLR     SAVE2
        CLR     RDONLY
        RTS     PC
;
        .CSECT  IMPUR1
R=.
RDONLY=R+332
SAVE2=R+452
        .END
```

6. Assemble the patch file using the command

```
.MACRO GBAS02.PAT
```

The assembly should result in zero errors.

7. Patch the object module using the command lines:

NOTE: Make a copy of GMBAS1.OBJ before you patch in case an error occurs.

```
.R PAT
*GMBAS1=GMBAS1,GBAS02/C:17541
*^C
```

If an error message is printed, then an error has been made in applying the patch. The patching procedure must be repeated from step 5 above, using a new copy of the module, GMBAS1.OBJ.

8. Relink BASIC.SAV using the indirect command file, GMLNKB.COM, supplied on the Gamma-11 V3.1 binary distribution medium.

$

CTS-300 V07
for RT-11 V4.0
DOCUMENTATION

Seq 52.1.5 N

1 of 1

PATCH LEVEL FOR KED/K52 CLARIFIED (LG)

CTS-300 users who have received the remastered RT-11 V4.0 with their CTS-300 V07 distribution may have noticed that KED.SAV and K52.SAV show a patch level of "A" although these files are actually patched through level "F".

The reason for this is that optional patches Seq 17.1.1 and 17.2.1 change the patch level for both editors to V01.01A. These patches were applied to the remastered RT-11 V4.0 for distribution with CTS-300 V07. The result is the same if you run Autopatch on the RT-11 V4.0 distribution which installs only mandatory patches, and then manually install the optional patches.

This article serves to explain the discrepancy. Any subsequent mandatory patches to KED/K52 will update the files to reflect the proper patch levels.

CTS-300 V07 for RT-11 V4.0
MACRO SORT
SORT.SAV V07-0B
SORT.TSD V07-0A

Seq 52.15.3 M

1 of 5

PATCH 10: TWO MACRO SORT PROBLEMS (LG)

1. Under both the single-user and XMTSD versions of the Macro Sort program, it is possible that the output file may not be completely sorted and may contain fewer records than the input file.

   Patch 10 corrects this so that the output file is sorted completely and contains the correct number of records.

2. When running the single-user Macro Sort under the SJ monitor, if an attempt is made to sort a file into itself (i.e., the output file name is the same as the input file name) the message"DIBOL-E21--T-Bad open" may be incorrectly generated.

   Patch 10 corrects this so that this situation does not produce a DIBOL Error 21. Patch 10 changes the version number of SORT.SAV to V07-0C and SORT.TSD to V07-0B.

Using the editor, create the following files 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 V07
  for RT-11 V4.0
MACRO SORT
SORT.SAV V07-0B
SORT.TSD V07-0A

Set 52.15.3 M

2 of 5

```
;P010A.MAC

        .TITLE  SORTD
        .CSECT  SORTD
        .GLOBL  NOCRLF,EOFTST

P010:
        .=      .+3216
        JMP     P010A
        .=      P010+3666
        JSR     PC,P010B

        .PSECT  $P010
P010A:  TST     NOCRLF
        BGT     2$
        MOVB    @P010+114,R0
        JMP     P010+3222
2$:     JMP     P010+3234

P010B:  TST     NOCRLF
        BGT     3$
        JSR     PC,EOFTST
        BGE     3$
        INC     P010+140
        DEC     R0
3$:     RTS     PC
        .END


;P010B.MAC

        .TITLE  SORTD
        .CSECT  SORTD
        .GLOBL  NOCRLF,EOFTST

P010:
        .=      .+3270
        JMP     P010A
        .=      P010+3740
        JSR     PC,P010B

        .PSECT  $P010
P010A:  TST     NOCRLF
        BGT     2$
        MOVB    @P010+114,R0
        JMP     P010+3274
2$:     JMP     P010+3306

P010B:  TST     NOCRLF
        BGT     3$
        JSR     PC,EOFTST
        BGE     3$
        INC     P010+140
        DEC     R0
3$:     RTS     PC
        .END
```

CTS-300 V07 Seq 52.15.3 M
  for RT-11 V4.0
MACRO SORT 3 of 5
SORT.SAV V07-0B
SORT.TSD V07-0A

```
;P010C.MAC

        .TITLE  SORTM
        .CSECT  SORTM
        .GLOBL  HIBLOK,IFLSZ,BREAD

P010:
        .=      .+1220
        JSR     PC,P010A
        NOP
        .=      P010+3044
        NOP
        NOP
        0411
        .=      P010+3106
                NOP
                NOP

        .PSECT  $P010
P010A:  MOV     HIBLOK(R3),IFLSZ
        MOV     R0,R3
        JSR     PC,BREAD
        RTS     PC
        .END


;P010D.MAC

        .TITLE  SORTR
        .PSECT  SORTR
        .GLOBL LDPNT

P010:
        .=      .+21
        .BYTE   'C
        .=      P010+3302
        NOP
        NOP
        NOP
        NOP
        NOP
        NOP
        NOP
        MOV     @4(R4),R3
        MOV     12(R3),LDPNT
        .END
```

CTS-300 V07
  for RT-11 V4.0
MACRO SORT
SORT.SAV V07-0B
SORT.TSD V07-0A

Seq 52.15.3 M

4 of 5

```
;P010E.MAC

        .TITLE  SORTR
        .PSECT  SORTR
        .GLOBL  LDPNT

P010:
        .=      .+23
        .BYTE   'B
        .=      P010+3600
        NOP
        NOP
        NOP
        NOP
        NOP
        NOP
        NOP
        MOV     @4(R4),R3
        MOV     12(R3),LDPNT
        .END



.RENAME (SRT11D,SORTD,SRT11M).OBJ *.OLD
 Files renamed:
DK:SRT11D.OBJ  to DK:SRT11D.OLD
DK:SORTD.OBJ   to DK:SORTD.OLD
DK:SRT11M.OBJ  to DK:SRT11M.OLD

.RENAME (SORTM,SRT11R,SORTR).OBJ *.OLD
 Files renamed:
DK:SORTM.OBJ   to DK:SORTM.OLD
DK:SRT11R.OBJ  to DK:SRT11R.OLD
DK:SORTR.OBJ   to DK:SORTR.OLD

.MACRO P010A,P010B,P010C,P010D,P010E
ERRORS DETECTED:  0
ERRORS DETECTED:  0
ERRORS DETECTED:  0
ERRORS DETECTED:  0
ERRORS DETECTED:  0

.R PAT
*SRT11D.OBJ=SRT11D.OLD/C:025142,P010A/C:032370

.R PAT
*SORTD.OBJ=SORTD.OLD/C:031735,P010B/C:033162

.R PAT
*SRT11M.OBJ=SRT11M.OLD/C:117674,P010C/C:021066

.R PAT
*SORTM.OBJ=SORTM.OLD/C:112411,P010C/C:021066
```

CTS-3ØØ VØ7 Seq 52.15.3 M
for RT-11 V4.Ø
MACRO SORT 5 of 5
SORT.SAV VØ7-0B
SORT.TSD VØ7-0A

```
.R PAT
*SRT11R.OBJ=SRT11R.OLD/C:160672,P010D/C:013267

.R PAT
*SORTR.OBJ=SORTR.OLD/C:021127,P010E/C:012767

.R LINK
*SORT,SRT11/M:1400/B:1400=RTIO,SRT11O,SRT11R/P:500./C
*MSGLIB/C
*SRT11C/O:1/C
*SRT11A/O:1/C
*SRT11D/O:1/C
*SRT11M/O:1
*SORT.TSD,SORT=SORTR,SRTIO/B:100000/P:500./C
*SORTC/O:1/C
*SORTA/O:1/C
*SORTD/O:1/C
*SORTM/O:1
*^C

.R REDUCE
*SORT/N
*^C
```

INVALID LABELS FOR DATA RANGE OF Ø.1 to 1.Ø (MG)

1.0 PROBLEM: INVALID LABELS FOR DATA RANGE OF 0.1 TO 1.0

When graphing data whose domain or range is between 0.1 and 1.0 inclusive, then those values will be written on the axis label one order of magnitude too small. For example, given a range of 0.1 to 0.5 along the y axis, then the y axis label will be written from 0.01 to 0.05 (one tenth what it should be).

This problem appears in both RGL/FEP as a component of FEP and in RGL/FEP as a separate package. Likewise, this update applies to both products.

2.0 SOLUTION

To correct this problem, the user must patch the module PRINUM.FOR and then replace that module in the subroutine library RGLLIB.OBJ. If your RT-11 system is based on a hard disk (for example an RL01, RL02 or an RK07) then you can receive your RGL/FEP software in one of four ways: on a hard disk, on a 9 track, 800 bpi mastape, seven RX01 floppy diskettes or on four RX02 floppy diskettes. Depending upon the media that you received, use the correction procedure in section 2.2 (hard disk), 2.3 (mastape) or 2.4 (RX01) respectively. On the other hand, if your system is based upon a dual RX02 floppy drive or if you received your software on RX02's, then use the correction procedure in section 2.5.

If you received your software on a hard disk or on a mastape, then you will need to create two files: 590101.COM and PRINUM.001. Otherwise, you will need only create PRINUM.001 on your system volume. All the neccessary files are listed in section 3.

If your system is based on dual RX02 diskette drives, then it is suggested that you create a system diskette with the following utilities and drivers installed:

1. SWAP.SYS
2. RT11SJ.SYS (put this on the boot block too)
3. TT.SYS
4. DY.SYS
5. DUP.SAV
6. DIR.SAV
7. SLP.SAV
8. FORMAT.SAV
9. KED.SAV

10. MACRO.SAV

11. MAC8K.SAV

12. LIBR.SAV

13. STARTS.COM

14. FORTRA.SAV

15. SYSMAC.SML

16. SYSMAC.MAC

It is also suggested that once you have built this system diskette that you reserve it exclusively for the correction of your RGL/FEP software and store it along with your RGL/FEP distribution kit (in some safe place).

2.1 Assumptions

The following conditions must be met before the procedure can be performed.

1. You have a copy of the RGL/FEP distribution kit updated to the current patch level. Either you have this as a result of applying all patches to a copy of the distribution kit yourself or as a result of using the most recent AUTOPATCH procedure. Hereafter, the updated media will be refered to as the "current installation media". Since this is the first RGL/FEP patch, you will use the copy of the distribution you made in installing RGL/FEP.

2. You have spare media of the same type and quantity as your current installation media. If you have a dual RX02 system then you will also need two extra RX02's (six total) -- one for your RT-11 system and one spare to update the RGL/FEP library. On the other hand, if your system device is a hard disk and you got RGL/FEP on RX02's, then you will only need five spare floppy diskettes. If your installation medium is a mastape, then you will need a spare hard disk.

3. You have an RT-11 system, version 4.0 which has the following utilities installed on the same medium as the RT-11 boot block : FORMAT, DUP, SLP, LIBR. You will also need to have some editor installed such as KED.

4. You have installed a FORTRAN-IV compiler, version 2.5 (FORTRA.SAV).

5. You know how to boot up an RT-11 system, how to load and unload the magnetic media you will be working with and know how to operate a text editor installed on your system.

2.2 * * * Correction Procedure For Hard Disk Distribution * * *

This procedure is specific to dual hard disk systems (RL01/2, RK05, ect.). You will need approximately 20 free blocks on your system medium and about 600 free blocks on each of your installation media. It should take you about one hour to complete this procedure; it is suggested that you do it in one sitting.

1. Boot up your system.

2. Make sure you have the utilities neccessary to complete the updating procedure (use the DIRectory utility). A list of minimal software to install FEP-11 is given in the FEP/RT Installation and User's Guide, AA-M079A-TC, table 4-1, p. 4-4.

3. Make sure you have the most current level of RGL/FEP. You may check this with the Software Dispatch. If you find that your installation media are out of date, update them with AUTOPATCH. Or, if you prefer, manually apply each missing patch in order.

4. Copy your current installation media using SQUEEZE. Initialize that medium using INIT/BAD, then SQUEEZE the installation medium onto the initialized one thus:

```
INIT/BAD <output - device>:
SQUEEZE/WAIT/OUTPUT:<output - device>: <input -  device>:
```

   Here <input - device> represents the disk your distribution volume is on and <output - device> represents the disk you booted off of.

5. Using an editor (such as KED), create (on the system device) the files neccessary to update the RGL/FEP library: 590101.COM and PRINUM.001. Those files are listed in section 3.0.

6. Assign the logical name PAT to <output - device>:

```
ASSIGN <output - device>:  PAT:
```

7. Execute the patch by typing

```
>@590101
```

8. Reinstall the RGL/FEP subroutine library using the procedure used to install it initially (see the FEP/RT Installation and User's Guide, AA-M079A-TC, section 4.7, pp. 4-20 - 4-27). This includes running the RGL/FEP verification program RGLVFY.

9. You have now patched your RGL/FEP software. Save the updated installation volumes in a safe place.

2.3 * * * Correction Procedure For Mastape Distribution * * *

This procedure is specific to 9 track, 800 bpi mastape distribution kits. It assumes that your system has at least two hard disk devices, that your system disk has approximately fifty free blocks and that your spare disk has about 600 free blocks. The notation <output - disk> stands for the device name of your hard disk, for example DL1: or DK3:. Likewise the notation <mastape> stands for the name of your mastape unit (e.g. MT1: or MM7:).

1. Boot up your system.

2. Make sure you have the utilities neccessary to complete the updating procedure (use the DIRectory utility). A list of minimal software to install FEP-11 is given in the FEP/RT Installation and User's Guide, AA-M079-TC, table 4-1, p. 4-4.

3. Make sure you have the most current level of RGL/FEP. You may check this with the Software Dispatch. If you find that your installation medium is out of date, update it with AUTOPATCH. Or, if you prefer, manually apply each missing patch in order. Since this is your first update, you need only use your installation media.

4. Using an editor (such as KED), create (on the system device) the files neccessary to update the RGL/FEP library: 590101.COM and PRINUM.001. Those files are listed in section 3.0.

5. Make sure your mastape drive is set to 9-track, 800 BPI default. These may be set by typing:

```
SET <mastape>: DENSE=800
SET <mastape>: DEFALT=9
```

   Note here that you must omit the unit number from your mastape name, e.g. if you are using MM3: you type only MM:.

6. Initialize your spare hard disk:

```
INIT/BAD <output - disk>:
```

7. Load your mastape (with a ring inserted in the reel) into its drive and copy it onto the spare disk:

```
COPY <mastape>: <output - disk>:
SQUEEZE/NOQUERY <output - disk>:
```

8. Protect all the files on the output disk:

```
RENAME/PROTECT <output - disk>:*.* <output - disk>:
```

9. Assign the output disk name to the logical device PAT:

```
ASSIGN <output - disk>: PAT:
```

10. Execute the patch by typing:

```
@590101
```

11. Recopy your spare hard disk back onto the mastape:

```
INIT/NOQUERY <mastape>:
COPY <output - disk>: <mastape>:/POSITION:-1
```

12. Reinstall the RGL/FEP subroutine library using the procedure used to install it initially (see the Release Notes: RGL/FEP for RT-11, AA-M521A-TC). This includes running the RGL/FEP verification program RGLVFY.

13. You have now patched your RGL/FEP software. Save the updated installation volumes in a safe place.

2.4 * * * Correction Procedure For RX01 Distribution * * *

This procedure is specific to RX01 distribution kits. It assumes your system device is a hard disk. You will need approximately 1200 free blocks on your system disk.

1. Boot up your system.

2. Make sure you have the utilities neccessary to complete the updating procedure (use the DIRectory utility). A list of minimal software to install FEP-11 is given in the FEP/RT Installation and User's Guide, AA-M079A-TC, table 4-1, p. 4-4.

3. Make sure you have the most current level of RGL/FEP. You may check this with the Software Dispatch. If you find that your installation medium is out of date, update it with AUTOPATCH. Or, if you prefer, manually apply each missing patch in order. Since this is your first update, you need only use your installation media.

4. Using an editor (such as KED), create (on the system device) the files neccessary to update the RGL/FEP library: PRINUM.001. This file is listed in section 3.0.

5. You will need seven spare RX01's to back up your distribution kit. For each of the seven spare diskettes, load the diskette into drive 0 and initialize it:

```
FORMAT/SINGLE DY:
INIT/BAD/NOQUERY DY:
```

It is suggested that you label these disketes 1 through 7 so that you can differentiate them later.

6. For each diskette in the distribution kit, copy that diskette onto a spare diskette (preferably with the same label as your spare) by loading the spare in DY1: and the distribution in DY: and typing:

```
SQUEEZE/OUTPUT:DY1: DY:
RENAME/PROTECT DY1:*.* DY1:
```

7. Copy the RGL/FEP library to your system disk by loading distribution diskette 1/7 into drive 0 and typing:

```
COPY DY: SY:
```

8. Next load distribution diskette 6/7 into drive 0 and type:

```
COPY DY:PRINUM.FOR SY:
```

9. Update PRINUM.FOR using the SLP utility and the correction file PRINUM.001 (Note that ^C represents CNTRL-C):

```
RUN SLP
PRINUM.FOR=PRINUM.FOR,PRINUM.001/A
^C
```

10. Compile the updated PRINUM module:

```
FORTRAN/CODE:THREAD PRINUM
```

11. Replace this module in the RGL/FEP library:

```
LIBRARY RGLLIB PRINUM/REPLACE
```

12. Next, load distribution diskette 6/7 and type:

```
RENAME/NOPROT DY:PRINUM.FOR DY:
COPY/PREDELETE SY:PRINUM.FOR DY:
RENAME/PROT DY:PRINUM.FOR DY:
```

13. Next load diskette 4/7 into drive 0 and type:

```
RENAME/NOPROT DY:PRINUM.OBJ DY:
COPY/PREDELETE SY:PRINUM.OBJ DY:
RENAME/PROT DY:PRINUM.OBJ DY:
```

14. Finally load distribution diskette 1/7 into drive 0 and type:

```
RENAME/NOPROT DY:RGLLIB.OBJ DY:
COPY/PREDELETE SY:RGLLIB.OBJ DY:
RENAME/PROT DY:RGLLIB.OBJ DY:
```

15. You have now updated your RGL/FEP software. Reinstall RGL/FEP from your updated RX01 kit (this includes the verification procedure).

16. You're done. Save the distribution kit in a safe place.

2.5 * * * Correction Procedure For RX02 Systems * * *

This procedure is specific to dual RX02 based systems. You will need 100 free blocks on your system diskette.

1. Boot up your system on DY0:.

2. Make sure you have the utilities neccessary to complete the updating procedure on DY0: (use the DIRectory utility). A list of minimal software to install FEP-11 is given in the FEP/RT Installation and User's Guide, AA-M079A-TC, table 4-1, p. 4-4.

3. Make sure you have the most current level of RGL/FEP. You may check this with the Software Dispatch. If you find that your installation media are out of date, update them with AUTOPATCH. Or, if you prefer, manually apply each missing patch in order.

4. Using an editor (such as KED), create (on the system device) the files neccessary to update the RGL/FEP library: PRINUM.001. This file is listed in section 3.0.

5. Copy of your current installation media using SQUEEZE. For each of the four diskettes, initialize that medium using FORMAT, INIT/BAD, then SQUEEZE the installation medium onto the initialized one thus:

```
FORMAT DY1:
INIT/BAD DY1:
SQUEEZE/WAIT/OUTPUT:DY1: DY:
RENAME/PROTECT DY1:*.* DY1:
```

   You will receive directions and prompts for loading and unloading the devices on your system. (For more information, see the FEP/RT Installation and User's Guide, AA-M079A-TC, section 3.2, pp. 3-8 - 3-13.) When you have finished copying the installation media, set aside the new copy. You will execute the update procedure on the installation media.

6. Using an editor (such as KED), create (on the system device) the correction file PRINUM.001. It's listed in section 3.2.

7. Load in the RGL/FEP diskette 3/4. Then type:

```
RENAME/NOPROT DY1:PRINUM DY1:
RUN SLP
DY1:PRINUM.FOR=DY1:PRINUM.FOR,SY:PRINUM.001/A
^C
DELETE/NOQUERY DY1:PRINUM.BAK
FORT/CODE:THREAD DY1:PRINUM
```

(Note here that ^C represents CNTRL-C.)

8. Next, load diskette 4/4 into DY1. Then type:

```
RENAME/NOPROT DY1:PRINUM DY1:
COPY/REPLACE DY:PRINUM.OBJ DY1:PRINUM.OBJ
RENAME/PROT DY1:PRINUM DY1:
```

9. Next, load diskette 1/4 into DY1: and type:

```
RENAME/NOPROT DY1:RGLLIB DY1:
```

10. Now, take a new, unformatted diskette and load it into DY1:. Then initialize it and format it by typing:

```
FORMAT DY1:
INIT/BAD DY1:
```

11. Now, copy the RGL/FEP library onto the new diskette. First type

```
COPY/WAIT/REPLACE DY:RGLLIB.OBJ DY1:
```

then (when you are prompted), load diskette 1/4 into DY: ;the new diskette is already in DY1:.

12. You now have the RGL/FEP library all alone on DY1:. Update the library with the new object module PRINUM by typing:

```
SQUEEZE DY1:
LIBRARY/OBJECT:DY1:RGLLIB/ALLOCATE:-1
DY1:RGLLIB DY:PRINUM/REPLACE
```

(This step will take several minutes.)

13. Next, prepare to copy the new RGL/FEP library onto 1/4 by loading 1/4 into DY1: and typing:

```
DELETE/NOQUERY DY1:RGLLIB.OBJ
SQUEEZE/NOQUERY DY1:
```

14. Now you replace the updated library on 1/4. Type:

```
COPY/WAIT/REPLACE DY:RGLLIB.OBJ DY1:
```

Load (when prompted) the just updated diskette into DY: and diskette 1/4 into DY1:.

15. Next, change the protection of the library (diskette 1/4) by typing:

```
RENAME/PROT DY1:RGLLIB DY1:
```

16. Then load diskette 2/4 into DY1. Then type:

```
RENAME/NOPROT DY1:PRINUM DY1:
COPY/REPLACE DY:PRINUM.OBJ DY1:PRINUM.OBJ
RENAME/PROT DY1:PRINUM DY1:
```

17. Finally, delete PRINUM off DK:

```
DELETE/NOQUERY DY:PRINUM.OBJ
```

18. Reinstall the RGL/FEP subroutine library using the procedure used to install it initially (see the FEP/RT Installation and User's Guide, AA-M079A-TC, section 4.7, pp. 4-20 - 4-27). This includes running the RGL/FEP verification program RGLVFY.

19. You have now patched your RGL/FEP software. Save the updated installation volumes in a safe place.

3.0 NECCESSARY FILES FOR THE PATCH

This section lists two files: an RT-11 indirect command file 591801.COM (to be used with hard disk systems) and a SLP correction file PRINUM.001.

3.1 591801.COM (a)

The following file is specific to hard disk based systems. Note that ^C is two characters: ^ and C. This patch file assumes that you have assigned PAT: to the correct device.

```
!* 590101.COM
RENAME/NOPROT PAT:PRINUM PAT:PRINUM
RUN SLP
PAT:PRINUM.FOR=PAT:PRINUM.FOR,DK:PRINUM.001/A
^C
FORTRAN/CODE:THREAD/OBJECT:PAT: PAT:PRINUM
DELETE/NOQUERY PAT:PRINUM.BAK
RENAME/PROT PAT:PRINUM PAT:PRINUM
RENAME/NOPROT PAT:RGLLIB.OBJ PAT:RGLLIB.OBJ
LIBR PAT:RGLLIB PAT:PRINUM/REPLACE
RENAME/PROT PAT:RGLLIB.OBJ PAT:RGLLIB.OBJ
!* Done. Reinstall and verify.
```

3.2 PRINUM.001

Here is a listing of the SLP command file PRINUM.001. Note that this file must end with a carriage-return, linefeed (i.e. type RETURN at the end of the last line). The <tab> symbol stands for the TAB character.

```
-2
C*C*C<tab>Patch: 59.01.01<tab>module: PRINUM.FOR<tab>revision: 001
-34
<tab>IF (N.LE.0) GOTO 147 !* MGC 001
-38
147<tab>CONTINUE !* MGC 001
/
```

ERROR CALLING LOCATE, LFIXED OR LFREE TWICE IN SUCCESSION(MG)

1.0 PROBLEM: ERROR CALLING LOCATE, LFIXED OR LFREE TWICE IN SUCCESSION

When using the graphics locator in RGL/FEP and exiting with a carriage-return, the line-feed character is not read. This means that two successive calls to LOCATE, LFIXED and LFREE will not work properly. The second call to any one of these routines will immediately terminate.

This problem appears in both RGL/FEP as a component of FEP and in RGL/FEP as a separate package. Likewise, this update applies to both products.

2.0 SOLUTION

To correct this problem, the user must patch the modules LOCATE.FOR and LOCAT2.FOR and then replace those modules in the subroutine library RGLLIB.OBJ. If your RT-11 system is based on a hard disk (for example an RL01, RL02 or an RK07) then you can receive your RGL/FEP software in one of four ways: on a hard disk, on a 9 track, 800 bpi mastape, seven RX01 floppy diskettes or on four RX02 floppy diskettes. Depending upon the media that you received, use the correction procedure in section 2.2 (hard disk), 2.3 (mastape) or 2.4 (RX01) respectively. On the other hand, if your system is based upon a dual RX02 floppy drive or if you received your software on RX02's, then use the correction procedure in section 2.5.

If you received your software on a hard disk or on a mastape, then you will need to create three files: 590102.COM, LOCATE.002 and LOCAT2.002. Otherwise, you will need only create LOCATE.002 and LOCAT2.002 on your system volume. All the neccessary files are listed in section 3.

If your system is based on dual RX02 diskette drives, then it is suggested that you create a system diskette with the following utilities and drivers installed:

1. SWAP.SYS
2. RT11SJ.SYS (put this on the boot block too)
3. TT.SYS
4. DY.SYS
5. DUP.SAV
6. DIR.SAV
7. SLP.SAV
8. FORMAT.SAV
9. KED.SAV

10. MACRO.SAV

11. MAC8K.SAV

12. LIBR.SAV

13. STARTS.COM

14. FORTRA.SAV

15. SYSMAC.SML

16. SYSMAC.MAC

It is also suggested that once you have built this system diskette that you reserve it exclusively for the correction of your RGL/FEP software and store it along with your RGL/FEP distribution kit (in some safe place).

2.1 Assumptions

The following conditions must be met before the procedure can be performed.

1. You have a copy of the RGL/FEP distribution kit updated to the current patch level. Either you have this as a result of applying all patches to a copy of the distribution kit yourself or as a result of using the most recent AUTOPATCH procedure. Hereafter, the updated media will be refered to as the "current installation media". This is the second update to the RGL/FEP package. You must have installed the first update before you may procede.

2. You have spare media of the same type and quantity as your current installation media. If you have a dual RX02 system then you will also need two extra RX02's (six total) -- one for your RT-11 system and one spare to update the RGL/FEP library. On the other hand, if your system device is a hard disk and you got RGL/FEP on RX02's, then you will only need five spare floppy diskettes. If your installation medium is a magtape, then you will need a spare hard disk.

3. You have an RT-11 system, version 4.0 which has the following utilities installed on the same medium as the RT-11 boot block : FORMAT, DUP, SLP, LIBR. You will also need to have some editor installed such as KED.

4. You have installed a FORTRAN-IV compiler, version 2.5 (FORTRA.SAV).

5. You know how to boot up an RT-11 system, how to load and unload the magnetic media you will be working with and know how to operate a text editor installed on your system.

6. It is assumed that these procedures will be run to completion without error. This includes the installation of RGL/FEP once you have updated your software. If you get an error in a given step, retry that step.

2.2 * * * Correction Procedure For Hard Disk Distribution * * *

This procedure is specific to dual hard disk systems (RL01/2, RK05, ect.). You will need approximately 20 free blocks on your system medium and about 600 free blocks on each of your installation media. It should take you about one hour to complete this procedure; it is suggested that you do it in one sitting.

1. Boot up your system.

2. Make sure you have the utilities neccessary to complete the updating procedure (use the DIRectory utility). A list of minimal software to install FEP-11 is given in the FEP/RT Installation and User's Guide, AA-M079A-TC, table 4-1, p. 4-4.

3. Make sure you have the most current level of RGL/FEP. You may check this with the Software Dispatch. If you find that your installation media are out of date, update them with AUTOPATCH. Or, if you prefer, manually apply each missing patch in order.

4. Copy your current installation media using SQUEEZE. Initialize that medium using INIT/BAD, then SQUEEZE the installation medium onto the initialized one thus:

```
INIT/BAD <output - device>:
SQUEEZE/WAIT/OUTPUT:<output - device>: <input -  device>:
```

   Here, <output - device>: represents the name of the device that initialized the medium. Likewise, <input - device>: represents the device where the installation medium was loaded. You will receive directions and prompts for loading and unloading the devices on your system. (For more information, see the FEP/RT Installation and User's Guide, AA-M079A-TC, section 3.2, pp. 3-8 - 3-13.) When you have finished copying the installation media, set aside the new copy. You will execute the update procedure on the installation media.

5. Using an editor (such as KED), create (on the system device) the files neccessary to update the RGL/FEP library: 590102.COM, LOCATE.002 and LOCAT2.002. Those files are listed in section 3.0.

6. Assign the logical name PAT to <output - device>:

```
ASSIGN <output - device>:  PAT:
```

7. Execute the patch by typing

```
>@590102
```

8. Reinstall the RGL/FEP subroutine library using the procedure used to install it initially (see the FEP/RT Installation and User's Guide, AA-M079A-TC, section 4.7, pp. 4-20 - 4-27). This includes running the RGL/FEP verification program RGLVFY.

9. You have now patched your RGL/FEP software. Save the updated installation volumes in a safe place.

2.3 * * * Correction Procedure For Magtape Distribution * * *

This procedure is specific to 9 track, 800 bpi magtape distribution kits. It assumes that your system has at least two hard disk devices, that your system disk has approximately fifty free blocks and that your spare disk has about 600 free blocks. The notation <output - disk> stands for the device name of your hard disk, for example DL1: or DK3:. Likewise the notation <magtape> stands for the name of your magtape unit (e.g. MT1: or MM7:).

1. Boot up your system.

2. Make sure you have the utilities neccessary to complete the updating procedure (use the DIRectory utility). A list of minimal software to install FEP-11 is given in the FEP/RT Installation and User's Guide, AA-M079A-TC, table 4-1, p. 4-4.

3. Make sure you have the most current level of RGL/FEP. You may check this with the Software Dispatch. If you find that your installation medium is out of date, update it with AUTOPATCH. Or, if you prefer, manually apply each missing patch in order.

4. Using an editor (such as KED), create (on the system device) the files neccessary to update the RGL/FEP library: 590102.COM, LOCATE.002 and LOCAT2.002. Those files are listed in section 3.0.

5. Make sure your magtape drive is set to 9-track, 800 BPI default. These may be set by typing:

```
SET <magtape>: DENSE=800
SET <magtape>: DEFALT=9
```

Don't use a unit number with the set command, e.g. if you are using MM3: type SET MM: DENSE=800 and so forth.

6. Initialize your spare hard disk:

```
INIT/BAD <output - disk>:
```

7. Load your mastape (with a ring inserted in the reel) into its drive and copy it onto the spare disk:

```
COPY <mastape>: <output - disk>:
SQUEEZE/NOQUERY <output - disk>:
```

8. Protect all the files on the output disk:

```
RENAME/PROTECT <output - disk>:*.* <output - disk>:
```

9. Assign the output disk name to the logical device PAT:

```
ASSIGN <output - disk>: PAT:
```

10. Execute the patch by typing:

```
@590102
```

11. Recopy your spare hard disk back onto the mastape:

```
INIT/NOQUERY <mastape>:
COPY <output - disk>: <mastape>:/POSITION:-1
```

12. Reinstall the RGL/FEP subroutine library using the procedure used to install it initially (see the Release Notes: RGL/FEP for RT-11, AA-M521A-TC, section 3.4, pp. 3-4). This includes running the RGL/FEP verification program RGLVFY.

13. You have now patched your RGL/FEP software. Save the updated installation volumes in a safe place.

2.4 * * * Correction Procedure For RX01 Distribution * * *

This procedure is specific to RX01 distribution kits. It assumes your system device is a hard disk. You will need approximately 1200 free blocks on your system disk.

1. Boot up your system.

2. Make sure you have the utilities neccessary to complete the updating procedure (use the DIRectory utility). A list of minimal software to install FEP-11 is given in the FEP/RT Installation and User's Guide, AA-M079A-TC, table 4-1, p. 4-4.

3. Make sure you have the most current level of RGL/FEP. You may check this with the Software Dispatch. If you find that your installation medium is out of date, update it with AUTOPATCH. Or, if you prefer, manually apply each missing patch in order.

4. Using an editor (such as KED), create (on the system device) the files neccessary to update the RGL/FEP library: LOCATE.002 and LOCAT2.002. These files are listed in section 3.0.

5. You will need seven spare RX01's to back up your distribution kit. For each of the seven spare diskettes, load the diskette into drive 0 and initialize it:

```
FORMAT/SINGLE DY:
INIT/BAD/NOQUERY DY:
```

   It is suggested that you label these disketes 1 through 7 so that you can differentiate them later.

6. For each diskette in the distribution kit, copy that diskette onto a spare diskette (preferably with the same label as your spare) by loading the spare in DY1: and the distribution in DY: and typing:

```
SQUEEZE/OUTPUT:DY1: DY:
RENAME/PROTECT DY1:*.* DY1:
```

7. Copy the RGL/FEP library to your system disk by loading distribution diskette 1/7 into drive 0 and typing:

```
COPY DY: SY:
```

8. Next load distribution diskette 5/7 into drive 0 and type:

```
COPY DY:LOCATE.FOR SY:
COPY DY:LOCAT2.FOR SY:
```

9. Update the two routines using the SLP utility and the correction files LOCATE.002 and LOCAT2.002:

```
RUN SLP
LOCATE.FOR=LOCATE.FOR,LOCATE.002/A
LOCAT2.FOR=LOCAT2.FOR,LOCAT2.002/A
^C
```

10. Compile the updated modules:

```
FORTRAN/CODE:THREAD LOCATE
FORTRAN/CODE:THREAD LOCAT2
```

11. Replace these modules in the RGL/FEP library:

```
LIBRARY RGLLIB LOCATE/REPLACE
LIBRARY RGLLIB LOCAT2/REPLACE
```

12. Next, load distribution diskette 5/7 and type:

```
RENAME/NOPROT DY:LOCATE.FOR DY:
RENAME/NOPROT DY:LOCAT2.FOR DY:
COPY/PREDELETE SY:LOCATE.FOR DY:
```

```
COPY/PREDELETE SY:LOCAT2.FOR DY:
RENAME/PROT DY:LOCATE.FOR DY:
RENAME/PROT DY:LOCAT2.FOR DY:
```

13. Next load diskette 4/7 into drive 0 and type:

```
RENAME/NOPROT DY:LOCATE.OBJ DY:
RENAME/NOPROT DY:LOCAT2.OBJ DY:
COPY/PREDELETE SY:LOCATE.OBJ DY:
COPY/PREDELETE SY:LOCAT2.OBJ DY:
RENAME/PROT DY:LOCATE.OBJ DY:
RENAME/PROT DY:LOCAT2.OBJ DY:
```

14. Finally load distribution diskette 1/7 into drive 0 and type:

```
RENAME/NOPROT DY:RGLLIB.OBJ DY:
COPY/PREDELETE SY:RGLLIB.OBJ DY:
RENAME/PROT DY:RGLLIB.OBJ DY:
```

15. You have now updated your RGL/FEP software. Reinstall RGL/FEP from your updated RX01 kit and verify that installation (for more information see the Release Notes: RGL/FEP for RT-11, AA-M521A-TC, section 3.5, pp.4-5).

16. You're done. Save the distribution kit in a safe place.

2.5 * * * Correction Procedure For RX02 Systems * * *

This procedure is specific to dual RX02 based systems. You will need 100 free blocks on your system diskette.

1. Boot up your system on DY0:.

2. Make sure you have the utilities neccessary to complete the updating procedure on DY0: (use the 'DIRectory utility). A list of minimal software to install FEP-11 is given in the FEP/RT Installation and User's Guide, AA-M079A-TC, table 4-1, p. 4-4.

3. Make sure you have the most current level of RGL/FEP. You may check this with the Software Dispatch. If you find that your installation media are out of date, update them with AUTOPATCH. Or, if you prefer, manually apply each missing patch in order.

4. Using an editor (such as KED), create (on the system device) the files neccessary to update the RGL/FEP library: LOCATE.002 and LOCAT2.002. These files are listed in section 3.0.

5. Copy your current installation media using SQUEEZE. For each of the four diskettes, initialize that medium using FORMAT, INIT/BAD, then SQUEEZE the installation medium onto the initialized one thus:

```
FORMAT DY1:
INIT/BAD DY1:
SQUEEZE/WAIT/OUTPUT:DY1: DY:
RENAME/PROTECT DY1:*.* DY1:
```

You will receive directions and prompts for loading and unloading the devices on your system. (For more information, see the FEP/RT Installation and User's Guide, AA-M079A-TC, section 3.2, pp. 3-8 - 3-13.) When you have finished copying the installation media, set aside the new copy. You will execute the update procedure on the installation media.

6. Load in the RGL/FEP diskette 3/4. Then type:

```
RENAME/NOPROT DY1:LOCATE DY1:
RENAME/NOPROT DY1:LOCAT2 DY1:
RUN SLP
DY1:LOCATE.FOR=DY1:LOCATE.FOR,SY:LOCATE.002/A
DY1:LOCAT2.FOR=DY1:LOCAT2.FOR,SY:LOCAT2.002/A
^C
DELETE/NOQUERY DY1:LOCATE.BAK
DELETE/NOQUERY DY1:LOCAT2.BAK
FORT/CODE:THREAD DY1:LOCATE
FORT/CODE:THREAD DY1:LOCAT2
```

7. Next, load diskette 4/4 into DY1. Then type:

```
RENAME/NOPROT DY1:LOCATE DY1:
RENAME/NOPROT DY1:LOCAT2 DY1:
COPY/REPLACE DY:LOCATE.OBJ DY1:LOCATE.OBJ
COPY/REPLACE DY:LOCAT2.OBJ DY1:LOCAT2.OBJ
RENAME/PROT DY1:LOCATE DY1:
RENAME/PROT DY1:LOCAT2 DY1:
```

8. Next, load diskette 1/4 into DY1: and type:

```
RENAME/NOPROT DY1:RGLLIB DY1:
```

9. Now, take a new, unformatted diskette and load it into DY1:. Then initialize it and format it by typing:

```
FORMAT DY1:
INIT/BAD DY1:
```

10. Now, copy the RGL/FEP library onto the new diskette. First type

```
COPY/WAIT/REPLACE DY:RGLLIB.OBJ DY1:
```

then (when you are prompted), load diskette 1/4 into DY: ;the new diskette is already in DY1:.

11. You now have the RGL/FEP library all alone on DY1:. Update the library with the new object modules LOCATE and LOCAT2 by typing:

```
SQUEEZE/NOQUERY DY1:
LIBRARY/OBJECT:DY1:RGLLIB/ALLOCATE:-1
DY1:RGLLIB DY:LOCATE/REPLACE
SQUEEZE/NOQUERY DY1:
LIBRARY/OBJECT:DY1:RGLLIB/ALLOCATE:-1
DY1:RGLLIB DY:LOCAT2/REPLACE
```

(This step will take several minutes.)

12. Next, prepare to copy the new RGL/FEP library onto 1/4 by loading 1/4 into DY1: and typing:

```
DELETE/NOQUERY DY1:RGLLIB.OBJ
SQUEEZE/NOQUERY DY1:
```

13. Now you replace the updated library on 1/4. Type:

```
COPY/WAIT/REPLACE DY:RGLLIB.OBJ DY1:
```

Load (when prompted) the just updated diskette into DY:. Diskette 1/4 is already in DY1:.

14. Next, change the protection of the library (diskette 1/4) by typing:

```
RENAME/PROT DY1:RGLLIB DY1:
```

15. Then load diskette 2/4 into DY1. Then type:

```
RENAME/NOPROT DY1:LOCATE DY1:
RENAME/NOPROT DY1:LOCAT2 DY1:
COPY/REPLACE DY:LOCATE.OBJ DY1:LOCATE.OBJ
COPY/REPLACE DY:LOCAT2.OBJ DY1:LOCAT2.OBJ
RENAME/PROT DY1:LOCATE DY1:
RENAME/PROT DY1:LOCAT2 DY1:
```

16. Finally, delete LOCATE and LOCAT2 off DK:

```
DELETE/NOQUERY DY:LOCATE.OBJ
DELETE/NOQUERY DY:LOCAT2.OBJ
```

17. Reinstall the RGL/FEP subroutine library using the procedure used to install it initially (see the Release Notes: RGL/FEP for RT-11, AA-M521A-TC, section 3.6, p. 5) This includes running the RGL/FEP verification program RGLVFY.

18. You have now patched your RGL/FEP software. Save the updated installation volumes in a safe place.

3.0 NECCESSARY FILES FOR THE PATCH

This section lists two files: an RT-11 indirect command file 590102.COM (to be used with hard disk systems) and two SLP correction files: LOCATE.002 and LOCAT2.002.

3.1 590102.COM (a)

The following file is specific to hard disk based systems. Note that ^C is two characters: ^ and C. This patch file assumes that you have assigned PAT: to the correct device.

```
!* 590102.COM
RENAME/NOPROT PAT:LOCATE PAT:
RENAME/NOPROT PAT:LOCAT2 PAT:
RUN SLP
PAT:LOCATE.FOR=PAT:LOCATE.FOR,DK:LOCATE.002/A
PAT:LOCAT2.FOR=PAT:LOCAT2.FOR,DK:LOCAT2.002/A
^C
FORTRAN/CODE:THREAD/OBJECT:PAT: PAT:LOCATE
FORTRAN/CODE:THREAD/OBJECT:PAT: PAT:LOCAT2
DELETE/NOQUERY PAT:LOCATE.BAK
DELETE/NOQUERY PAT:LOCAT2.BAK
RENAME/PROT PAT:LOCATE PAT:
RENAME/PROT PAT:LOCAT2 PAT:
RENAME/NOPROT PAT:RGLLIB.OBJ PAT:RGLLIB.OBJ
LIBR PAT:RGLLIB PAT:LOCATE/REPLACE
LIBR PAT:RGLLIB PAT:LOCAT2/REPLACE
RENAME/PROT PAT:RGLLIB.OBJ PAT:RGLLIB.OBJ
!* Done. Reinstall and verify.
```

3.2 LOCATE.002

Here is a listing of the SLP command file LOCATE.002. Note that this file must end with a carriage-return, linefeed (i.e. type RETURN at the end of the last line). The <tab> symbol stands for the TAB character.

```
-2
C*C*C<tab>Patch: 59.01.02<tab>module: LOCATE.FOR<tab>revision: 001
-91
<tab>IF (key .eq. '015) chr = getchx(dummy) !* MGC 001
/
```

3.3 LOCAT2.002

Here is a listing of the SLP command file LOCAT2.002. Note that this file must end with a carriage-return, linefeed (i.e. type RETURN at the end of the last line). The <tab> symbol stands for the TAB character.

```
-2
C*C*C<tab>Patch: 59.01.02<tab>module: LOCAT2.FOR<tab>revision: 001
-64
<tab>IF (key .eq. '015) chr = getchx(dummy) !* MGC 001
/
```

INVALID LABELS FOR DATA RANGE OF Ø.1 to 1.Ø (MG)

1.0 PROBLEM: INVALID LABELS FOR DATA RANGE OF 0.1 TO 1.0

When graphing data whose domain or range is between 0.1 and 1.0 inclusive, then those values will be written on the axis label one order of magnitude too small. For example, given a range of 0.1 to 0.5 along the y axis, then the y axis label will be written from 0.01 to 0.05 (one tenth what it should be).

This problem appears in both RGL/FEP as a component of FEP and in RGL/FEP as a separate package. Likewise, this update applies to both products.

2.0 SOLUTION

To correct this problem, the user must patch the module PRINUM.FOR and then replace that module in the subroutine library RGLLIB.OBJ. If your RT-11 system is based on a hard disk (for example an RL01, RL02 or an RK07) then you can receive your RGL/FEP software in one of four ways: on a hard disk, on a 9 track, 800 bpi mastape, seven RX01 floppy diskettes or on four RX02 floppy diskettes. Depending upon the media that you received, use the correction procedure in section 2.2 (hard disk), 2.3 (mastape) or 2.4 (RX01) respectively. On the other hand, if your system is based upon a dual RX02 floppy drive or if you received your software on RX02's, then use the correction procedure in section 2.5.

If you received your software on a hard disk or on a mastape, then you will need to create two files: 590101.COM and PRINUM.001. Otherwise, you will need only create PRINUM.001 on your system volume. All the neccessary files are listed in section 3.

If your system is based on dual RX02 diskette drives, then it is suggested that you create a system diskette with the following utilities and drivers installed:

1. SWAP.SYS
2. RT11SJ.SYS (put this on the boot block too)
3. TT.SYS
4. DY.SYS
5. DUP.SAV
6. DIR.SAV
7. SLP.SAV
8. FORMAT.SAV
9. KED.SAV

10. MACRO.SAV

11. MAC8K.SAV

12. LIBR.SAV

13. STARTS.COM

14. FORTRA.SAV

15. SYSMAC.SML

16. SYSMAC.MAC

It is also suggested that once you have built this system diskette that you reserve it exclusively for the correction of your RGL/FEP software and store it along with your RGL/FEP distribution kit (in some safe place).

2.1 Assumptions

The following conditions must be met before the procedure can be performed.

1. You have a copy of the RGL/FEP distribution kit updated to the current patch level. Either you have this as a result of applying all patches to a copy of the distribution kit yourself or as a result of using the most recent AUTOPATCH procedure. Hereafter, the updated media will be refered to as the "current installation media". Since this is the first RGL/FEP patch, you will use the copy of the distribution you made in installing RGL/FEP.

2. You have spare media of the same type and quantity as your current installation media. If you have a dual RX02 system then you will also need two extra RX02's (six total) -- one for your RT-11 system and one spare to update the RGL/FEP library. On the other hand, if your system device is a hard disk and you got RGL/FEP on RX02's, then you will only need five spare floppy diskettes. If your installation medium is a mastape, then you will need a spare hard disk.

3. You have an RT-11 system, version 4.0 which has the following utilities installed on the same medium as the RT-11 boot block : FORMAT, DUP, SLP, LIBR. You will also need to have some editor installed such as KED.

4. You have installed a FORTRAN-IV compiler, version 2.5 (FORTRA.SAV).

5. You know how to boot up an RT-11 system, how to load and unload the magnetic media you will be working with and know how to operate a text editor installed on your system.

2.2 * * * Correction Procedure For Hard Disk Distribution * * *

This procedure is specific to dual hard disk systems (RL01/2, RK05, ect.). You will need approximately 20 free blocks on your system medium and about 600 free blocks on each of your installation media. It should take you about one hour to complete this procedure; it is suggested that you do it in one sitting.

1. Boot up your system.

2. Make sure you have the utilities neccessary to complete the updating procedure (use the DIRectory utility). A list of minimal software to install FEP-11 is given in the FEP/RT Installation and User's Guide, AA-M079A-TC, table 4-1, p. 4-4.

3. Make sure you have the most current level of RGL/FEP. You may check this with the Software Dispatch. If you find that your installation media are out of date, update them with AUTOPATCH. Or, if you prefer, manually apply each missing patch in order.

4. Copy your current installation media using SQUEEZE. Initialize that medium using INIT/BAD, then SQUEEZE the installation medium onto the initialized one thus:

```
INIT/BAD <output - device>:
SQUEEZE/WAIT/OUTPUT:<output - device>: <input -  device>:
```

   Here <input - device> represents the disk your distribution volume is on and <output - device> represents the disk you booted off of.

5. Using an editor (such as KED), create (on the system device) the files neccessary to update the RGL/FEP library: 590101.COM and PRINUM.001. Those files are listed in section 3.0.

6. Assign the logical name PAT to <output - device>:

```
ASSIGN <output - device>:  PAT:
```

7. Execute the patch by typing

```
>@590101
```

8. Reinstall the RGL/FEP subroutine library using the procedure used to install it initially (see the FEP/RT Installation and User's Guide, AA-M079A-TC, section 4.7, pp. 4-20 - 4-27). This includes running the RGL/FEP verification program RGLVFY.

9. You have now patched your RGL/FEP software. Save the updated installation volumes in a safe place.

2.3 * * * Correction Procedure For Mastape Distribution * * *

This procedure is specific to 9 track, 800 bpi mastape distribution kits. It assumes that your system has at least two hard disk devices, that your system disk has approximately fifty free blocks and that your spare disk has about 600 free blocks. The notation <output - disk> stands for the device name of your hard disk, for example DL1: or DK3:. Likewise the notation <mastape> stands for the name of your mastape unit (e.g. MT1: or MM7:).

1. Boot up your system.

2. Make sure you have the utilities neccessary to complete the updating procedure (use the DIRectory utility). A list of minimal software to install FEP-11 is given in the FEP/RT Installation and User's Guide, AA-M079-TC, table 4-1, p. 4-4.

3. Make sure you have the most current level of RGL/FEP. You may check this with the Software Dispatch. If you find that your installation medium is out of date, update it with AUTOPATCH. Or, if you prefer, manually apply each missing patch in order. Since this is your first update, you need only use your installation media.

4. Using an editor (such as KED), create (on the system device) the files neccessary to update the RGL/FEP library: 590101.COM and PRINUM.001. Those files are listed in section 3.0.

5. Make sure your mastape drive is set to 9-track, 800 BPI default. These may be set by typing:

```
SET <mastape>: DENSE=800
SET <mastape>: DEFALT=9
```

   Note here that you must omit the unit number from your mastape name, e.g. if you are using MM3: you type only MM:.

6. Initialize your spare hard disk:

```
INIT/BAD <output - disk>:
```

7. Load your mastape (with a ring inserted in the reel) into its drive and copy it onto the spare disk:

```
COPY <mastape>: <output - disk>:
SQUEEZE/NOQUERY <output - disk>:
```

8. Protect all the files on the output disk:

```
RENAME/PROTECT <output - disk>:*.* <output - disk>:
```

9. Assign the output disk name to the logical device PAT:

```
ASSIGN <output - disk>: PAT:
```

10. Execute the patch by typing:

```
@590101
```

11. Recopy your spare hard disk back onto the mastape:

```
INIT/NOQUERY <mastape>:
COPY <output - disk>: <mastape>:/POSITION:-1
```

12. Reinstall the RGL/FEP subroutine library using the procedure used to install it initially (see the Release Notes: RGL/FEP for RT-11, AA-M521A-TC). This includes running the RGL/FEP verification program RGLVFY.

13. You have now patched your RGL/FEP software. Save the updated installation volumes in a safe place.

2.4 * * * Correction Procedure For RX01 Distribution * * *

This procedure is specific to RX01 distribution kits. It assumes your system device is a hard disk. You will need approximately 1200 free blocks on your system disk.

1. Boot up your system.

2. Make sure you have the utilities neccessary to complete the updating procedure (use the DIRectory utility). A list of minimal software to install FEP-11 is given in the FEP/RT Installation and User's Guide, AA-M079A-TC, table 4-1, p. 4-4.

3. Make sure you have the most current level of RGL/FEP. You may check this with the Software Dispatch. If you find that your installation medium is out of date, update it with AUTOPATCH. Or, if you prefer, manually apply each missing patch in order. Since this is your first update, you need only use your installation media.

4. Using an editor (such as KED), create (on the system device) the files neccessary to update the RGL/FEP library: PRINUM.001. This file is listed in section 3.0.

5. You will need seven spare RX01's to back up your distribution kit. For each of the seven spare diskettes, load the diskette into drive 0 and initialize it:

```
FORMAT/SINGLE DY:
INIT/BAD/NOQUERY DY:
```

It is suggested that you label these disketes 1 through 7 so that you can differentiate them later.

6. For each diskette in the distribution kit, copy that diskette onto a spare diskette (preferably with the same label as your spare) by loading the spare in DY1: and the distribution in DY: and typing:

```
SQUEEZE/OUTPUT:DY1: DY:
RENAME/PROTECT DY1:*.* DY1:
```

7. Copy the RGL/FEP library to your system disk by loading distribution diskette 1/7 into drive 0 and typing:

```
COPY DY: SY:
```

8. Next load distribution diskette 6/7 into drive 0 and type:

```
COPY DY:PRINUM.FOR SY:
```

9. Update PRINUM.FOR using the SLP utility and the correction file PRINUM.001 (Note that ^C represents CNTRL-C):

```
RUN SLP
PRINUM.FOR=PRINUM.FOR,PRINUM.001/A
^C
```

10. Compile the updated PRINUM module:

```
FORTRAN/CODE:THREAD PRINUM
```

11. Replace this module in the RGL/FEP library:

```
LIBRARY RGLLIB PRINUM/REPLACE
```

12. Next, load distribution diskette 6/7 and type:

```
RENAME/NOPROT DY:PRINUM.FOR DY:
COPY/PREDELETE SY:PRINUM.FOR DY:
RENAME/PROT DY:PRINUM.FOR DY:
```

13. Next load diskette 4/7 into drive 0 and type:

```
RENAME/NOPROT DY:PRINUM.OBJ DY:
COPY/PREDELETE SY:PRINUM.OBJ DY:
RENAME/PROT DY:PRINUM.OBJ DY:
```

14. Finally load distribution diskette 1/7 into drive 0 and type:

```
RENAME/NOPROT DY:RGLLIB.OBJ DY:
COPY/PREDELETE SY:RGLLIB.OBJ DY:
RENAME/PROT DY:RGLLIB.OBJ DY:
```

15. You have now updated your RGL/FEP software. Reinstall RGL/FEP from your updated RX01 kit (this includes the verification procedure).

16. You're done. Save the distribution kit in a safe place.

2.5 * * * Correction Procedure For RX02 Systems * * *

This procedure is specific to dual RX02 based systems. You will need 100 free blocks on your system diskette.

1. Boot up your system on DY0:.

2. Make sure you have the utilities neccessary to complete the updating procedure on DY0: (use the DIRectory utility). A list of minimal software to install FEP-11 is given in the FEP/RT Installation and User's Guide, AA-M079A-TC, table 4-1, p. 4-4.

3. Make sure you have the most current level of RGL/FEP. You may check this with the Software Dispatch. If you find that your installation media are out of date, update them with AUTOPATCH. Or, if you prefer, manually apply each missing patch in order.

4. Using an editor (such as KED), create (on the system device) the files neccessary to update the RGL/FEP library: PRINUM.001. This file is listed in section 3.0.

5. Copy of your current installation media using SQUEEZE. For each of the four diskettes, initialize that medium using FORMAT, INIT/BAD, then SQUEEZE the installation medium onto the initialized one thus:

```
FORMAT DY1:
INIT/BAD DY1:
SQUEEZE/WAIT/OUTPUT:DY1: DY:
RENAME/PROTECT DY1:*.* DY1:
```

You will receive directions and prompts for loading and unloading the devices on your system. (For more information, see the FEP/RT Installation and User's Guide, AA-M079A-TC, section 3.2, pp. 3-8 - 3-13.) When you have finished copying the installation media, set aside the new copy. You will execute the update procedure on the installation media.

6. Using an editor (such as KED), create (on the system device) the correction file PRINUM.001. It's listed in section 3.2.

7. Load in the RGL/FEP diskette 3/4. Then type:

```
RENAME/NOPROT DY1:PRINUM DY1:
RUN SLP
DY1:PRINUM.FOR=DY1:PRINUM.FOR,SY:PRINUM.001/A
^C
DELETE/NOQUERY DY1:PRINUM.BAK
FORT/CODE:THREAD DY1:PRINUM
```

(Note here that ^C represents CNTRL-C.)

8. Next, load diskette 4/4 into DY1. Then type:

```
RENAME/NOPROT DY1:PRINUM DY1:
COPY/REPLACE DY:PRINUM.OBJ DY1:PRINUM.OBJ
RENAME/PROT DY1:PRINUM DY1:
```

9. Next, load diskette 1/4 into DY1: and type:

```
RENAME/NOPROT DY1:RGLLIB DY1:
```

10. Now, take a new, unformatted diskette and load it into DY1:. Then initialize it and format it by typing:

```
FORMAT DY1:
INIT/BAD DY1:
```

11. Now, copy the RGL/FEP library onto the new diskette. First type

```
COPY/WAIT/REPLACE DY:RGLLIB.OBJ DY1:
```

then (when you are prompted), load diskette 1/4 into DY: ;the new diskette is already in DY1:.

12. You now have the RGL/FEP library all alone on DY1:. Update the library with the new object module PRINUM by typing:

```
SQUEEZE DY1:
LIBRARY/OBJECT:DY1:RGLLIB/ALLOCATE:-1
DY1:RGLLIB DY:PRINUM/REPLACE
```

(This step will take several minutes.)

13. Next, prepare to copy the new RGL/FEP library onto 1/4 by loading 1/4 into DY1: and typing:

```
DELETE/NOQUERY DY1:RGLLIB.OBJ
SQUEEZE/NOQUERY DY1:
```

14. Now you replace the updated library on 1/4. Type:

```
COPY/WAIT/REPLACE DY:RGLLIB.OBJ DY1:
```

Load (when prompted) the just updated diskette into DY: and diskette 1/4 into DY1:.

15. Next, change the protection of the library (diskette 1/4) by typing:

```
RENAME/PROT DY1:RGLLIB DY1:
```

16. Then load diskette 2/4 into DY1. Then type:

```
RENAME/NOPROT DY1:PRINUM DY1:
COPY/REPLACE DY:PRINUM.OBJ DY1:PRINUM.OBJ
RENAME/PROT DY1:PRINUM DY1:
```

17. Finally, delete PRINUM off DK:

```
DELETE/NOQUERY DY:PRINUM.OBJ
```

18. Reinstall the RGL/FEP subroutine library using the procedure used to install it initially (see the FEP/RT Installation and User's Guide, AA-M079A-TC, section 4.7, pp. 4-20 - 4-27). This includes running the RGL/FEP verification program RGLVFY.

19. You have now patched your RGL/FEP software. Save the updated installation volumes in a safe place.

3.0 NECCESSARY FILES FOR THE PATCH

This section lists two files: an RT-11 indirect command file 591801.COM (to be used with hard disk systems) and a SLP correction file PRINUM.001.

3.1 591801.COM (a)

The following file is specific to hard disk based systems. Note that ^C is two characters: ^ and C. This patch file assumes that you have assigned PAT: to the correct device.

```
!* 590101.COM
RENAME/NOPROT PAT:PRINUM PAT:PRINUM
RUN SLP
PAT:PRINUM.FOR=PAT:PRINUM.FOR,DK:PRINUM.001/A
^C
FORTRAN/CODE:THREAD/OBJECT:PAT: PAT:PRINUM
DELETE/NOQUERY PAT:PRINUM.BAK
RENAME/PROT PAT:PRINUM PAT:PRINUM
RENAME/NOPROT PAT:RGLLIB.OBJ PAT:RGLLIB.OBJ
LIBR PAT:RGLLIB PAT:PRINUM/REPLACE
RENAME/PROT PAT:RGLLIB.OBJ PAT:RGLLIB.OBJ
!* Done. Reinstall and verify.
```

3.2 PRINUM.001

Here is a listing of the SLP command file PRINUM.001. Note that this file must end with a carriage-return, linefeed (i.e. type RETURN at the end of the last line). The <tab> symbol stands for the TAB character.

```
-2
C*C*C<tab>Patch: 59.01.01<tab>module: PRINUM.FOR<tab>revision: 001
-34
<tab>IF (N.LE.0) GOTO 147 !* MGC 001
-38
147<tab>CONTINUE !* MGC 001
/
```

ERROR CALLING LOCATE, LFIXED OR LFREE TWICE IN SUCCESSION (MG)

1.0 PROBLEM: ERROR CALLING LOCATE, LFIXED OR LFREE TWICE IN SUCCESSION

When using the graphics locator in RGL/FEP and exiting with a carriage-return, the line-feed character is not read. This means that two successive calls to LOCATE, LFIXED and LFREE will not work properly. The second call to any one of these routines will immediately terminate.

This problem appears in both RGL/FEP as a component of FEP and in RGL/FEP as a separate package. Likewise, this update applies to both products.

2.0 SOLUTION

To correct this problem, the user must patch the modules LOCATE.FOR and LOCAT2.FOR and then replace those modules in the subroutine library RGLLIB.OBJ. If your RT-11 system is based on a hard disk (for example an RL01, RL02 or an RK07) then you can receive your RGL/FEP software in one of four ways: on a hard disk, on a 9 track, 800 bpi mastape, seven RX01 floppy diskettes or on four RX02 floppy diskettes. Depending upon the media that you received, use the correction procedure in section 2.2 (hard disk), 2.3 (mastape) or 2.4 (RX01) respectively. On the other hand, if your system is based upon a dual RX02 floppy drive or if you received your software on RX02's, then use the correction procedure in section 2.5.

If you received your software on a hard disk or on a mastape, then you will need to create three files: 590102.COM, LOCATE.002 and LOCAT2.002. Otherwise, you will need only create LOCATE.002 and LOCAT2.002 on your system volume. All the neccessary files are listed in section 3.

If your system is based on dual RX02 diskette drives, then it is suggested that you create a system diskette with the following utilities and drivers installed:

1. SWAP.SYS
2. RT11SJ.SYS (put this on the boot block too)
3. TT.SYS
4. DY.SYS
5. DUP.SAV
6. DIR.SAV
7. SLP.SAV
8. FORMAT.SAV
9. KED.SAV

10. MACRO.SAV

11. MAC8K.SAV

12. LIBR.SAV

13. STARTS.COM

14. FORTRA.SAV

15. SYSMAC.SML

16. SYSMAC.MAC

It is also suggested that once you have built this system diskette that you reserve it exclusively for the correction of your RGL/FEP software and store it along with your RGL/FEP distribution kit (in some safe place).

2.1 Assumptions

The following conditions must be met before the procedure can be performed.

1. You have a copy of the RGL/FEP distribution kit updated to the current patch level. Either you have this as a result of applying all patches to a copy of the distribution kit yourself or as a result of using the most recent AUTOPATCH procedure. Hereafter, the updated media will be refered to as the "current installation media". This is the second update to the RGL/FEP package. You must have installed the first update before you may procede.

2. You have spare media of the same type and quantity as your current installation media. If you have a dual RX02 system then you will also need two extra RX02's (six total) -- one for your RT-11 system and one spare to update the RGL/FEP library. On the other hand, if your system device is a hard disk and you got RGL/FEP on RX02's, then you will only need five spare floppy diskettes. If your installation medium is a magtape, then you will need a spare hard disk.

3. You have an RT-11 system, version 4.0 which has the following utilities installed on the same medium as the RT-11 boot block : FORMAT, DUP, SLP, LIBR. You will also need to have some editor installed such as KED.

4. You have installed a FORTRAN-IV compiler, version 2.5 (FORTRA.SAV).

5. You know how to boot up an RT-11 system, how to load and unload the magnetic media you will be working with and know how to operate a text editor installed on your system.

6. It is assumed that these procedures will be run to completion without error. This includes the installation of RGL/FEP once you have updated your software. If you get an error in a given step, retry that step.

If the error persists, you should check the appropriate manual. You may have to backtrack to preceding steps. As a precautionary measure, each procedure asks you to copy your current software. That way you can always recover from any error by starting from the beginning.

2.2 * * * Correction Procedure For Hard Disk Distribution * * *

This procedure is specific to dual hard disk systems (RL01/2, RK05, ect.). You will need approximately 20 free blocks on your system medium and about 600 free blocks on each of your installation media. It should take you about one hour to complete this procedure; it is suggested that you do it in one sitting.

1. Boot up your system.

2. Make sure you have the utilities neccessary to complete the updating procedure (use the DIRectory utility). A list of minimal software to install FEP-11 is given in the FEP/RT Installation and User's Guide, AA-M079A-TC, table 4-1, p. 4-4.

3. Make sure you have the most current level of RGL/FEP. You may check this with the Software Dispatch. If you find that your installation media are out of date, update them with AUTOPATCH. Or, if you prefer, manually apply each missing patch in order.

4. Copy your current installation media using SQUEEZE. Initialize that medium using INIT/BAD, then SQUEEZE the installation medium onto the initialized one thus:

```
INIT/BAD <output - device>:
SQUEEZE/WAIT/OUTPUT:<output - device>: <input -  device>:
```

   Here, <output - device>: represents the name of the device that initialized the medium. Likewise, <input - device>: represents the device where the installation medium was loaded. You will receive directions and prompts for loading and unloading the devices on your system. (For more information, see the FEP/RT Installation and User's Guide, AA-M079A-TC, section 3.2, pp. 3-8 - 3-13.) When you have finished copying the installation media, set aside the new copy. You will execute the update procedure on the installation media.

5. Using an editor (such as KED), create (on the system device) the files neccessary to update the RGL/FEP library: 590102.COM, LOCATE.002 and LOCAT2.002. Those files are listed in section 3.0.

6. Assign the logical name PAT to <output - device>:

```
ASSIGN <output - device>:  PAT:
```

7. Execute the patch by typing

```
>@590102
```

8. Reinstall the RGL/FEP subroutine library using the procedure used to install it initially (see the FEP/RT Installation and User's Guide, AA-M079A-TC, section 4.7, pp. 4-20 - 4-27). This includes running the RGL/FEP verification program RGLVFY.

9. You have now patched your RGL/FEP software. Save the updated installation volumes in a safe place.

2.3 * * * Correction Procedure For Mastape Distribution * * *

This procedure is specific to 9 track, 800 bpi mastape distribution kits. It assumes that your system has at least two hard disk devices, that your system disk has approximately fifty free blocks and that your spare disk has about 600 free blocks. The notation <output - disk> stands for the device name of your hard disk, for example DL1: or DK3:. Likewise the notation <mastape> stands for the name of your mastape unit (e.g. MT1: or MM7:).

1. Boot up your system.

2. Make sure you have the utilities neccessary to complete the updating procedure (use the DIRectory utility). A list of minimal software to install FEP-11 is given in the FEP/RT Installation and User's Guide, AA-M079A-TC, table 4-1, p. 4-4.

3. Make sure you have the most current level of RGL/FEP. You may check this with the Software Dispatch. If you find that your installation medium is out of date, update it with AUTOPATCH. Or, if you prefer, manually apply each missing patch in order.

4. Using an editor (such as KED), create (on the system device) the files neccessary to update the RGL/FEP library: 590102.COM, LOCATE.002 and LOCAT2.002. Those files are listed in section 3.0.

5. Make sure your mastape drive is set to 9-track, 800 BPI default. These may be set by typing:

```
SET <mastape>: DENSE=800
SET <mastape>: DEFALT=9
```

Don't use a unit number with the set command, e.g. if you are using MM3: type SET MM: DENSE=800 and so forth.

6. Initialize your spare hard disk:

```
INIT/BAD <output - disk>:
```

7. Load your mastape (with a ring inserted in the reel) into its drive and copy it onto the spare disk:

```
COPY <mastape>: <output - disk>:
SQUEEZE/NOQUERY <output - disk>:
```

8. Protect all the files on the output disk:

```
RENAME/PROTECT <output - disk>:*.* <output - disk>:
```

9. Assign the output disk name to the logical device PAT:

```
ASSIGN <output - disk>: PAT:
```

10. Execute the patch by typing:

```
@590102
```

11. Recopy your spare hard disk back onto the mastape:

```
INIT/NOQUERY <mastape>:
COPY <output - disk>: <mastape>:/POSITION:-1
```

12. Reinstall the RGL/FEP subroutine library using the procedure used to install it initially (see the Release Notes: RGL/FEP for RT-11, AA-M521A-TC, section 3.4, pp. 3-4). This includes running the RGL/FEP verification program RGLVFY.

13. You have now patched your RGL/FEP software. Save the updated installation volumes in a safe place.

2.4 * * * Correction Procedure For RX01 Distribution * * *

This procedure is specific to RX01 distribution kits. It assumes your system device is a hard disk. You will need approximately 1200 free blocks on your system disk.

1. Boot up your system.

2. Make sure you have the utilities neccessary to complete the updating procedure (use the DIRectory utility). A list of minimal software to install FEP-11 is given in the FEP/RT Installation and User's Guide, AA-M079A-TC, table 4-1, p. 4-4.

3. Make sure you have the most current level of RGL/FEP. You may check this with the Software Dispatch. If you find that your installation medium is out of date, update it with AUTOPATCH. Or, if you prefer, manually apply each missing patch in order.

4. Using an editor (such as KED), create (on the system device) the files neccessary to update the RGL/FEP library: LOCATE.002 and LOCAT2.002. These files are listed in section 3.0.

5. You will need seven spare RX01's to back up your distribution kit. For each of the seven spare diskettes, load the diskette into drive 0 and initialize it:

```
FORMAT/SINGLE DY:
INIT/BAD/NOQUERY DY:
```

It is suggested that you label these disketes 1 through 7 so that you can differentiate them later.

6. For each diskette in the distribution kit, copy that diskette onto a spare diskette (preferably with the same label as your spare) by loading the spare in DY1: and the distribution in DY: and typing:

```
SQUEEZE/OUTPUT:DY1: DY:
RENAME/PROTECT DY1:*.* DY1:
```

7. Copy the RGL/FEP library to your system disk by loading distribution diskette 1/7 into drive 0 and typing:

```
COPY DY: SY:
```

8. Next load distribution diskette 5/7 into drive 0 and type:

```
COPY DY:LOCATE.FOR SY:
COPY DY:LOCAT2.FOR SY:
```

9. Update the two routines using the SLP utility and the correction files LOCATE.002 and LOCAT2.002:

```
RUN SLP
LOCATE.FOR=LOCATE.FOR,LOCATE.002/A
LOCAT2.FOR=LOCAT2.FOR,LOCAT2.002/A
^C
```

10. Compile the updated modules:

```
FORTRAN/CODE:THREAD LOCATE
FORTRAN/CODE:THREAD LOCAT2
```

11. Replace these modules in the RGL/FEP library:

```
LIBRARY RGLLIB LOCATE/REPLACE
LIBRARY RGLLIB LOCAT2/REPLACE
```

12. Next, load distribution diskette 5/7 and type:

```
RENAME/NOPROT DY:LOCATE.FOR DY:
RENAME/NOPROT DY:LOCAT2.FOR DY:
COPY/PREDELETE SY:LOCATE.FOR DY:
```

```
COPY/PREDELETE SY:LOCAT2.FOR DY:
RENAME/PROT DY:LOCATE.FOR DY:
RENAME/PROT DY:LOCAT2.FOR DY:
```

13. Next load diskette 4/7 into drive 0 and type:

```
RENAME/NOPROT DY:LOCATE.OBJ DY:
RENAME/NOPROT DY:LOCAT2.OBJ DY:
COPY/PREDELETE SY:LOCATE.OBJ DY:
COPY/PREDELETE SY:LOCAT2.OBJ DY:
RENAME/PROT DY:LOCATE.OBJ DY:
RENAME/PROT DY:LOCAT2.OBJ DY:
```

14. Finally load distribution diskette 1/7 into drive 0 and type:

```
RENAME/NOPROT DY:RGLLIB.OBJ DY:
COPY/PREDELETE SY:RGLLIB.OBJ DY:
RENAME/PROT DY:RGLLIB.OBJ DY:
```

15. You have now updated your RGL/FEP software. Reinstall RGL/FEP from your updated RX01 kit and verify that installation (for more information see the Release Notes: RGL/FEP for RT-11, AA-M521A-TC, section 3.5, pp.4-5).

16. You're done. Save the distribution kit in a safe place.

2.5 * * * Correction Procedure For RX02 Systems * * *

This procedure is specific to dual RX02 based systems. You will need 100 free blocks on your system diskette.

1. Boot up your system on DY0:.

2. Make sure you have the utilities neccessary to complete the updating procedure on DY0: (use the DIRectory utility). A list of minimal software to install FEP-11 is given in the FEP/RT Installation and User's Guide, AA-M079A-TC, table 4-1, p. 4-4.

3. Make sure you have the most current level of RGL/FEP. You may check this with the Software Dispatch. If you find that your installation media are out of date, update them with AUTOPATCH. Or, if you prefer, manually apply each missing patch in order.

4. Using an editor (such as KED), create (on the system device) the files neccessary to update the RGL/FEP library: LOCATE.002 and LOCAT2.002. These files are listed in section 3.0.

5. Copy your current installation media using SQUEEZE. For each of the four diskettes, initialize that medium using FORMAT, INIT/BAD, then SQUEEZE the installation medium onto the initialized one thus:

```
FORMAT DY1:
INIT/BAD DY1:
SQUEEZE/WAIT/OUTPUT:DY1: DY:
RENAME/PROTECT DY1:*.* DY1:
```

You will receive directions and prompts for loading and unloading the devices on your system. (For more information, see the FEP/RT Installation and User's Guide, AA-M079A-TC, section 3.2, pp. 3-8 - 3-13.) When you have finished copying the installation media, set aside the new copy. You will execute the update procedure on the installation media.

6. Load in the RGL/FEP diskette 3/4. Then type:

```
RENAME/NOPROT DY1:LOCATE DY1:
RENAME/NOPROT DY1:LOCAT2 DY1:
RUN SLP
DY1:LOCATE.FOR=DY1:LOCATE.FOR,SY:LOCATE.002/A
DY1:LOCAT2.FOR=DY1:LOCAT2.FOR,SY:LOCAT2.002/A
^C
DELETE/NOQUERY DY1:LOCATE.BAK
DELETE/NOQUERY DY1:LOCAT2.BAK
FORT/CODE:THREAD DY1:LOCATE
FORT/CODE:THREAD DY1:LOCAT2
```

7. Next, load diskette 4/4 into DY1. Then type:

```
RENAME/NOPROT DY1:LOCATE DY1:
RENAME/NOPROT DY1:LOCAT2 DY1:
COPY/REPLACE DY:LOCATE.OBJ DY1:LOCATE.OBJ
COPY/REPLACE DY:LOCAT2.OBJ DY1:LOCAT2.OBJ
RENAME/PROT DY1:LOCATE DY1:
RENAME/PROT DY1:LOCAT2 DY1:
```

8. Next, load diskette 1/4 into DY1: and type:

```
RENAME/NOPROT DY1:RGLLIB DY1:
```

9. Now, take a new, unformatted diskette and load it into DY1:. Then initialize it and format it by typing:

```
FORMAT DY1:
INIT/BAD DY1:
```

10. Now, copy the RGL/FEP library onto the new diskette. First type

```
COPY/WAIT/REPLACE DY:RGLLIB.OBJ DY1:
```

then (when you are prompted), load diskette 1/4 into DY: ;the new diskette is already in DY1:.

11. You now have the RGL/FEP library all alone on DY1:. Update the library with the new object modules LOCATE and LOCAT2 by typing:

```
SQUEEZE/NOQUERY DY1:
LIBRARY/OBJECT:DY1:RGLLIB/ALLOCATE:-1
DY1:RGLLIB DY:LOCATE/REPLACE
SQUEEZE/NOQUERY DY1:
LIBRARY/OBJECT:DY1:RGLLIB/ALLOCATE:-1
DY1:RGLLIB DY:LOCAT2/REPLACE
```

(This step will take several minutes.)

12. Next, prepare to copy the new RGL/FEP library onto 1/4 by loading 1/4 into DY1: and typing:

```
DELETE/NOQUERY DY1:RGLLIB.OBJ
SQUEEZE/NOQUERY DY1:
```

13. Now you replace the updated library on 1/4. Type:

```
COPY/WAIT/REPLACE DY:RGLLIB.OBJ DY1:
```

Load (when prompted) the just updated diskette into DY:. Diskette 1/4 is already in DY1:.

14. Next, change the protection of the library (diskette 1/4) by typing:

```
RENAME/PROT DY1:RGLLIB DY1:
```

15. Then load diskette 2/4 into DY1. Then type:

```
RENAME/NOPROT DY1:LOCATE DY1:
RENAME/NOPROT DY1:LOCAT2 DY1:
COPY/REPLACE DY:LOCATE.OBJ DY1:LOCATE.OBJ
COPY/REPLACE DY:LOCAT2.OBJ DY1:LOCAT2.OBJ
RENAME/PROT DY1:LOCATE DY1:
RENAME/PROT DY1:LOCAT2 DY1:
```

16. Finally, delete LOCATE and LOCAT2 off DK:

```
DELETE/NOQUERY DY:LOCATE.OBJ
DELETE/NOQUERY DY:LOCAT2.OBJ
```

17. Reinstall the RGL/FEP subroutine library using the procedure used to install it initially (see the Release Notes: RGL/FEP for RT-11, AA-M521A-TC, section 3.6, p. 5) This includes running the RGL/FEP verification program RGLVFY.

18. You have now patched your RGL/FEP software. Save the updated installation volumes in a safe place.

3.0 NECCESSARY FILES FOR THE PATCH

This section lists two files: an RT-11 indirect command file 590102.COM (to be used with hard disk systems) and two SLP correction files: LOCATE.002 and LOCAT2.002.

3.1 590102.COM (a)

The following file is specific to hard disk based systems. Note that ^C is two characters: ^ and C. This patch file assumes that you have assigned PAT: to the correct device.

```
!* 590102.COM
RENAME/NOPROT PAT:LOCATE PAT:
RENAME/NOPROT PAT:LOCAT2 PAT:
RUN SLP
PAT:LOCATE.FOR=PAT:LOCATE.FOR,DK:LOCATE.002/A
PAT:LOCAT2.FOR=PAT:LOCAT2.FOR,DK:LOCAT2.002/A
^C
FORTRAN/CODE:THREAD/OBJECT:PAT: PAT:LOCATE
FORTRAN/CODE:THREAD/OBJECT:PAT: PAT:LOCAT2
DELETE/NOQUERY PAT:LOCATE.BAK
DELETE/NOQUERY PAT:LOCAT2.BAK
RENAME/PROT PAT:LOCATE PAT:
RENAME/PROT PAT:LOCAT2 PAT:
RENAME/NOPROT PAT:RGLLIB.OBJ PAT:RGLLIB.OBJ
LIBR PAT:RGLLIB PAT:LOCATE/REPLACE
LIBR PAT:RGLLIB PAT:LOCAT2/REPLACE
RENAME/PROT PAT:RGLLIB.OBJ PAT:RGLLIB.OBJ
!* Done. Reinstall and verify.
```

3.2 LOCATE.002

Here is a listing of the SLP command file LOCATE.002. Note that this file must end with a carriage-return, linefeed (i.e. type RETURN at the end of the last line). The <tab> symbol stands for the TAB character.

```
-2
C*C*C<tab>Patch: 59.01.02<tab>module: LOCATE.FOR<tab>revision: 001
-91
<tab>IF (key .eq. '015) chr = getchx(dummy) !* MGC 001
/
```

3.3 LOCAT2.002

Here is a listing of the SLP command file LOCAT2.002. Note that this file must end with a carriage-return, linefeed (i.e. type RETURN at the end of the last line). The <tab> symbol stands for the TAB character.

```
-2
C*C*C<tab>Patch: 59.01.02<tab>module: LOCAT2.FOR<tab>revision: 001
-64
<tab>IF (key .eq. '015) chr = getchx(dummy) !* MGC 001
/
```

RT-11 V4.0
CUMULATIVE INDEX
AUGUST 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.

Component	Autopatch Kit	Sequence	Mon/Yr
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	E	1.1.19 M	Jan 82

Component	Autopatch Kit	Sequence	Mon/Yr
DEVICE HANDLER SOURCES			
DEVICE HANDLER NOTES			
RL02s AT REV. LEVEL "F" FAIL DURING RT-11 SYSGEN		6.1.1 N	Oct 80
DD.MAC			
DD PRIMARY BOOTSTRAP PROBLEM	A	6.4.1 M	Jul 80
DL.MAC			
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
DM.MAC			
ERRORS IN DM OFFSET POSITIONING AND ERROR LOGGING	A	6.6.1 M	Jul 80
DY.MAC			
DELETED DATA MARK MAY BE LOST IF BUFFER STARTS ON PAR BOUNDARY	D	6.11.1 M	Aug 81
LP.MAC			
LP SET NOHANG MAY CRASH SYSTEM	A	6.12.1 M	Sep 80
LS.MAC			
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	E	6.13.6 M	Jan 82
PD.MAC			
CORRECTION TO PDT ERROR LOGGING SUPPORT	B	6.16.1 M	Apr 81
MAG TAPE HANDLERS			
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
SYSTEM UTILITIES			
PIP.SAV			
ERRORS IN PIP	A	7.1.1 M	Sep 80
COPY/PREDELETE COMMAND		7.1.2 N	Sep 80
MATCHING FILE SPEECIFICATIONS 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	D	7.1.7 M	Oct 81
COPY/BINARY STOPS PROCESSING AFTER ENCOUNTERING AN OBJ LIBRARY FILE	E	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	F	7.1.10 M	Feb 82
DUP.SAV			
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	E	7.2.11 M	Oct 81
USE OF COPY/DEV/FILE WITHOUT FILE SPECIFICATION	E	7.2.12 M	Nov 81
PROBLEMS WITH COPY/DEVICE USING /END	F	7.2.13 M	Apr 82

Component	Autopatch Kit	Sequence	Mon/Yr
DIR.SAV			
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
RESORC.SAV			
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
LINK.SAV			
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	E	7.9.7 M	Nov 81
LINK ERROR IN LIBRARY MODULE TRANSFER ADDRESS PROCESSING	E	7.9.8 M	Jan 82
LINK LIBRARY MODULE PLACEMENT ERROR	E	7.9.9 M	Jan 82
LINK MULTIPLE ERROR FIXES		7.9.10 M	May 82
LIBR.SAV			
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	E	7.10.4 M	Jan 82
LIBR RESTRICTION		7.10.5 N	Jan 82
FILEX.SAV			
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
SRCCOM.SAV			
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
BINCOM.SAV			
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	E	7.13.3 M	Jan 82
DUMP.SAV			
BLOCK NUMBERS OUTPUT FROM DUMP	D	7.14.1 M	Aug 81
SLP.SAV			
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
SIPP.SAV			
CORRUPTION OF MULTI-BLOCK LOG FILES	A	7.16.1 M	Jul 80
PAT.SAV			
USE OF THE PAT UTILITY WITH RT-11 V3B PATCHES		7.17.1 N+	Mar 80
HELP.SAV			
PROBLEMS WITH HELP UTILITY	A	7.19.1 M	Nov 80
EDIT.SAV			
EDIT MISHANDLES OUTPUT FILE FULL ERROR	B	7.20.1 M	Nov 81
SYSTEM SUBROUTINE LIBRARY (SYSLIB)			
SYSLIB.OBJ			
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	E	8.1.4 M	Feb 82

Component	Autopatch Kit	Sequence	Mon/Yr
SYSTEM MACRO LIBRARY			
.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
INCORRECT EXPANSION OF .DRSET MACRO	F	9.1.4 M	Apr 82
SYSTEM GENERATION PACKAGE			
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
TERMINAL OUTPUT CORRUPTION ON DZ11 OR DZV11 LINES	F	10.3.3 M	Apr 82
DOCUMENTATION			
RT-11 SYSTEM RELEASE NOTES			
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
RT-11 INSTALLATION AND SYSTEM GENERATION GUIDE			
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 RL02 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
INTRODUCTION TO RT-11			
RT-11 V4.0 DOCUMENTATION CORRECTIONS AND ADDITIONS		11.4.1 N	Jul 80
RT-11 SYSTEM USER'S GUIDE			
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
RT-11 SYSTEM MESSAGE MANUAL			
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
RT-11 POCKET GUIDE			
RT-11 V4.0 DOCUMENTATION CORRECTIONS AND ADDITIONS		11.7.1 N	Jul 80
RT-11 PROGRAMMER'S REFERENCE MANUAL			
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
RT-11 SOFTWARE SUPPORT MANUAL			
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
DEBUGGING UTILITIES			
VDT.OBJ			
NOTES ON USING ODT OR VDT IN AN XM ENVIRONMENT		12.2.1 N	Jan 81
ERROR CONTROL PACKAGE			
ERROUT.MAC			
ERROR LOGGING SUPPORT OF USER-WRITTEN HANDLERS		14.6.1 M	May 82
BATCH PACKAGE			
BATCH.SAV			
PATCH BATCH TO USE MONITOR SUFFIX	A	15.1.1 M	Oct 80
BATCH $CREATE IGNORES BLANK LINES		15.1.2 M	Aug 82

Component	Autopatch Kit	Sequence	Mon/Yr
SPOOLING PACKAGE			
QUEUE.REL			
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 OUPTUT QUEUED MAY CAUSE FATAL ERROR IN QUEUE	D	16.1.3 M	Aug 81
ATTEMPTING TO COMMUNICATE WITH 'QUEUE' FROM A VIRTUAL JOB		16.1.4 N	Apr 82
QUEMAN.SAV			
PROBLEMS WITH QUEMAN	B	16.2.1 M	Jan 81
KEYPAD EDITOR			
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	E	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	E	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
AUTOMATED PATCHING FACILITY PACKAGE			
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			
REPUBLICATION 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

Component	Autopatch Kit	Sequence	Mon/Yr
REM STATEMENTS ON MULTI-STATEMENT LINES - PATCH 0	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
DOCUMENTATION			
OVERLAYING WHILE IN A SUBROUTINE		35.3.1 R+	Mar 80
OPERATION OF CTRLC, RCTRLC 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
MICROPOWER/PASCAL V1.0			
ANNOUNCING MICROPOWER/PASCAL V1.0		37.1.1 N	Apr 82
BUILDING AN APPLICATION THAT USES THE FILE SYSTEM		37.1.2 M	May 82
MIB			
MIB MAY GIVE A HARDWARE READ ERROR DURING KERNAL INSTALLATION		37.3.3.1 N	Aug 82
PAXM/PAXU/KERNAL			
SERA REQUEST FOR DISCONNECT MAY FAIL IN A MAPPED SYSTEM		37.4.1.1 N	Aug 82
ILLEGAL ADDRESS ARGUMENT CAN CAUSE UNPREDICTABLE RESULTS		37.4.1.2 N	Aug 82
DISPATCH TO UNMAPPED STACK OVERFLOW EXCEPTION IS INCORRECT		37.4.1.3 N	Aug 82
STOPPED PROCESSES ARE PLACED IN THE INACTIVE QUEUE		37.4.1.4 N	Aug 82
PROCESS ON INACTIVE QUEUE DOES NOT HAVE POINTER TO EXCEPTION FRAME		37.4.1.5 N	Aug 82
PASCAL COMPILER			
CONFORMANT ARRAYS AND SINGLE CHARACTER LITERALS		37.5.1.1 N	Aug 82
FORMAL PARAMETER LISTS WITH DEFAULT VALUES		37.5.1.2 N	Aug 82
ATTRIBUTE [CONTEXT(MMU)] DOES NOT WORK		37.5.1.3 N	Aug 82
ACCESSING UP-LEVEL LOCAL VARIABLES FROM [TERMINATE] PROCEDURES		37.5.1.4 N	Aug 82
CALLING THE ROUND (OR TRUNC, UROUND, UTRUNC) FUNCTION WITH NON-STATIC VARIABLES		37.5.1.5 N	Aug 82
OTS			
KEF-11 FLOATING POINT STATUS WORD IS INCORRECTLY INITIALIZED		37.6.1.1 N	Aug 82
THE NATURAL LOG FUNCTION RETURNS INCORRECT RESULTS		37.6.1.2 N	Aug 82
XL (SERIAL LINE) DRIVER			
ERROR IN "DISCONNECT TRANSMIT RING BUFFER" FUNCTION		37.8.1.1 N	Aug 82
BLOCK MODE READ REQUEST RETURNS INCORRECT DATA		37.8.1.2 N	Aug 82
MU BASIC-11/RT V2.1			
INTERPRETER			
MU BASIC V2.1 MAINTENANCE RELEASE AVAILABLE			Mar 82
UNWARRANTED ISSUANCE OF "TOO MANY CHANNELS" ERROR - PATCH A FOR MULTI-USER BASIC-11		38.1.1 M	Jul 82
"ERR" VALUE IMPROPERLY UPDATED WHEN USING "ON ERROR GOTO nnnnn" - PATCH B TO MULTI-USER BASIC-11		38.1.2 M	Jul 82
"RESEQ" FOLLOWING "DEL nnnnn" RESULTS IN "Mon-F-Trap to 10 000002" - PATCH C TO MULTI-USER BASIC-11		38.1.3 M	Jul 82

Component	Autopatch Kit	Sequence	Mon/Yr
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)	E	45.1.5 M	Nov 81
MISSING END IN MAIN PROGRAM CAN CAUSE COMPILER CRASH (PAT 18)	E	45.1.6 M	Nov 81
THE COMPILER INCORRECTLY OPTIMIZES ARRAY ELEMENTS PASSED AS ARGUMENTS (PAT 20)	E	45.1.7 M	Dec 81
THE COMPILER INCORRECTLY PARSES PARENTHESES IN QUOTED STRINGS (PAT 21)	E	45.1.8 M	Jan 82
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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
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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
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	D	45.2.11 M	Oct 81
THE DEFAULT CARRIAGE CONTROL FOR THE ASSIGN ROUTINE IS INCORRECT	D	45.2.12 M	Oct 81
CORRECTION FOR UNIT CLOSING (PAT 16)	E	45.2.13 M	Nov 81
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CONVERSION ERROR WHILE READING COMPLEX NUMBER FROM FILE (PAT 26)	F	45.2.18 M	Apr 82
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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
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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
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DYNAMIC CURVE RECALCULATION IN REGIONS OF INTEREST		49.5.4 M	Aug 82
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GAMMA-11 DOCUMENTATION CORRECTIONS AND ADDITIONS		49.10.1 N	Mar 82

Component	Autopatch Kit	Sequence	Mon/Yr
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	Aug 82
ERRORS IN THE BASIC SUPPORT ROUTINES GPLR AND GPF		49.12.2 M	Aug 82
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CTS-300 V6.0

DBUILD			
CORRECTION FOR THREE DECFORM PROBLEMS		51.2.1 M	Oct 81
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
POSSIBLE BOTTOM OF SCREEN CORRUPTION USING DKED		51.7.4 M	May 82
ISMUTL			
CORRECTIONS FOR ISAM UTILITY ERRORS		51.8.1 M	Nov 81
ISMUTL GIVES INCORRECT ERROR MESSAGES IF INSUFFICIENT MEMORY AVAILABLE		51.8.2 M	Apr 82
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
ISAM FILE RECORD COUNT REVERTS TO 0		51.16.7 M	Apr 82
A SUD PROGRAM DOING AN XCALL MAY RESULT IN A TRAP TO 4 OR 10		51.16.8 M	Jul 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

Component	Autopatch Kit	Sequence	Mon/Yr
LINE PRINTER IS SOMETIMES INCORRECTLY CONSIDERED IN USE		51.18.11 M	Feb 82
ISAM FILE RECORD COUNT REVERTS TO 0		51.18.12 M	Apr 82
TSD AND XMTSD HANG AFTER ATTEMPT TO ILLEGALLY START UP JOB		51.18.13 M	May 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
ISAM FILE RECORD COUNT REVERTS TO 0		51.20.15 M	Apr 82
XMTSD GIVES INCORRECT ERROR WHEN NO ROOM FOR I/O BUFFER		51.20.16 M	Apr 82
TSD AND XMTSD HANG AFTER ATTEMPT TO ILLEGALLY START UP JOB		51.20.17 M	May 82
DOCUMENTATION			
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
RESTRICTION FOR CTS-300		51.21.11 R	Apr 82
LS.MAC			
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
SYSTBL.CND			
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
RT-11 PATCH SEQ 10.3.3 M TO SYSTBL.CND MODIFIED FOR CTS-300 USE		51.25.3 M	May 82

CTS-300 V7.0

DOCUMENTATION			
CTS-300 VERSION 7 IS RELEASED		52.1.1 N	Apr 82
XMTSD RUN-TIME SYSTEM SIZE		52.1.2 N	Jun 82
CHANGING THE DEFAULT TIME SLICE VALUE FOR XMTSD		52.1.3 N	Jun 82
RELINK DIBOL PROBLEMS FOR CTS-300 V7		52.1.4 N	Jun 82
PATCH LEVEL FOR KED/K52 CLARIFIED		52.1.5 N	Aug 82
DIBOL RUN-TIME SYSTEMS			
PATCH 5: VARIOUS TSD AND XMTSD PROBLEMS		52.3.1 M	Jun 82
PATCH 6: ISAM FILE RECORD COUNT REVERTS TO 0		52.3.2 M	Jun 82
DIBOL/TDIBOL			
PATCH 2: POSSIBLE INCORRECT RESULTS FROM THE INSTR ROUTINE		52.4.1 M	Apr 82
DKED			
PATCH 8: POSSIBLE BOTTOM OF SCREEN CORRUPTION USING DKED		52.6.1 M	Jul 82
ERMSG.TXT			
PATCH 9: INCORRECT ERROR MESSAGES FOR SORT IN ERMSG.TXT		52.10.1 M	Jul 82

Component	Autopatch Kit	Sequence	Mon/Yr
DIBOL SORT			
PATCH 7: ERROR RECEIVED WHEN PERFORMING A LEGAL SORT		52.14.1 M	Jul 82
MACRO SORT			
PATCH 1: TWO SORT PROBLEMS EMERGE UNDER CERTAIN CONFIGURATIONS		52.15.1 M	Jun 82
PATCH 3: SINGLE USER SORT MAY LEAVE TEMPORARY FILES ON DISK		52.15.2 M	Jul 82
PATCH 10: TWO MACRO SORT PROBLEMS		52.15.3 M	Aug 82
SYSTBL.CTS			
PATCH 4: TERMINAL OUTPUT CORRUPTION ON DZ11 OR DZV11 LINES		52.16.1 M	Jun 82
CTS-300 DICAM (3271) V3.1			
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
CTS-300 RDCP (2780/3780) V2.0			
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
DECtype-300 V1.1			
REPEATED USE OF THE PASTE FUNCTION WILL CAUSE AN ERROR 28		57.1.1 M	Jun 82
RGL/FEP			
INVALID LABELS FOR DATA RANGE OF 0.1 TO 1.0		58.1.1 M	Aug 82
ERROR CALLING LOCATE, LFIXED OR LFREE TWICE IN SUCCESSION		58.1.2 M	Aug 82
RT-11/FORTRAN ENHANCEMENT PACKAGE for MINC (FEP)			
INVALID LABELS FOR DATA RANGE OF 0.1 TO 1.0		59.1.1 M	Aug 82
ERROR CALLING LOCATE, LFIXED FOR LFREE TWICE IN SUCCESSION		59.1.2 M	Aug 82
REAL-11/MNC			
UNDEFINED GLOBAL DRSW10 IN MNCLIB		59.4.1 M	Jul 82
DATA SENT BY THE MAIN PROGRAM IS CORRUPTED BY THE SRQ ROUTINE		59.5.1 M	Jul 82
IBSRQ SKIPS INSTRUMENT ADDRESS IF SRQ ROUTINE DEFAULTED		59.5.2 M	Jul 82
SRQ ROUTINE AND TIMEOUT VALUE NOT CLEARED ON EXIT		59.5.3 M	Jul 82
SYSTEM CRASHES IF THE IB DRIVER IS NOT LOADED		59.5.4 M	Jul 82
CAN'T SPECIFY TALKER WHEN LISTENERS DEFAULTED, AND INCORRECT RECEIVE		59.5.5 M	Jul 82
CANNOT USE SECONDARY ADDRESSES IN RANGE 96. to 126.		59.5.6 M	Jul 82

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