RT-11

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THE SOFTWARE DISPATCH

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OPERATIONS GROUP

RT-11 SOFTWARE DISPATCH

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The RT-11 Software Dispatch complements the **RT-11 V3B Software Dispatch Review.** It publishes new and revised Software Product Descriptions, programming notes, software problems and solutions, and documentation corrections. Much of the material is developed from answers to customer Software Performance Reports (SPRs) significant to the general audience, and is printed here to establish a reference notebook for the customer's software interests.

PRODUCTS SUPPORTED in the RT-11 SOFTWARE DISPATCH

APL-11 V1
BASIC/RT-11 V2
BASIC/RT Extensions V1
COS-350/2780
CTS-300 V3, V4
CTS-300 DICAM V1
CTS-300 DICAM II V1
CTS-300/DIS V1
DECnet/RT-V1
FOCAL/RT-11 V1B
FORTRAN GRAPHICS PKG V1.1
FORTRAN/RT-11 Extensions V1B
FORTRAN/RT-11 LSI Extensions V1
FORTRAN IV/RT-11 V2
GAMMA-11 F/B V2, V2C
INDUSTRIAL BASIC/RT-11 V1
LA-11 V3
LSP-11 V1
LV11/RT-11 Plotting Pkg.V2
MSB11-V1
SSP-11/RT-11 V1
MSB/FORTRAN IV V1
MU BASIC/RT-11 V1
PDL/RT-11 V1
PEAK-11 V2
PLOT-11/RT-11 V1.1
RT-11/03 FORTRAN Extensions V1
REMOTE/RT-11 V1
RT-11 V3, V3B
RT-11(CTS-300)LSI-11 2780 V2
RT-11/2780 V2

DISTRIBUTION

The Dispatch is directed to one software contact for each licensed Category A and B software product for one year after installation. No mailing will be made to addresses without a software contact name. Address changes and requests for information about maintenance service after the first year should be sent to the nearest DIGITAL Field Office. For address changes, include the new address and mailing label from the most recently received publication.

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

Eleanor F.Hunter, Editor
Roxanne Alexander, Associate Editor

34-10/78

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USER LETTER

Jan Fair, SPR Administration

Customers (and others) have brought to our attention the need for additional information regarding SPR service, particularly as it involves SPR Administration. The following represents our attempt to fulfill this need. Your comments and suggestions are most welcome.

HOW TO MAKE THE BEST USE OF SPR FORM

What WE Can Do for YOU

1. Blank SPR forms are available upon request in the desired quantities through SPR Administration (P.O.Box F) and your local office/SPR Center.

2. Copies of the SPR acknowledgment and answer are sent to the appropriate DIGITAL Office/SPR Center for their information.

3. SPRs marked *SOFTWARE ERROR or INQUIRY* will have a response for supported Category A and B products. These SPRs should refer to suspected deficiencies in the software.

4. SPRs marked *FYI or SUGGESTION* are forwarded to the pertinent software group for information purposes, and are responded to at their discretion.

5. SPRs marked *DOCUMENTATION ERROR* should report those problems dealing with software manuals or newsletters, and will be forwarded to the pertinent software group.

What YOU Can Do For US

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

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

3. It would be most helpful to all concerned, if problems with patches are reported as soon as possible.

4. For security SPRs, it is imperative that the *DO NOT PUBLISH box* be marked.

5. It would be helpful if tapes submitted with SPRs are labeled (track and density), and have a directory attached.

6. Should you ever receive an unacceptable SPR response, please contact us or the appropriate SPR Center so that the response may be readdressed.

OVERLAYING WHILE IN A SUBROUTINE (SPR 11-17550 CF)

There is a hitherto undocumented restriction on the use of OVERLAY and CHAIN. When used after GOSUB and before RETURN, indeterminate results will occur when a subsequent RETURN is executed. Do not use OVERLAY or CHAIN with a pending RETURN.

OPERATION OF CTRLC, RCTRLC AND SYS (6) FUNCTIONS AND THE CTRL/C COMMAND (CF)

This article is intended to clarify the operation of CTRLC, RCTRLC and SYS(6) functions and the CTRL/C command.

1.0 To stop execution of a program which is running with CTRL/C enabled (the default setting) use one or two CTRL/C key commands.

1.1 One CTRL/C key command will stop program execution when the next (L)INPUT statement is executed. If the program is currently awaiting input following execution of the (L)INPUT statement a single CTRL/C will stop program execution immediately.

1.2 Two CTRL/C key commands will stop program execution at any other statement.

2.0 The SYS(6) function will return 1 only if the following conditions are both satisfied:

2.1 The RCTRLC function has been executed and no CTRLC function has subsequently been executed.

and 2.2.1 One CTRL/C key command has been entered from the keyboard and program execution would have been interrupted if it were not for the fact that an RCTRLC function has been executed. See Section 3.0 below.

or 2.2.2 Two CTRL/C key commands have been entered and at least the second CTRL/C key command was entered after the RCTRLC function was executed. See Section 4 below.

3.0 The significance of 2.2.1 is that the following sequences will cause SYS(6) to return 1:

(^C = CTRL/C Key Command)

A. Program executing with ^C enabled and no outstanding ^C.

^C entered at keyboard

RCTRLC function executed

(L)INPUT statement executed

SYS(6) will return 1

B. Program executing with ^C disabled and no outstanding ^C.

^C entered at keyboard

(L)INPUT statement executed

SYS(6) will return 1

3.1 In both cases above, SYS(6) will return Ø if no (L)INPUT statement is executed following the CTRL/C key command.

4.Ø The significance of 2.2.2 is that the following sequences will cause SYS(6) to return 1:

A. Program executing with ^C enabled and no outstanding ^C

^C entered at keyboard

RCTRLC function executed

^C entered at keyboard

SYS(6) will return 1

B. Program executing with ^C disabled and no outstanding ^C

^C entered at keyboard

^C entered at keyboard

SYS(6) will return 1

4.1 In both cases above, SYS(6) will return Ø if only one of the CTRL/C key commands has been entered.

5.Ø Following execution of the CTRLC function (reenabling CTRL/C), the SYS(6) function will return Ø until the conditions in 2.Ø above are again satisfied.

FORTRAN "ACCEPT" STATEMENT (SPR 11-17818 MCdW)

The FORTRAN "ACCEPT" statement, when used with the Q format specifier, will sometimes cause an illegal memory error.

The I/O list element corresponding to the Q field must be of integer type, (6.2.12 FORTRAN Language Reference Manual). This restriction, if not followed, could cause illegal memory references or erroneous results. Change "BYTE NC" to integer in your subroutine OBSSEL to fix the problem.

NEGATIVE INTENSITY (SPR 11-15989 JG)

Negative intensity is not maintained across graphics calls.

Negative intensities i.e., invisable drawings, are in effect only for the call which specifies the negative intensity level. It is only the absolute value of the intensity level that affects subsequent graphics calls.

MU BASIC-11/RT-11 V2 Seq 1 R
1 of 1

MU BASIC-11/RT-11 V2.Ø CONVERSION PROGRAM (CF)

PATCH 1 (Conversion Program)

Response to the "INPUT FILE NAME" and "OUTPUT FILE NAME" prompts:

a) may not contain a device specification,

and

b) does not allow a privileged user to specify a private file owned by another ID.

The following BASIC edit to the program MUCVT.B will allow any valid file specification and will cause the normal MU BASIC file protection rules to apply.

```
OLD MUCVT.B
DEL 32Ø-36Ø
DEL 38Ø-43Ø
REPLACE MUCVT.B
```

OPERATION OF CTRLC, RCTRLC AND SYS (6) FUNCTIONS AND THE CTRL/C COMMAND (CF)

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(^C = CTRL/C Key Command)

A. Program executing with ^C enabled and no outstanding ^C.

^C entered at keyboard

RCTRLC function executed

(L)INPUT statement executed

SYS(6) will return 1

B. Program executing with ^C disabled and no outstanding ^C.

^C entered at keyboard

(L)INPUT statement executed

SYS(6) will return 1

3.1 In both cases above, SYS(6) will return Ø if no (L)INPUT statement is executed following the CTRL/C key command.

4.Ø The significance of 2.2.2 is that the following sequences will cause SYS(6) to return 1:

A. Program executing with ^C enabled and no outstanding ^C

^C entered at keyboard

RCTRLC function executed

^C entered at keyboard

SYS(6) will return 1

B. Program executing with ^C disabled and no outstanding ^C

^C entered at keyboard

^C entered at keyboard

SYS(6) will return 1

4.1 In both cases above, SYS(6) will return Ø if only one of the CTRL/C key commands has been entered.

5.Ø Following execution of the CTRLC function (reenabling CTRL/C), the SYS(6) function will return Ø until the conditions in 2.Ø above are again satisfied.

MEMORY REQUIREMENTS OF OPTIONAL FUNCTIONS ETC. (CF)

1.0 These options are specified when running the MU BASIC-11/RT-11 V2 Configuration Program, MUCNFG:

OPTION	MEMORY REQUIREMENT (IN DECIMAL WORDS)	OPTION	MEMORY REQUIREMENT (IN DECIMAL WORDS)
TAB	25	ASC	17
SYS	198	CHR$	15
RCTRLO	4	POS	97
ABORT	20	SEG$	81
TTYSET	343	VAL	37
CTRL/C & RCTRLC	18	TRM$	26
RND	42	STR$	25
ABS	9	PI	7
SGN	21	INT	8
BIN	29	DAT$	11
OCT	33	CLK$	11
LEN	11	ON ERROR	13

2.0 These options are specified when running the MU BASIC-11/RT-11 V2 Link Program, MULINK:

OPTION	MEMORY REQUIREMENT (IN DECIMAL WORDS)
PRINT USING	20
DOUBLE PRECISION	1035
RESEQUENCE	193
LONG ERROR MESSAGES	720
TRANSCENDENTAL FUNCTIONS	574
SUBSTITUTE	196

RT-11 SOFTWARE DISPATCH
CUMULATIVE INDEX
NOVEMBER 1978

This is a complete listing of all articles for current versions of RT-11 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.

IMPORTANT!

Retracted articles are indicated: RETRACTION.

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

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

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

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

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

Component	Sequence	Mon/Yr
APL-11 V1		
APL.SAV PROGRAM PATCHES		
ERRONEOUS "DEFINITION ERROR" DURING FUNCTION EDITING	01 M	Nov 77
LOSS OF LOWER-CASE ON RE-ENTRY TO APL-11	02 M	Nov 77
APL WORKSPACE	03 R	Nov 77
"SYSTEM ERROR"S GENERATED BY NULL LINE ELEMENTS	04	Dec 77
INTERNAL MEMORY ALLOCATION PROBLEMS	05 M	Dec 77
ERROR FOR SCALAR RESULT OF DECODE OR INNER PRODUCT OPERATION	06 M	Feb 78
SYSTEM ERROR ON PARAMETER RETURN	07 M	May 78
BASIC-11/RT-11 V2		
RESEQUENCE PRODUCES AN INCORRECT PROGRAM UNDER CERTAIN CONDITIONS	01 M	Aug 78
PRINT USING	02 M	Jun 78
MAX SIZE OF LINE ENTERED TO BASIC-11	03 M	Jun 78
REM STATEMENT CONTAINING LEFT PARENTHESIS CAUSES SUBSEQUENT SPACES AND PERIODS TO BE REMOVED	04 R	Jun 78
RUN (NH) COMMAND MAY GIVE AN ERROR MESSAGE	05 M	Jul 78
TERMINAL MAY HANG	06 M	Jul 78
DATA FILES	07 M	Jul 78
SAVE DEV: AND REPLACE DEV:	08 M	Jul 78
SINGLE PRECISION HANG AND NUMERIC CONVERSION PROBLEM (PATCH F)	09 M	Aug 78
CONVERSION PROGRAM	10 M	Sep 78
OVERLAYING WHILE IN A SUBROUTINE	11 R	Nov 78
OPERATION OF CTRLC, RCTRLC AND SYS (6) FUNCTIONS AND THE CTRL/C COMMAND	12 N	Nov 78
BASIC/RT-11 EXTENSIONS V1		
"IPK" SUBROUTINE	01 M	Aug 77
SAMPLING A/D CHANNEL NO. 15	02 R	Aug 77
SAMPLING AR11	03 M	Sep 77
"CLRD" AND "PUTD" ROUTINES	04 M	Nov 77
"SETR" AND "WAIT" COMBINATION MAY FAIL	05	Apr 78

Component	Sequence	Mon/Yr
CTS-300 V3		
CTS-300 V03 RELEASE NOTES	01	Apr 77
USE OF RSTAT WITH ISAM FILES	02 R	Aug 77
PATCH NUMBERS AND TITLES	03	Nov 77
DECFORM		
DECFORM ERRORS	01	Apr 77
REPLACEMENT PAGES	02	Apr 77
SEARCHMODE AND RENAM PROBLEM - NEW VERSION NUMBER	03	Jun 77
EXTRA CHARACTERS AT STATEMENT END	04	Jun 77
FOCOMP INCORRECTLY ALLOCATES AN EXTRA CHARACTER	05	Nov 77
REPLACEMENT PAGES	06	Aug 77
DECFORM RESTRICTIONS	07	Sep 77
CONDITIONAL GOTO AND CONDITIONAL SKIP	08	Oct 77
DECFORM PROBLEMS AND RESTRICTIONS	09 R	Nov 77
HANG ON EXIT	10	Jan 78
TWO PROBLEMS IN FOCOMP	11 M	Feb 78
EOF AFTER CHANGED RECORD	12 M	Mar 78
LOST RECORD ON DUPLICATE KEY	13 M	Apr 78
MESSAGE FOR SPEED READERS	14 M	Apr 78
EXCITING DECFORM VIA FIVE-PART QUESTION	15 M	May 78
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MULTIVOLUME FILES ON MAGTAPE	01 N	Feb 78
PAGE CORRECTION	02	Apr 78
DOCUMENT ERROR	03	Apr 78
DICOMP		
IMPROPER GLOBAL INFORMATION	01	Jul 77
COMMENT CAUSES ERROR	02	Aug 77
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FILEX INFORMATION AND RESTRICTION	02 R	Mar 78
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ISMUTL		
INDEXING PROBLEM	01	Jul 77
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CTS-300 SYSTEM REFERENCE MANUAL	03	Oct 77
INCORRECT APPEND CALCULATION	04	Sep 77
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THREE PROBLEMS IN ISMUTL	06 M	Jan 78
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WRONG FILE SPACE ALLOCATION	08 M	Apr 78
ERRONEOUS ERROR MESSAGE	09 M	Apr 78
ERROR 28	10 M	Apr 78
LEGAL CHARACTERS IN ISAM RECORDS	11 R	May 78
DUPLICATE KEYS IN THE INPUT FILE	12 M	Jun 78
MORE INPUT RECORDS THAN SPECIFIED	13 M	Jul 78
THREE PROBLEMS IN ISMUTL	14 M	Sep 78
FOUR PROBLEMS IN ISMUTL	15 M	Oct 78
LPTSPL		
NO CONTINUE AFTER PROGRAM ABORT	01 M	May 78
SINGLE USER DIBOL		
SPURIOUS I/O ERRORS DURING ISAM STORE	01	Jun 77
CHANGE READS STATEMENT TO ACCEPT 8-BIT ASCII	02	Apr 77
LOCASE CONVERTS UNDERLINE TO RUBOUT	03	Jun 77
ISAM RECORDS CROSSING BLOCK BOUNDARIES	04	Aug 77
PROBLEM WITH 32KB OR LESS	05	Sep 77
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RECORDS BEING LOST	08 M	Feb 78
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Component	Sequence	Mon/Yr
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SORTM		
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SORTING CARETS	03 M	Jan 78
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FIRST RECORD OUT OF ORDER	05 M	Mar 78
ERR 16 IN TSD	06 M	Jul 78
MERGE WITH DESCENDING KEY	07 M	Sep 78
TSD		
CHANGE READS STATEMENT TO ACCEPT 8-BIT ASCII	01	Apr 77
REPLACEMENT PAGES	02	Apr 77
PROGRAM SIZE CALCULATIONS FOR TSD	03	May 77
I/O RACE CONDITION	04	Jun 77
GARBLED OUTPUT DUE TO ALPHA OR DECIMAL DISPLAYS	05	May 77
PROBLEM WITH RENAM	06	Jun 77
LOCASE CONVERTS UNDERLINE TO RUBOUT	07	Jun 77
ISAM FILE SHARING PROBLEM	08	Jun 77
IMPOSSIBLE TRAP ON OVERLAYING	09	Jun 77
ISAM RECORDS CROSSING BLOCK BOUNDARIES	10	Aug 77
RECORDS BEING LOST	11 M	Feb 78
PERMANENTLY LOCKED GROUP	12 M	Mar 78
RUNNING V3 ON LSI	13 M	Apr 78
CLOSING ISAM FROM AN EXTERNAL SUBROUTINE	14 M	Apr 78
PROBLEM WITH ISAM INPUT	15 M	Apr 78

CTS-300 V3 AND CTS-300/DIS V3.5

ISAM REPAIR PROGRAM	01 O	Mar 78

CTS-300 V4

DECFORM		
ADDITONAL INFORMATION ON MATH OPTION	01 N	Dec 77
UNDEFINED GLOBALS WITH DECFORM	02	Jan 78
TWO PROBLEMS IN FOCOMP	03 M	Feb 78
EOF AFTER CHANGED RECORD	04 M	Mar 78
LOST RECORD ON DUPLICATE KEY	05 M	Apr 78
MESSAGE FOR SPEED READERS	06 M	Apr 78
EXITING DECFORM VIA FIVE-PART QUESTION	07 M	Jun 78
TOO FEW DATA FIELDS RETURNED	08 M	Jun 78
USR NOSWAP CAUSES TRAP TO 4	09 M	Aug 78
RANDOM ERRORS WITH FIELD CHECK	10 M	Oct 78
ALTERNATE KEYPAD MODE	11 M	Nov 78
DICOMP		
TRAP TO 4 UNDER XM	01 M	Feb 78
TRAP TO 10 UNDER FB	02 M	Feb 78
DON'T WASTE PAPER	03 M	Jul 78
DOCUMENTATION		
REPLACEMENT PAGES	01 N	Dec 77
DOCUMENTATION CHANGES TO CTS-300 SYSTEM USER'S GUIDE	02 N	Jun 78
DOCUMENTATION CHANGES TO DECFORM USER'S GUIDE	03 N	Jun 78
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THREE PROBLEMS IN ISMUTL	01 M	Dec 77
WRONG FILE SPACE ALLOCATION	02 M	Apr 78
ERRONEOUS ERROR MESSAGE	03 M	Apr 78
ERROR 28	04 M	Apr 78
LEGAL CHARACTERS IN ISAM RECORDS	05 R	May 78
DUPLICATE KEYS IN THE INPUT FILE	06 M	Jun 78
MORE INPUT RECORDS THAN SPECIFIED	07 M	Jul 78
THREE PROBLEMS IN ISMUTL	08 M	Sep 78
FOUR PROBLEMS IN ISMUTL	09 M	Oct 78

Component	Sequence	Mon/Yr
LPTSPL		
JOB MISHANDLING	01 M	Jan 78
LPTSPL HANGS IF STARTED DETACHED	02	Nov 78
REDUCE		
MULTIPLE FILE PROBLEM	01 M	Jan 78
BAD FILE CAUSES SYSTEM HALT	02 M	Sep 78
WILD CARD PROBLEMS	03 M	Nov 78
SINGLE USER DIBOL		
PROBLEM WITH CLOSING A FILE	01 M	Dec 77
RANDOM ACCESS PROBLEM	02 M	Jan 78
MINUS ZERO	03 M	Jan 78
LPQUE DOES NOT WORK	04 M	Jan 78
CHANNEL 1	05 M	Jan 78
FIELD EDITING	06 M	Jan 78
WRONG ERROR MESSAGE	07 M	Feb 78
MINUS ZERO	08 M	Feb 78
S.U. DIBOL WORKS ONLY UNDER XM	09 M	Feb 78
RECORDS BEING LOST	10 M	Feb 78
NO SINGLE USER ON 11/10	11 M	Feb 78
RENAME PROBLEM	12 M	Apr 78
NO MAGTAPE IN V4	13 M	Apr 78
ABORT ON SECOND LPQUE STATEMENT	14 M	Jun 78
XCALL VERSN BEGETS TRAP TO 4 (See TSD, Seq 34 M)	15 M	Jun 78
LPNUM CAUSES FILE NOT FOUND	16 M	Jun 78
BAD OPEN	17 M	Jul 78
MONITOR TRAP WITH DIVIDE	18 M	Jul 78
RECORD NUMBERS GREATER THAN 65,535	19 M	Jul 78
PROBLEM ACCEPTING FROM A FILE	20 M	Jul 78
NO CTRL/C TRAP UNDER SUD	21 M	Aug 78
DIRECT CURSOR POSITIONING UNDER SUD	22 M	Aug 78
TTSTS DOES NOT WORK UNDER SINGLE USER DIBOL	23 M	Sep 78
CTRL/C TRAP AND TTSTS	24 M	Oct 78
ERR 23 WITH CARD READER	25 M	Oct 78
VERY LARGE RECORD NUMBERS	26 M	Nov 78
GARBAGE TO THE LP	27 M	Nov 78
SORTG		
KDTYP MISSING	01 M	Feb 78
THREE SORT PROBLEMS	02 M	Nov 78
SORTM		
SORTING CARETS	01 N	Dec 77
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FIRST RECORD OUT OF ORDER	03 M	Mar 78
ERR 16 IN TSD	04 M	Jul 78
THREE SORT PROBLEMS	05 M	Nov 78
SORTP		
NO PROTECTION FROM MIXING DATA MODES	01 M	Jun 78
STATUS.TSD		
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PENDING MESSAGES	02 M	Jan 78
PROBLEM DURING JOB STARTUP	03 M	Mar 78
TSD		
PROBLEM WITH MULTIPLE ISAM FILES	01 M	Dec 77
TNMBR TRAPS TO 4	01a M	Jan 78
RANDOM ACCESS PROBLEM	02 M	Jan 78
MINUS ZERO	03 M	Jan 78
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FIELD EDITING	05 M	Jan 78
PROBLEM WTIH ISAM INPUT	06 M	Jan 78
SEND CAUSES STACK OVERFLOW	07 M	Feb 78
STATUS GIVES FALSE REPORT	08 M	Feb 78
FILE SHARING	09 M	Feb 78
CHANNEL IN USE PROBLEM	10 M	Feb 78
PROGRAMS CREATED IN REGION 0	11 M	Feb 78
IMPLICIT JOB STARTUP PROBLEM	12 M	Feb 78
PENDING MESSAGES DESTROY SYMBOL TABLE	13 M	Feb 78
TERMINALS IGNORED	14 M	Feb 78

Component	Sequence	Mon/Yr
TROUBLE WITH TSD UNDER FB	15 M	Feb 78
MEMORY FAULT WITH SEND/RECV	16 M	Feb 78
PERMANENTLY LOCKED GROUP	17 M	Mar 78
SLOW TERMINAL I/O	18 M	Mar 78
PROBLEM WITH FORCED JOB AND TERMINAL NUMBER	19 M	Mar 78
INCORRECT CHECK FOR FREE SPACE	20 M	Mar 78
SYSGEN/TSDGEN PROBLEM	21 M	Mar 78
OPENING LP: GENERATES ERRORS	22 M	Mar 78
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BAD I/O, FLAG NOT CLEARED	24 M	Apr 78
CLOSING ISAM FROM EXTERNAL SUBROUTINE	25 M	Apr 78
DISPLAY FROM DETACHED PROGRAM TO DETACHED TERMINAL	26 M	Apr 78
NO MAGTAPE IN V4	27 M	Apr 78
BASE LEVEL 2	28 M	Apr 78
R6 STACK OVERFLOW	29 M	May 78
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XCALL VERSN BEGETS TRAP TO 4 (See Single User DIBOL, Seq 15 M)	34 M	Jun 78
SLAVE REFUSES TO WORK	35 M	Jun 78
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MORE TRAPS TO 4 AND 10	37 M	Jun 78
NO ALIGN OR DELETE WITH LPQUE	38 M	Jun 78
TRAP TO 10 CAUSED BY OPEN ISAM FILE	39 M	Jun 78
NO ROOM FOR BUFFER CAUSES TRAP TO 4/10	40 M	Jun 78
MAGTAPE READ DOES NOT WORK	41 M	Jul 78
MONITOR TRAP WITH DIVIDE	42 M	Jul 78
RECORD NUMBERS GREATER THAN 65,535	43 M	Jul 78
BAD BINARY FILE	44 M	Jul 78
STOP CHAIN FAILURE	45 M	Aug 78
SKIPPED TERMINALS CAUSE FORCED JOB STARTUP PROBLEM	46 M	Aug 78
SKIPPED TERMINALS CAUSE "SEND" PROBLEM	47 M	Aug 78
ANOTHER EXTENDED MEMORY ALLOCATION PROBLEM	48 M	Aug 78
REMOTE TERMINAL PROBLEM	49 M	Aug 78
SEND TO -2 SOMETIMES FAILS	50 M	Aug 78
WASTED SPACE	51 M	Aug 78
CANNOT INTERRUPT TIGHT I/O LOOPS	52 M	Aug 78
PROBLEM WITH SEND	53 M	Sep 78
CTRL/C TRAP AND TTSTS	54 M	Oct 78
ATTACH SOMETIMES GETS CONFUSED	55 M	Oct 78
SHUFFLER/LINE PRINTER CONFLICT	56 M	Oct 78
VERY LARGE RECORD NUMBERS	57 M	Nov 78
STOREs TO AN ISAM FILE CAN CAUSE AN I/O ERROR	58 M	Nov 78
GARBAGE TO THE LP:	59 M	Nov 78
TSDGEN		
HARDWARE FORM FEEDS AND TSD	01 M	Nov 78
SET TT SCOPE GETS RESET	02 M	Nov 78

CTS-300/DIS V3.5

USE OF RSTAT WITH ISAM FILES	01 R	Nov 77
DECFORM		
SEARCHMODE AND RENAM PROBLEM - NEW VERSION NUMBER	01	Oct 77
MICRO CODE CAUSES TRAP TO 10	02	Oct 77
DECFORM RESTRICTIONS	03	Nov 77
EXTRA CHARACTERS AT STATEMENT END	04	Nov 77
FOCOMP INCORRECTLY ALLOCATES AN EXTRA CHARACTER	05	Nov 77
CONDITIONAL GOTO AND CONDITIONAL SKIP	06	Nov 77
DECFORM PROBLEMS AND RESTRICTION	07	Nov 77
HANG ONE EXIT	08 M	Jan 78
TWO PROBLEMS IN FOCOMP	09 M	Feb 78
EOF AFTER CHANGED RECORD	10 M	Mar 78
NEGATIVE NUMBER ENDING IN ZERO	11 M	Mar 78
LOST RECORD ON DUPLICATE KEY	12 M	Apr 78
MESSAGE FOR SPEED READERS	13 M	Apr 78
EXITING DECFORM VIA FIVE-PART QUESTION	14 M	May 78

Component	Sequence	Mon/Yr
DICOMP		
IMPROPER GLOBAL INFORMATION	01	Nov 77
COMMENT CAUSES ERROR	02	Nov 77
DOCUMENTATION		
MULTIVOLUME FILES ON MAGTAPE	01 N	Feb 78
PAGE CORRECTION	02 N	Apr 78
DOCUMENT ERROR	03 N	Apr 78
FILEX		
RESTRICTION ON FILEX	01 R	Nov 77
FILEX INFORMATION AND RESTRICTION	02 R	Mar 78
OUT ERR WITH 128-CHARACTERS RECORDS	03 M	Jul 78
BLANK RECORDS	04 M	Sep 78
ISMUTL		
INDEXING PROBLEM	01	Nov 77
INCORRECT APPEND CALCULATION	02	Nov 77
ERR 16 IN REORG	03	Nov 77
WRONG RECORD COUNT	04	Nov 77
THREE PROBLEMS IN ISMUTL	05	Jan 78
REPLACEMENT PAGES	06 N	Feb 78
WRONG FILE SPACE ALLOCATION	07 M	Apr 78
ERRONEOUS ERROR MESSAGE	08 M	Apr 78
ERROR 28	09 M	Apr 78
LEGAL CHARACTERS IN ISAM RECORDS	10 R	May 78
DUPLICATE KEYS IN THE INPUT FILE	11 M	Jun 78
MORE INPUT RECORDS THAN SPECIFIED	12 M	Jul 78
THREE PROBLEMS IN ISMUTL	13 M	Sep 78
FOUR PROBLEMS IN ISMUTL	14 M	Oct 78
LPTSPL		
NO CONTINUE AFTER PROGRAM ABORT	01 M	May 78
SINGLE USER DIBOL		
LOCASE CONVERTS UNDERLINE TO RUBOUT	01	Oct 77
ISAM RECORDS CROSSING BLOCK BOUNDARIES	02	Nov 77
PROBLEM IN 32K OR LESS	03	NOV 77
"NOT ENOUGH MEMORY" CONDITION	04	JAN 78
SPURIOUS I/O ERRORS CURING ISAM STORE	05	JAN 78
RECORDS BEING LOST	06 M	Feb 78
SORTG		
TAGSORTS NOT ALLOWED ON ISAM FILES	01	Oct 77
CORRECTION TO VERSION "A" PATCH	02	Nov 77
SORTM		
NEGATIVE NUMBERS IN SORT/MERGE	01	Nov 77
SORTING CARETS	02 N	Jan 78
INCORRECT RECORD COUNT	03 M	Feb 78
FIRST RECORD OUT OF ORDER	04 M	Mar 78
ERR 16 IN TSD	05 M	Jul 78
MERGE WITH DESCENDING KEY	06 M	Sep 78
TSD		
I/O RACE CONDITION	01	Nov 77
ERRONEOUS PATCH TO TSD	01a	Nov 77
INCORRECT JOB NUMBER AT STARTUP TIME	02	Sep 77
PROBLEM WITH RENAM	03	Sep 77
LOCASE CONVERTS UNDERLINE TO RUBOUT	04	Oct 77
ISAM FILE SHARING PROBLEM	05	Nov 77
IMPOSSIBLE TRAP ON OVERLAYING	06	Nov 77
ISAM RECORDS CROSSING BLOCK BOUNDARIES	07	Nov 77
RECORDS BEING LOST	08 M	Feb 78
PERMANENTLY LOCKED GROUP	09 M	Mar 78
CLOSING ISAM FROM AN EXTERNAL SUBROUTINE	10 M	Apr 78
PROBLEM WITH ISAM INPUT	11 M	Apr 78

Component	Sequence	Mon/Yr
DECnet-RT V1		
DDCMP		
DDCMP LINE COUNTERS OVERFLOW TO ZERO	01 O	Jul 78
DMC		
DMC LINE COUNTERS OVERFLOW TO ZERO	01 O	Jul 78
FORTRAN INTERFACE		
DIFFERENCES IN RT AND RSX FORTRAN INTERFACE IMPLEMENTATIONS	01 N	Jul 78
MODEM CONTROL		
SUPPORT OF ASYNCHRONOUS HALF DUPLEX MODEMS	01 R	Jul 78
FOCAL/RT-11 V1B		
FOR COMMAND WITHOUT AN ARGUMENT	01 M	Oct 75
OPERATE COMMAND CAUSES ERROR	04 M	Aug 76
FCLK ROUTINE GIVES INCORRECT TIME	05 O	Aug 76
"LIBRARY ASK" COMMAND	06 O	Feb 77
"/Z" SWITCH	07 M	Aug 77
@START NOT WORKING WHEN DOWN-LINE LOADING	08 M	Mar 78
LIBRARIES FROM FOCAL SOURCE DISK MUST BE REFORMATTED	09 N	Aug 78
CLOCK PROBLEM FOR PAPER TAPE (STAND ALONE) FOCAL USERS	10 M	Nov 78
FORTRAN IV/RT-11 V2		
COMPILER		
KNOWN FORTRAN IV V2 BUGS	01 N	Oct 78
USE OF THE FIND STATEMENT	02 M	Oct 78
RAISING COMPLEX NUMBERS	03 M	Oct 78
EXTRA CHARACTERS MAY RESULT IN COMPILER TRAPPING	04 M	Oct 78
TRANSMITTING ASCII DATA	05 R	Oct 78
IN-LINE CODE	06 N	Oct 78
FORTRAN "ACCEPT" STATEMENT	07 R	Nov 78
FORTRAN/RT-11 EXTENSIONS V1		
RUNNING PROGRAM WITH "SETR"	01 M	Oct 78
IBEF NOT PROPERLY DECREMENTED	02 R	Oct 78
LPS DEVICE CONFLICT CAUSED BY CALL SETR AFTER CALL RTS	03 R	Oct 78
IADC AFTER RTS DOES NOT WORK	04 M	Oct 78
SUBROUTINE NAMING CONFLICT	05 N	Oct 78
PLOT55 DESCRIPTION	06 N	Oct 78
ILLEGAL MEMORY REFERENCE ERROR	07 M	Oct 78
DEVICE CONFLICT ERROR	08 R	Oct 78
TWO PROBLEMS WITH THE RT-11/FORTRAN GRAPHICS EXTENSIONS	09 M	Oct 78
FORTRAN/RT-11 EXTENSIONS V1B		
FORTRAN CRASHES AFTER RUNNING PROGRAM WITH "SETR"	01 M	Oct 78
NEGATIVE INTENSITY	02 N	Nov 78
GAMMA-11 F/B V2		
DATA ANALYSIS PROGRAM	01 M	Feb 77
STUDY TRANSFER PROGRAM DISPLAYS TOO MANY INDEX LINES PER PAGE	02 M	Feb 77
BASIC AND FOCAL	03 M	Feb 77
BACKGROUND PROGRAM CAN HANG THE FOREGROUND TERMINAL	04 M	Feb 77
CNTL/C UNDER SINGLE JOB MONITOR	05 M	Feb 77
CROSSHAIRS FAIL TO APPEAR IN SLICE	06 M	Feb 77
UNDOCUMENTED PROGRAMS	07 N	Mar 77
FORTRAN SUPPORT INCORRECTLY CONVERTS DATA AND TIME OF INQUISITION	08 M	May 77
"RS" COMMAND IS INCORRECTLY	09 N	Jun 77

Component	Sequence	Mon/Yr
GAMMA-11 F/B V2C		
GATED LIST MODE IMAGES	01 O	Sep 78
TU16 SUPPORT	02 M	Sep 78
PROBLEMS WITH PLAYBACK BUFFER COMMENTS AND FLOOD CORRECTIONS	03 M	Oct 78
STATIC FOREGROUND ACQUISITION FAILS ON RK06 OR RL01 SYSTEMS	04 M	Oct 78
DYNAMIC CURVE CALCULATIONS MAY FAIL	05 M	Nov 78
LABORATORY APPLICATIONS-11 V3		
A NEW MODULE TO ENHANCE DATA FLOW WITHIN LA-11	01 N	Oct 76
HISTO.MAC		
ACQUIRING AND PROCESSING HISTOGRAM DATA	01 M	Sep 76
LABMAC.SML		
ERRONEOUS MACRO	01 M	Sep 77
PEAK.MAC		
WIDE PEAKS	01 M	Mar 76
PEAK PROBLEMS AND CORRECTIONS	02 M	Jul 76
ARITHMETIC CORRECTION FOR PEAK AREA	03 M	Dec 76
MISSING PATCH IN RELEASE NOTES	04 M	Oct 77
SPARTA		
LPS AND AR-11 VECTOR AND STATUS REGISTER	01 N	Dec 75
USING SPARTA AND FLOATING POINT BUFFERS	02 N	Feb 76
AR-11 TIMING PROBLEMS WITH ADSAM AND SPARTA	03 O	Feb 76
FFT SCALING CORRECTION	04 M	Feb 76
SCALE FACTOR CORRECTION FOR SPARTA COMMANDS FAC AND FCC	05 M	Mar 76
DATA DISPLAYS USING LA-11	06 N	Mar 76
DATA PREPARATION FOR SPARTA COMMANDS FAC AND FCC	07 N	Apr 76
SPARTA CORRECTIONS FOR POINT-PLOT DISPLAY	08 M	Apr 76
ADDING COMMANDS TO SPARTA	09 M	May 76
CORRECTION FOR THE DPV COMMAND WITH POINT PLOT DISPLAY	10 M	Jun 76
GENERAL SUBROUTINE MODULE FOR EAE	11 O	Jun 76
INCORRECT PHASE ANGLE CALCULATION	12 M	Oct 76
"MOU" AND "MIN" COMMANDS CAN BE READ OUT AND IN CORRECTLY	13 N	Jan 77
MULTIPLE SYNCH PULSES	14 M	Jan 77
AUTO AND CROSS CORRELATION	15 M	Jan 77
ALLOCATING MORE THAN 16K BUFFERS IN SPARTA	16 M	Feb 77
A/D SAMPLING: FAST MODE	17 M	Jul 77
A/D SAMPLING: FAST MODE EXIT	19 M	Mar 78
SWEEP.MAC		
SWEEP SAMPLING: FAST MODE	01 M	Aug 77
THRU		
HOW TO START DATA ACQUISITION WHEN CSTART EQUALS ZERO	01 N	Jun 76
MULTICHANNEL SINGLE RATE SCHMIT TRIGGER SWITCH BOUNCE	02 M	Dec 76
CONTINUOUS SAMPLING: CONDITIONAL ASSEMBLY ERRORS	03 M	Jul 77
CONTINUOUS SAMPLING: DMA WITH DUAL SAMPLE + HOLD	04 M	Jul 77
DOCUMENTATION CORRECTIONS	05 M	Nov 77
LV11/RT-11 PLOTTING PACKAGE V2		
SUBROUTINE PLOT DOES NOT CORRECTLY REPRODUCT VT11 PICTURE	01 M	Apr 78

Component	Sequence	Mon/Yr
MU BASIC/RT-11 V1		
BUILDING MU BASIC/RT-11 UNDER RT-11 V2C	01	Feb 76
REMOTE TERMINAL SUPPORT ON MODEMS	02	May 76
OVERLAY... LINE WORKS INCORRECTLY	03	May 76
USING IMMEDIATE MODE "GOSUBs"	04	Dec 76
CLOCK LOSES TIME ON RT-11 WHEN RUNNING MU BASIC	05	Jul 77
REM STATEMENTS	06	Feb 78
ADDITIONAL FILES ON RELEASE KIT (MUB*.*)	07 N	May 78
MU BASIC/RT-11 SYSTEM INSTALLATION GUIDE		
REPLACEMENT PAGES	01	Jan 77
REPLACEMENT PAGES	02 N	Jan 78
REPLACEMENT PAGES	03 N	Jan 78
MU BASIC-11/RT-11 V2		
MU BASIC-11/RT-11 V2 CONVERSION PROGRAM	01 R	Nov 78
OPERATION OF CTRL/C, RCTRLC AND SYS (6) FUNCTIONS AND THE CTRL/C COMMAND	02 N	Nov 78
MEMORY REQUIREMENTS OF OPTIONAL FUNCTIONS ETC.	03 O	Nov 78
PDL/RT-11 V1B		
CLARIFICATION OF SEARCH FAILURE IN SUBROUTINE FIND	01 N	Jul 78
FIND SUBROUTINE	02 R	Jul 78
PATCHES TO PDL	03 M	Jul 78
SUBROUTINE QKGT	04 M	Jul 78
PDL SUBROUTINE 'RDAA'	05 M	Sep 78
PDL PEAK ALGORITHM WILL NOT RECOGNIZE VALID PEAKS	06 M	Sep 78
PEAK-11 V1		
"MREPRT" AND "REPRT" GET CONFUSED	01 M	Aug 78
REMOTE/RT-11 V1		
SCHEDULER DOES NOT PROPERLY SET PROCESSOR PRIORITY	01 M	May 76
NOEDIT- 0 HALTS	02 M	May 76
NUSERS=1 STAYS IN A FILE MESSAGE LOOP	03 M	May 76
INCORRECT SWAP AREA ALLOCATION FOR FOUR OR MORE USERS	04 M	May 76
REBOOT FROM SATELLITE DURING EDIT HANGS HOST	05 M	Jun 76
HARD ERROR ON LOOKUP IS FATAL	06 M	Jun 76
SECONDARY MODE PROGRAM LOAD FEATURE NOT COMPLETELY FUNCTIONAL	07 M	Jun 76
ONE SECOND TIMER FOR LINE TIMEOUTS IS SET INCORRECTLY	08 M	Aug 76
LINE FEEDS MAY CAUSE SYSTEM ERRORS--ASSEMBLY ERROR WITH DIAL AND NODDC	09 M	Aug 76
PROPER GENERATION OF REMOTE IS DEPENDENT ON MODULE ORDER	10 M	Aug 76
ASCII CODES 173 AND 174 DO NOT PRINT	11 M	Aug 76
IMPROPER FILLER HANDLING FOR VT05	12 O	Aug 76
SYSTEM CRASHES IF RUN IN FOREGROUND WITHOUT /N	13 O	Aug 76
"UNSAVE" COMMAND CAUSES SYSTEM ERRORS	14 M	Dec 76
FLET WILL REMOVE MORE THAN ONE USER FROM THE WAIT QUEUE	15 M	Dec 76
STACK FOR USER THREE IMPROPERLY SET	16 O	Dec 76
SECONDARY MODE LOADS DO NOT OPERATE PROPERLY	17 M	Jan 77
@START COMMAND GIVEN ON TERMINAL WITHOUT SATELLITE CAUSES CRASH	18 O	Jan 77
"RTSIM" DOES NOT SUPPORT 50 Hz LINE CLOCK	19 O	Jan 77

Component	Sequence	Mon/Yr
CHANNEL ACTIVE ERROR	20 M	Mar 77
THREE WORDS LOST ON DOWNLINE LOAD	21 M	Mar 77
CSISPC NOT PROPERLY SIMULATED	22 M	May 77
EXCEEDING CHARACTERS PER LINE LIMIT	23 M	Oct 77
UNASSIGNED	24	XXX XX
@RE IN THE SATELLITE DOES NOT WORK	25 R	Mar 78
"HANG" CONDITIONS	26 R	Apr 78
UANSSIGNED	27	XXX XX
USING KG-11 CRC CALCULATOR	28 M	Aug 78
PASTE CAUSES LINE DUPLICATION	29 M	Aug 78
"DAISY CHAIN" ARRANGEMENT IN RTSIM.MAC	30 M	Aug 78
OPTIONAL RMON IS OMITTED FROM RTS1M BY DEFINING NORMON=0	31 M	Oct 78
DL-11 ERROR AND CRC ERROR IN HOST	32 M	Oct 78

RT-11 V3

DOCUMENTATION		
TYPOGRAPHICAL ERRORS	01 N	MAR 78
ERROR IN FOREGROUND/BACKGROUND DEMONSTRATION	02 M	AUG 78
THE /LIST OPTION FOR THE DIBOL, FORTRAN, AND MACRO KEYBOARD MONITOR COMMANDS	03 M	Nov 78
EDIT		
EDIT DOES NOT OPERATE CORRECTLY UNDER XM MONITOR	01 M	Mar 78
MACRO		
.NARG FAILS WHEN AUTOMATIC LABEL GENERATION IS USED	01 M	Apr 78
MISCELLANEOUS		
GETSTR AND PUTSTR ROUTINES FOR IN-LINE CODE	01 M	Jun 78
ERROR IN THE CONCAT ROUTINE	02 M	Jun 78
ERROR IN MTATCH ROUTINE	03 M	Nov 78
MONITOR		
INCORRECT IDENTIFIER IN .TWAIT REQUEST CAUSES PROBLEMS	01 M	Mar 78
.CHAIN, .EXIT FROM VIRTUAL JOB; USR MOVING INTO PAR1 AREA	02 M	Apr 78
PATCH TO INTERRUPT EXIT ROUTINE	03 M	Apr 78
IMPROPER HANDLING OF THE KW11-P CLOCK	04 M	May 78
SPECIFYING 50-CYCLE CLOCK SUPPORT DURING SYSGEN OPERATIONS	05 M	Jun 78
EDITORS AND V3B MONITORS	06 M	Jun 78
TYPING NON-ASCII FILES TO CONSOLE AFTER ISSUING A GTON HANGS THE SYSTEM	07 M	Jun 78
LINK/FRUN FAILS WHEN PROGRAM IS OVERLAYED AND USES LIBRARIES	08 M	Jul 78
MULTITERMINAL CORRECTIONS	09 M	Aug 78
PATCH TO XM ADDRESS CHECKING	10 M	Aug 78
FIXES FOR TWO FB/XM PROBLEMS	11 M	Aug 78
TERMINATING CONSOLE OUTPUT	12 M	Aug 78
ISSUING SEEKS TO DX HANDLER IN XM CAUSES RANDOM SYSTEM FAILURES	13 M	Oct 78
CERTAIN EXTENDED MEMORY REQUESTS CANNOT BE ISSUED FROM BOTH MAINLINE CODE AND COMPLETION ROUTINES	14 M	Oct 78
THE "RUN" AND "GET" MONITOR COMMANDS DO NOT CORRECTLY LOAD THE PORTION OF A PROGRAM THAT OVERLAYS KMON	15 M	Oct 78
DX SJ MONITOR BOOTSTRAP CORRECTIONS	16 O	Oct 78
TYPING CTRL/O TO THE CONSOLE TERMINAL SOMETIMES CRASHES	17 M	Nov 78
LINK CAUSES ODD MONITOR ADDRESS TRAP	18 M	NOV 78
SOURCES		
UNRESOLVED DIFFERENCES IN DEMOX1.MAC	01 M	Aug 78
DISTRIBUTED MAGTAPE HANDLER CORRECTIONS	02 M	Sep 78
SYSTEM HANDLERS		
DM HANDLER CORRECTIONS	01 M	Oct 78

Component	Sequence	Mon/Yr
UTILITIES		
DUP DEFAULT FILE SIZE AND NULL FILE TYPES ARE INCORRECT	01 M	Mar 78
DIR MAY INCORRECTLY LIST DIRECTORIES OF MAGTAPES	02 M	Mar 78
/L OPTION TO PIP MAY CUASE SYSTEM CRASH	03 M	Mar 78
LINK OUTPUT INVALID IF OBJ HAS AN EMPTY GSD RECORD	04 M	Mar 78
PAT GIVES FATAL ERROR IF OBJ HAS AN EMPTY RECORD	05 M	Apr 78
UNASSIGNED	06	XXX XX
EDIT VT11 DISPLAY FUNCTIONS WILL NOT OPERATE UNDER XM MONITOR	07 M/R	Apr 78
TRANSFERS IN INTERCHANGE FORMAT WHEN NO SYSTEM DATE IS GIVEN	08 M	Jun 78
DUP SCAN RATE FOR FLOPPY	09 M	Jun 78
DUP /I AND /W SWITCHES DO NOT WORK PROPERLY	10 M	Jun 78
LINK/FRUN FAILS WHEN PROGRAM IS OVERLAYED AND USES LIBRARIES	11 M	Jul 78
DUP DOES NOT DIFFERENTIATE BETWEEN DELETED .BAD FILES AND PERMANENT ONES	12 M	Jul 78
ERRORS IN FILEX INTERCHANGE FORMAT	13 M	Jul 78
LINK PRODUCES INCORRECT .LDA FILES	14 M	Sep 78
UDP DOES NOT DETECT END OF SEGMENT IF IT IS FIRST ENTRY IN A DIRECTORY SEGMENT DURING A SQUEEZE OPERATION	15 M	Oct 78
LIBR CLEARING OF LOCATION ZERO	16 M	Oct 78
LINK ERROR IN PSECTS MOVED TO ROOT	17 M	Oct 78
PIP ERRONEOUSLY DELETES FILES	18 M	Oct 78

RT-11 V3B

DOCUMENTATION		
ERROR IN FOREGROUND/BACKGROUND DEMONSTRATION	01 M	Aug 78
THE /LIST OPTION FOR TEH DIBOL, FORTRAN, AND MACRO KEYBOARD MONITOR COMMANDS	02 M	Nov 78
MISCELLANEOUS		
ERRORS IN THE SYSGEN CONDITIONAL FILE	01 M	Jul 78
ERROR IN MTATCH ROUTINE	02 M	Nov 78
MONITOR		
SOURCE PATCHING PROCEDURES FOR V3B	01 M	Aug 78
MULTITERMINAL CORRECTIONS	02 M	Aug 78
SINGLE JOB TIMER SUPPORT CORRECTIONS	03 M	Aug 78
FIXES FOR TWO FB/XM PROBLEMS IN VP3B	04 M	Aug 78
TERMINATING CONSOLE OUTPUT	05 M	Aug 78
EDITORS AND V03B MONITORS	06 O	Aug 78
SEEK IN RK DRIVER	07 M	Aug 78
RL01 CONTROLLER VECTOR AT 160	08 M	Aug 78
FPU EXCEPTION HANDLING IN XM MONITOR	09 M	Sep 78
TWO EXTENDED MEMORY MONITOR PROBLEMS	10 M	Oct 78
TYPING CTRL/O TO THE CONSOLE TERMINAL SOMETIMES CRASHES RT-11	11 M	Oct 78
DX SJ MONITOR BOOTSTRAP CORRECTIONS	12 O	Oct 78
THE EDIT AND HELP MONITOR COMMANDS FAIL AFTER A VIRTUAL JOB HAS RUN	13 M	Nov 78
SOURCES		
UNRESOLVED DIFFERENCES IN DEMOX1.MAC	01 M	Jul 78
ISSUING SEEKS TO DX HANDLER IN XM CAUSES RANDOM SYSTEM FAILURES	02 M	Sep 78
DISTRIBUTED MAGTAPE HANDLER CORRECTIONS	03 M	Sep 78
SYSTEM HANDLERS		
RL01 HANDLER CORRECTIONS	01 M	Sep 78
ISSUING A SEEK TO THE DY HANDLER CAUSES THE SYSTEM TO CRASH	02 M	Oct 78
DM HANDLER CORRECTIONS	03 M	Oct 78
UTILITIES		
ERRORS IN FILEX INTERCHANGE FORMAT	01 M	Jul 78
LINK PRODUCES INCORRECT .LDA FILES	02 M	Sep 78
LIBR CLEARING OF LOCATION ZERO	03 M	Oct 78
LINK ERROR IN PSECTS MOVED TO ROOT	04 M	Oct 78
DUP DOES NOT DETECT END OF SEGMENT	05 M	Oct 78
COPY/DEVICE FAILS ON DISK TO MAGTAPE	06 M	Oct 78
LINK CAUSES MONITOR ODD ADDRESS TRAP	07 M	Nov 78

Component	Sequence	Mon/Yr
RT-11/2780 V2		
CORRECTIONS TO 2780 PACKAGE	01	Sep 77
RUNNING 2780 ON RT-11 V3	02 M	Nov 77
PATCHING THE 2780 IN RT-11 V3	03 M	Sep 78

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Software Product Description

PRODUCT NAME: DECnet Phase II Products, Version 1.0 **SPD 10.78.2**

DESCRIPTION:

DECnet Phase II is the collective name for the set of software products that extend various DIGITAL operating systems by enabling the user to interconnect these systems with each other to form computer networks. The DECnet Phase II products include DECnet-11M Version 2, DECnet-11S Version 2, DECnet-11D Version 2, DECnet-IAS Version 2, DECnet/E Version 1, DECnet-RT Version 1, DECnet-VAX, Version 1 and DECnet-20, Version 1.0. The DECnet user can configure a variety of networks, to satisfy a variety of applications, by choosing the appropriate CPUs, line interface (and speeds), and operating system software.

In order to satisfy these widely varying applications, DECnet allows the user to build networks from a range of systems and communications components. DECnet allows users to interconnect systems using serial asynchronous, serial synchronous, and parallel facilities. When configuring DECnet systems, both ends of any given link must use the same type of communications discipline (e.g., synchronous, asynchronous or parallel) running at the same line speed.

DIGITAL Network Architecture:

DECnet includes a set of network protocols, each of which is designed to fulfill specific functions within the network. Collectively, these protocols are known as the DIGITAL Network Architecture, or DNA. The major protocols, and their functions, are:

DIGITAL Data Communications Message Protocol (DDCMP) — DDMCP handles the physical link traffic control and physical link error recovery within DECnet. DDCMP operates over both full and half duplex facilities, using serial synchronous or serial asynchronous facilities in a point-to-point mode. DDCMP has the following important characteristics:

- operates over a wide variety of hardware types
- makes efficient use of full-duplex channel capacity
- allows transmission of all data types (including binary) with low overhead
- allows standard (character-oriented) communications hardware to be used
- uses CRC-16 for error detection, with recovery by retransmission
- effective on earth/satellite links (or other links) with long signal propagation delays

A full specification for DDCMP Version 4.0 is available on request. DIGITAL does not regard DDCMP as a proprietary protocol, and allows others to implement and use the protocol, providing an acknowledgment of the source is made in any public documentation.

Network Services Protocol (NSP) — NSP handles network management functions within DECnet. This includes sending messages between two nodes and routing messages within any given node. NSP makes it possible for two programs on different machines to establish a logical communications channel (or logical link) between the programs, and to exchange data using this logical link. These programs need not be aware of either the nature of the physical link (full/half duplex, parallel or serial) or the nature of the protocols supporting the physical link. NSP has the following important characteristics:

- dynamic creation of logical links between tasks
- exchange of data between tasks on a solicited basis
- exchange of data between tasks on a non-solicited (e.g., interrupt) basis
- nodes can be dynamically connected within the network once NSP initialization occurs over a previously established physical link

A full specification for the Network Services Protocol Version 3.0 is available on request. NSP is not a proprietary protocol.

Data Access Protocol (DAP) — The Data Access Protocol enables programs on one node of the network to use the I/O services available on other network nodes. Each operating system in DECnet provides facilities for translating its own unique I/O calls into the DAP standard, and vice versa. Thus, DAP enables data requests to be processed in a meaningful way by many (possibly heterogeneous) operating systems. DAP's facilities include:

- remote file access, including OPEN, READ, WRITE, CLOSE and DELETE for sequential and random access files, and command files

It should be noted that each DAP function requires support at both ends of the link. At the local node, where the user program initiates a data request, the DAP support must package the request for transmission through the network. At the remote node (where the device or file resides), the DAP support must cause the appropriate actions to be performed. Not all systems support both local and remote portions of each DAP operation.

A full specification for the Data Access Protocol Ver-

sion 4.1 is available on request. DAP is not a proprietary protocol.

DECnet Functions:

Digital Network Architecture, implemented across a wide range of operating systems and hardware configurations, enables users to build a variety of networks. While such networks have a common attribute, individual systems in the network may have certain system-specific attributes. The common attribute is:

- Task-to-task communication: Programs or tasks on one system can create logical links and exchange data with programs or tasks on other systems in a real-time fashion.

Additionally, many DECnet systems support other features which are useful in network environment. These include:

- Inter-system File Transfer: This facility allows an entire data file to be moved between systems, at either program or operator request. The common file type supported across systems that provide this functionality is sequential ASCII.
- Batch/Command File Submission: Local users can submit batch or command files to remote systems for execution.
- Batch/Command File Execution: Remote users can cause a batch or command file which resides at a remote node to be submitted for execution at the local node.
- Remote File Access: Tasks or programs can access sequential files on a record-by-record basis from files located on remote nodes.
- Down-line System Loading: Initial memory images for DECnet-11S systems in the network can be stored on the local system, and loaded on request into other systems in the network. Remote systems usually require the presence of a network bootstrap loader, implemented in read-only memory.
- Down-line Task Loading: Programs to be executed on DECnet-11S systems in the network can be stored on the local system, and loaded on request into other systems, under the joint control of the operating systems at both ends of the physical link. This and the preceding feature simplify the operation of network systems which do not have mass storage devices.

Table I provides the information for determining if the preceding functions are available on a particular DECnet system. Note that the above descriptions define the minimum capabilities provided by a given function. Additional capabilities, above those described as the minimum for a function, may be available between two of the same or different DECnet systems.

Configuring DECnet Networks:

DECnet provides a basic level of interconnection between specific products. However, each DECnet system has its own level of functions. The user can recognize specific constraints when configuring a network of heterogeneous DECnet systems. Table II lists the communication interfaces supported by each DECnet Phase II product for particular class of line characteristics (e.g., 9.6 kilobits/second, synchronous). Each column lists the connections that are permissible for those line characteristics in cross-product network configurations. Individual product SPD's must be consulted to determine whether any particular configuration violates the maximum number of communications interfaces and line speeds for an individual product.

TRAINING CREDITS:

No training credits are included with a DECnet software license. Training courses on DECnet software are scheduled at regular intervals in DIGITAL's Training Centers. Arrangements should be made directly with DIGITAL's Educational Services Department.

SUPPORT CATEGORY:

Category A Software Support, as described in the Software Support Categories Addendum to this SPD, will be provided with DECnet Phase II product options that include support services.

The installation of DECnet software under Category A Support Services in any host system will convert that system to a node with the potential of being connected to a DECnet network. Category A installation does not include demonstration of network connection.

The Customer may purchase DECnet Phase II product license options that do not include support services. The category of support applicable to such software is Category C. While a DECnet product option that does not include support services is connected to a DECnet network, the category of support applicable to all DECnet products in that network is Category C.

INSTALLATION SERVICE:

The installation of the Software under Category A Software Support shall consist of:

1. Verifying that the software kit contains all software modules and manuals offered.
2. Generating the DECnet software.
3. Demonstrating the use of the majority of operator commands and system utilities.
4. Running a sample DIGITAL-supplied program.
5. Introducing the Customer to the sources of software information and services.

Before installation of the Software, the Customer must:

1. Install or have installed all hardware, including terminals, to be used on the system.
2. Make available to DIGITAL personnel all hardware, including terminals, to be used during installation for a reasonable period of time each day, as mutually agreed upon by DIGITAL and the Customer, until installation is complete.

Delays caused by any failure to meet these responsibilities will be charged at the then prevailing rate for time and materials.

PREREQUISITE SUPPORT:

A Network Profile and DECnet Support Plan covering all intended network nodes and their support must be

prepared jointly by the Customer and DIGITAL.

ORDERING INFORMATION:

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

When multiple systems are connected in a single network, each individual system must be licensed separately with regard to both operating system and DECnet software.

ADDITIONAL SERVICES:

Software Consulting Services are offered on a time and materials basis to meet specific customer needs. Two levels of consulting services are available:

Level I Services

QJ680 -S— DECnet Level I Services (media: Z)

Level I services provide for the integration of DECnet nodes that carry Category A support into an interconnected network, with verification of network integrity and demonstration of DECnet functions. Level I services use DIGITAL sample procedures only.

Before installation of the Network, the Customer must:

1. Obtain, install, and demonstrate operational to DIGITAL's satisfaction any modems and other equipment and facilities necessary to interface DIGITAL's communications line interfaces and terminals.
2. Make available to DIGITAL's personnel all hardware, including communications facilities and terminals, to be used during installation for a reasonable period of time each day, as mutually agreed upon by DIGITAL and the Customer.

Delays caused by any failure to meet these responsibilities will be charged at the then prevailing rate for time and materials.

Level II Services

QS912 -S— Daily Software Consulting Services (media: Z)

QS926 -S— Weekly Software Consulting Services (media: Z)

QS922 -S— 6-Month Resident Software Consulting Services (media: Z)

QS924 -S— 12-Month Resident Software Consulting Services (media: Z)

Level II services provide for additional support as mutually agreed upon by DIGITAL and the Customer in the DECnet Customer Support Plan.

Table I

	DECnet-11M Version 2.0	DECnet-11S Version 2.0	DECnet-11D Version 2.0	DECnet-IAS Version 2.0	DECnet/E Version 1.0	DECnet-RT Version 1.0	DECnet-VAX Version 1.0	DECnet-20 Version 1.0
Task-to-Task	YES	YES	YES	YES	YES	YES	YES	YES
Intersystem File Transfer	YES	NO	YES	YES	YES	YES	YES	NO
Command/Batch File Submission	YES[1]	NO	YES[1]	YES[1]	YES	YES	YES[1]	NO
Command/Batch File Execution	YES	NO	YES	YES	YES	NO	YES	NO
Remote File Access	YES	YES[2]	YES	YES	NO	YES	YES	NO
Down-Line System Loading	YES	NO	YES	YES	NO	NO	YES	NO
Down-Line Task Loading	YES	NO	YES	YES	NO	NO	NO	NO

[1]Cannot submit files to DECnet/E systems. Can tell DECnet/E to execute batch files already at the DECnet node.

[2]Offers local users network access to remote file systems. Does not allow users on remote systems to access local files.

Table II

	EIA Sync <9.6K bits/sec	EIA Sync <19.2K bits/sec	EIA Async <9.6K bits/sec	20mA Async <9.6 bits/sec	Local Sync 56K bits/sec	Local Sync 1M bits/sec	Local Parallel
DECnet-11M Version 2.0	DP11 DU11-DA DUP11-DA DV11	DQ11-DA DMC11-AR DMC11-DA	DL11-E DZ11-A DZ11-B	DL11-C DL11-WA DZ11-C DZ11-D	DMC11-AL DMC11-MD	DMC11-AL DMC11-MA	DA11
DECnet-11S Version 2.0	DP11 DU11-DA DUP11-DA DV11 DUV11-DA	DQ11-DA DMC11-AR DMC11-DA	DL11-E DZ11-A DZ11-B	DL11-C DL11-WA DZ11-C DZ11-D	DMC11-AL DMC11-MD	DMC11-AL DMC11-MA	DA11
DECnet-11D Version 2.0	DP11 DU11-DA DUP11-DA DV11	DQ11-DA DMC11-AR DMC11-DA	DL11-E DZ11-A DZ11-B	DL11-C DL11-WA DZ11-C DZ11-D	DMC11-AL DMC11-MD	DMC11-AL DMC11-MA	DA11
DECnet-IAS Version 2.0	DP11 DU11-DA DUP11-DA DV11	DQ11-DA DMC11-AR DMC11-DA	DL11-E DZ11-A DZ11-B	DL11-C DL11-WA DZ11-C DZ11-D	DMC11-AL DMC11-MD	DMC11-AL DMC11-MA	DA11
DECnet-RT Version 1.0	DU11-DA DUP11-DA DUV11-DA	DMC11-AR DMC11-DA	DL11-E	DL11-C DL11-WA	DMC11-AL DMC11-MD	DMC11-AL DMC11-MA	
DECnet/E Version 1.0		DMC11-DA DMC11-AR			DMC11-AL DMC11-MD	DMC11-AL DMC11-MA	
DECnet-VAX Version 1.0		DMC11-AR DMC11-DA			DMC11-AL DMC11-MD	DMC11-AL DMC11-MA	
DECnet-20 Version 1.0 2040/50/60	DN20-BA (DUP11-DA)				DN21-BA (DMC11-AL DMC11-MD)		
2020		DN20 BA/BB (DUP11-DA)					

SOFTWARE SUPPORT CATEGORIES

Each software product (hereinafter 'SOFTWARE') with a designated Support Category A or B in the applicable Software Product Description (SPD) existing at the time of order will be the current release at the time of delivery and will conform to the SPD. DIGITAL's sole obligation shall be to correct defects (nonconformance of the SOFTWARE to the SPD) as described below. Any SOFTWARE with a designated Support Category C will be furnished on an 'as is' basis.

For SOFTWARE with a designated Support Category A or B, DIGITAL will provide the services set forth below without additional charge.

CATEGORY A

1. Upon notification by customer to the nearest DIGITAL office that the computer system, including all required prerequisite hardware and software, is ready for the installation of the SOFTWARE, DIGITAL will install such SOFTWARE in any location within the contiguous forty-eight (48) United States, the District of Columbia, or a country in which DIGITAL or a subsidiary of DIGITAL has a software service facility. The notification must be received by DIGITAL and the system must be ready for installation within thirty (30) days after the delivery of the SOFTWARE to customer or DIGITAL will have no obligation to install. Installation will consist of: (1) verification that all components of the SOFTWARE have been received by customer, (2) loading the SOFTWARE, and (3) executing a DIGITAL sample procedure.
2. During the ninety (90) day period after installation, if the customer encounters a problem with the current unaltered release of the SOFTWARE which DIGITAL determines to be a defect in the SOFTWARE, DIGITAL will provide the following remedial service (on site where necessary): (1) if the SOFTWARE is inoperable, apply a temporary correction (TC) or make a reasonable attempt to develop an emergency by-pass, and (2) assist the customer to prepare a Software Performance Report (SPR) and submit it to DIGITAL.
3. During the one (1) year period following installation, if the customer encounters a problem with the SOFTWARE which his diagnosis indicates is caused by a SOFTWARE defect, the customer may submit an SPR to DIGITAL. DIGITAL will respond to problems reported in SPRs which are caused by defects in the current unaltered release of the SOFTWARE via the Maintenance Periodical for the SOFTWARE, which reports SPRs received, code corrections, temporary corrections, generally useful emergency by-passes and/or notice of the availability of corrected code. Software Updates, if any, released by DIGITAL during the one (1) year period, will be provided to the customer on DIGITAL's standard distribution media as specified in the applicable SPD. The customer will be charged only for the media on which such updates are provided, unless otherwise stated in the applicable SPD, at DIGITAL's then current media prices.

CATEGORY B

During the one (1) year period following delivery, the services provided to the customer will be the same as set forth in 3 above.

CATEGORY C

SOFTWARE is provided on an 'as is' basis. Any software services, if available, will be provided at the then current charges.

DIGITAL shall have the right to make additional charges for any additional effort required to provide services resulting from customer use of other than current unaltered release of the SOFTWARE operated in accordance with the SPD.

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Software Product Description

PRODUCT NAME: APL-11, Version 1.0 **SPD 14.51.3**

DESCRIPTION:

APL is a mathematically structured programming language that features many operators whose actions generalize to arrays of arbitrary order. APL can define recursive procedures which can use local variables. Because APL is an interpreter, the user can interact with the program to examine and change variables, alter statements without recompilation, and trace program action.

The special APL character set may be used on a terminal supporting it, or may be simulated with mnemonic escape sequences on other terminals. In its simplest mode of operation, APL-11 performs the functions of an intelligent calculator. APL has been used extensively in the areas of science, engineering, education, and business applications.

Some of the features of APL-11 are:

- Dynamically variable user's workspace size (RSTS)
- Chaining of APL programs to previously prepared run-time programs, e. g., FORTRAN
- Multiple statement lines
- Standard PDP-11 file-naming formats
- User workspace saved as files
- Extended single operators (Execute, Quote) which allow the user to:
  1. evaluate without limits a character string (commands, function definition, statement lines)
  2. write user-defined functions to perform output formatting and function editing
- User-level file access:
  1. standard ASCII sequential files
  2. compatible with FORTRAN direct files
  3. compatible with BASIC-PLUS virtual arrays
- APL functions that:
  1. solve a set of linear equations
  2. take the inverse of a matrix
  3. solve an over determined set of linear equations

MINIMUM HARDWARE REQUIRED:

Any valid RT-11 system configuration with least 44K bytes of memory (48K bytes recommended), or any valid RSTS/E system with 32K-40K bytes of memory (depending on the configuration) available for APL.

OPTIONAL HARDWARE:

Supports any mass storage, unit record or terminal device supported by the prerequisite software, and:

- FP11-B Floating Point Processor, or
- FP11-C Floating Point Processor

PREREQUISITE SOFTWARE:

One of the following operating systems:

- RT-11 operating system, Version 2C or later
- RSTS/E operating system, Version 6B or later
- CTS/500 operating system, Version 3 or later

OPTIONAL SOFTWARE:

None

TRAINING CREDITS:

None

SUPPORT CATEGORY:

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

UPDATE POLICY:

No updates are planned for this product.

ORDERING INFORMATION:

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

Standard options with no support services are only available after the purchase of one supported license. When a software license is ordered without support services, the category of support applicable to such software is Category C.

A single-use license only option is a license to copy the software previously obtained under license, and use such software in accordance with DIGITAL's Standard Terms and Conditions of Sale. The category

of support applicable to such copied software is Category C.

The following key (C, D, E, F, Q, T, V, Y, Z) represents the distribution media for the product and must be specified at the end of the order number, e.g., QJ906-CD = binaries on 9-track magnetic tape.

C = DECtape
D = 9-track Magnetic Tape
E = RK05 Disk Cartridge
F = 7-track Magnetic Tape
Q = RL01 Disk Cartridge
T = RK06 Disk Cartridge
V = RK07 Disk Cartridge
Y = RX01 Floppy Diskette
Z = No hardware dependency

Standard Options

RSTS/E Distribution:

QJ906 -C— Single-use license, binaries, documentation, no support services (media: D, E, F, Q, T, V)

QJ906 -D— Single-use license only, no binaries, no documentation, no support services (media: Z)

RT-11 Distribution:

QJ907 -C— Single-use license, binaries, documentation, no support services (media: C, D, E, Q, T, Y)

QJ907 -D— Single-use license only, no binaries, no documentation, no support services (media: Z)

ADDITIONAL SERVICES:

None

ADDENDUM
SOFTWARE SUPPORT CATEGORIES

Each software product (hereinafter 'SOFTWARE') with a designated Support Category A or B in the applicable Software Product Description (SPD) existing at the time of order will be the current release at the time of delivery and will conform to the SPD. DIGITAL's sole obligation shall be to correct defects (nonconformance of the SOFTWARE to the SPD) as described below. Any SOFTWARE with a designated Support Category C will be furnished on an 'as is' basis.

For SOFTWARE with a designated Support Category A or B, DIGITAL will provide the services set forth below without additional charge.

CATEGORY A

1. Upon notification by customer to the nearest DIGITAL office that the computer system, including all required prerequisite hardware and software, is ready for the installation of the SOFTWARE, DIGITAL will install such SOFTWARE in any location within the contiguous forty-eight (48) United States, the District of Columbia, or a country in which DIGITAL or a subsidiary of DIGITAL has a software service facility. The notification must be received by DIGITAL and the system must be ready for installation within thirty (30) days after the delivery of the SOFTWARE to customer or DIGITAL will have no obligation to install. Installation will consist of: (1) verification that all components of the SOFTWARE have been received by customer, (2) loading the SOFTWARE, and (3) executing a DIGITAL sample procedure.
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3. During the one (1) year period following installation, if the customer encounters a problem with the SOFTWARE which his diagnosis indicates is caused by a SOFTWARE defect, the customer may submit an SPR to DIGITAL. DIGITAL will respond to problems reported in SPRs which are caused by defects in the current unaltered release of the SOFTWARE via the Maintenance Periodical for the SOFTWARE, which reports SPRs received, code corrections, temporary corrections, generally useful emergency by-passes and/or notice of the availability of corrected code. Software Updates, if any, released by DIGITAL during the one (1) year period, will be provided to the customer on DIGITAL's standard distribution media as specified in the applicable SPD. The customer will be charged only for the media on which such updates are provided, unless otherwise stated in the applicable SPD, at DIGITAL's then current media prices.

CATEGORY B

During the one (1) year period following delivery, the services provided to the customer will be the same as set forth in 3 above.

CATEGORY C

SOFTWARE is provided on an 'as is' basis. Any software services, if available, will be provided at the then current charges.

DIGITAL shall have the right to make additional charges for any additional effort required to provide services resulting from customer use of other than current unaltered release of the SOFTWARE operated in accordance with the SPD.

digital

Software Product Description

PRODUCT NAME: FORTRAN GRAPHICS PACKAGE, Version 1.1 **SPD 15.81.3**

DESCRIPTION:

The FORTRAN Graphics Package is a collection of FORTRAN-callable routines for users of FORTRAN on RT-11, RSX-11M, RSX-11D, IAS, or VAX/VMS operating systems who wish to use the graphics capabilities of the VT55 terminal (not on VAX/VMS) and the VT11 or VS60 display processors. The package includes two sets of routines: a PLOT55 routine for the VT55 graphics terminal, and DECgraphic-11 routines for the VT11 and VS60 display processors.

PLOT55

The PLOT55 routine (not available for VAX systems) is accessed by a FORTRAN CALL statement. The routine has four arguments that allow the user to construct two graphs, set their mode (histogram or point-plot), add vertical and/or horizontal grid lines and manipulate graphics cursors (short vertical bars used for coordinate identification). In multi-user systems, several VT55 terminals can be in use simultaneously.

DECgraphic-11

The DECgraphic-11 package provides support for the VT11 or VS60 display processors in either of two ways:

- As a component of a satellite GT41 or GT43 (for the VT11), or GT62 (for the VS60) system. This "intelligent terminal" is connected to an RSX-11M, RSX-11D, IAS, or VAX/VMS host system by a standard asynchronous serial line terminal interface. The number of satellite intelligent terminal subsystems is limited only by the number of terminals that the host system supports.
- As a peripheral on the PDP-11 UNIBUS. The package includes a device driver that allows operation of one VT11 or one VS60 on an RT-11 or RSX-11M system configuration.

Over 60 routines are provided in the DECgraphic-11 package. They allow the FORTRAN programmer to display, modify, and interact with graphic information at the display console. Through CALL statements, the user can display points, vectors, text, and graph data. The subpicture feature enables the programmer to display repeated images. Special graphic routines enable the programmer to display an entire array of data with one subroutine call. General "attention handling" facilities for the light pen, LK11 push button box, and LK40 keyboard are also included in the package. Subroutines are available that enable the programmer to display menus for light pen selection. Miscellaneous routines enable the programmer to move, modify, delete, and otherwise manipulate images.

DECgraphic-11 also provides support for the special hardware features of the VS60. The user can alter the scale at which images and text strings are displayed, "window" the display viewing area over a large "drawing area," and select output on an optional second display scope of the VS60.

Most of the routines in the DECgraphic-11 package are available on either the satellite or standard peripheral configurations. In satellite configurations, however, the programmer has the additional capability to construct user-controlled programs in the satellite processor. This permits "attention handling" and other simple tasks to be carried out without affecting the host processor.

MINIMUM HARDWARE REQUIRED:

RT11 SUPPORT

- Any valid RT11 operating system configuration supporting FORTRAN IV/RT-11 that includes:
  1. A UNIBUS PDP-11 processor.
  2. At least 32K bytes of memory.
  3. An RL11, RK11, or RK611 disk cartridge drive with an additional disk drive, or one of the following magnetic tape systems (for software distribution):
     TME11 controller with TE10 transport
     TMB11 controller with TS03 transport.

FOR VT55 GRAPHICS TERMINAL SUPPORT

4. A VT55 graphics terminal with asynchronous serial line interface (in place of the console terminal).

FOR VT11 OR VS60 DISPLAY PROCESSOR SUPPORT AS A UNIBUS PERIPHERAL

5. A VT11 or VS60 display processor.

RSX-11M, RSX-11D, IAS SUPPORT

- Any valid RSX-11M, RSX-11D, or IAS operating system configuration supporting either FORTRAN IV/IAS-RSX or FORTRAN IV-PLUS that includes:
  1. A UNIBUS PDP-11 processor.
  2. At least 48K bytes of memory.

3. An RL11, RK11, or RK611 disk cartridge drive and controller with an additional disk drive on one of the controllers, or one of the following magnetic tape systems (for software distribution):
   TME11 controller with TE10 transport
   TMB11 controller with TS03 transport
   TJE16 (TUE16 for PDP-11/70) controller with TE16 transport.

FOR VT55 GRAPHICS TERMINAL SUPPORT

4. A VT55 graphics terminal with any asynchronous serial line interface supported by the operating system.

FOR VT11 OR VT60 DISPLAY PROCESSOR SUPPORT AS A UNIBUS PERIPHERAL (RSX-11M only)

5. A VT11 display processor (display file must reside in the lowest 56K bytes of memory), or VS60 display processor.
6. Not more than 248K bytes of memory.

FOR VT11 or VS60 DISPLAY PROCESSOR SUPPORT AS A SATELLITE SYSTEM

7. A DL11 single-line asynchronous serial interface or one line of a DZ11 or DH11 multiplexer for each satellite system.

And one of the following display processor subsystems (satellite system must include FORTRAN IV (QP230) if FORTRAN IV-PLUS is run on the host system):

8. For VT11 support, one of the following:

   A GT41 or GT43 display processor subsystem.

   A UNIBUS PDP-11 processor, 32K bytes of memory, an asynchronous serial line interface compatible with a DZ11, DL11, or DH11, a programmer's processor console, an LA36 or LK40 terminal keyboard, and a VT11 display processor.
9. For VS60 support:

   The GT62 display terminal system or equivalent.

VAX SUPPORT

- Any valid VAX/VMS operating system configuration supporting VAX-11 FORTRAN IV-PLUS

For VT11 or VS60 Display Processor Support as a Satellite System:

1. One line of a DZ11 asynchronous multiplexer for each satellite system and one of the following display processor subsystems:
2. For VT11 support, one of the following
   A GT41 or GT43 display processor subsystem

   A UNIBUS PDP-11 processor, 32K bytes of main memory, an asynchronous serial line interface compatible with a DZ11, DL11 or DH11, a programmer's processor console, and LA36 or LK40 terminal keyboard and a VT11 display processor.

For VS60 Support

The GT62 display terminal system or equivalent.

OPTIONAL HARDWARE:

VT11 or VS60 based satellite display processor subsystems support the RX11 floppy disk system for local storage and loading of display files.

PREREQUISITE SOFTWARE:

One of the following operating systems is required:

- RSX-11M, Version 3.1, and either FORTRAN IV/IAS-RSX, Version 2, or FORTRAN IV-PLUS, Version 2.5
- IAS, Version 2, and either FORTRAN IV/IAS-RSX, Version 2, or FORTRAN IV-PLUS, Version 2.5
- RSX-11D, Version 6.2, and either FORTRAN IV/IAS-RSX, Version 2, or FORTRAN IV-PLUS, Version 2.5

Note that if FORTRAN IV-PLUS is selected for RSX-11M, RSX-11D, or IAS based host systems that FORTRAN IV will also be required for the graphic satellite.

- RT-11, Version 3B, SJ or FB monitors, and FORTRAN IV/RT-11, Version 2 or later
- VAX/VMS operating system, Version 1, and VAX-11 FORTRAN IV-PLUS, Version 1, and PDP-11 FORTRAN IV/VAX to RSX Cross Compiler.

OPTIONAL SOFTWARE:

None

TRAINING CREDITS:

None

SUPPORT CATEGORY:

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

UPDATE POLICY:

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

ORDERING INFORMATION:

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

The following key (D, E, Q, T, V) represents the distribution media for the product and must be specified at the end of the order number, e.g., QJ647-XD = sources on 9-track magnetic tape.

D = 9-track Magnetic Tape
E = RK05 Disk Cartridge
Q = RL01 Disk Cartridge
T = RK06 Disk Cartridge
V = RK07 Disk Cartridge

Standard Options

For RT-11 Systems:
QJ647 -X— Single-use license, source license, sources, documentation, support services (media: D, E, Q, T)

For RSX-11M, RSX-11D, or IAS systems:
QJ747 -X— Single-use license, source license, sources, documentation, support services (media: D, E, Q, T)

For VAX systems:
QE747 -X— Single-use license, source license, sources, documentation, support services (media: D, V)

Upgrade Options

The following option is available as an upgrade kit from RSX-11M Graphics Extensions, Version 2, for use on the same single CPU on which RSX-11M Graphics Extensions, Version 2, is licensed. The license previously granted for RSX-11M Graphics Extensions, Version 2, shall be extended to cover this upgrade.

This option is also available as an upgrade kit from FORTRAN/RT-11 Extensions for use on the same single CPU on which FORTRAN/RT-11 Extension is licensed. The license previously granted for FORTRAN/RT-11 Extensions shall be extended to cover this upgrade.

For RT-11 Systems:
QJ648 -X— Single-use license, source license, sources, documentation, support services (media: D, E, Q, T)

QJ648 -Y— Single-use license, source license, sources, documentation, no support services (media: D, E, Q, T)

For RSX-11M, RSX-11D, or IAS systems:
QJ748 -X— Single-use license, source license, sources, documentation, support services (media: D, E, Q, T)

QJ748 -Y— Single-use license, source license, sources, documentation, no support services (media: D, E, Q, T)

Update Options:

Users of FORTRAN Graphics Package, Version 1, whose specified Support Category warranty has expired may order under license the following software update at the then current charge for such update. The update is distributed in source or binary form on the appropriate medium and includes no installation or other services unless specifically stated otherwise.

For RT-11 Systems:
QJ647 -N— Sources update (media: D, E, Q, T)

For RSX-11M, RSX-11D, or IAS Systems:
QJ747 -N— Sources update (media: D, E, Q, T)

Users of FORTRAN Graphics Package, Version 1, whose specified Support Category warranty has not expired may order under license the following software update for the then current media charge. The update is distributed in source form on the appropriate medium and includes no installation or other services unless specifically stated otherwise.

For RT-11 Systems:
QJ647 -V— Sources update (media: D, E, Q, T)

For RSX-11M, RSX-11D, or IAS System:
QJ747 -V— Sources update (media: D, E, Q, T)

ADDITIONAL SERVICES:

None

ADDENDUM
SOFTWARE SUPPORT CATEGORIES

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CATEGORY B

During the one (1) year period following delivery, the services provided to the customer will be the same as set forth in 3 above.

CATEGORY C

SOFTWARE is provided on an 'as is' basis. Any software services, if available, will be provided at the then current charges.

DIGITAL shall have the right to make additional charges for any additional effort required to provide services resulting from customer use of other than current unaltered release of the SOFTWARE operated in accordance with the SPD.

DECUS SPECIAL INTEREST GROUPS

A DECUS Special Interest Group (SIG) is an activity whereby members of the DIGITAL Equipment Computer Users Society who share common interests in a particular field, join together to promote the interchange of information. Specialization may be in application areas such as education or industry, specific software systems such as OS/8 and RSX-11, or a specific mainframe such as the DECsystem-10/20.

SIG members derive numerous benefits from communicating with others who share specialized interests and who may wish to share their experiences. SIG s sponsor business meetings, tutorials, and workshops at the various chapter symposia which fulfill the two-fold purpose of fostering communication among users and between users and DIGITAL. Channeled communication provides DIGITAL and the users with insight into the direction of future developments. SIG s provide direct feedback to DIGITAL's in-house activities and have thereby made substantial contributions to OS/8, RSX-11, RSTS and TOPS-10.

User submitted articles, minutes of local meetings, and letters comprise the major portion of the individual SIG newsletters. Suggestions, hints, bug fixes, program plans, or questions of a non-commercial nature are suitable material for SIG newsletters.

SIG members are encouraged to make presentations at the SIG sessions held during DECUS Symposia.

The semi-annual U.S. Symposia sessions are organized by special interest areas. Submissions received from the user community are reviewed by symposia committee members from the special interest groups for appropriate placement on the agenda.

Special Interest Group participation in the review of programs submitted to the DECUS Program Library provides an opportunity to improve the quality and utility of programs available to you and to fellow users.

DIGITAL standards are issued to DECUS members for review and on the theory and philosophy of the standards. DECUS is a voting member of ANSI X3. Users are encouraged to register their areas of expertise with DECUS and assist with reviewing standards. SIG s often play a role in this process.

Below is a list of U.S. based Special Interest Groups within DECUS.

If you would like information regarding membership in any of the Special Interest Groups, contact DECUS U.S. Chapter, 129 Parker Street, PK3-1/E55, Maynard, Massachusetts 01754 or one of the other DECUS Chapter offices in Kanata, Sidney or Geneva.

NETSIG—Networks Special Interest Group
RSTS SIG—RSTS and RSTS/E Special Interest Group
SIGIG—Special Interest Group on Interactive Graphics
ESIG—Engineering Applications Special Interest Group
SIG-18—18-Bit Users Special Interest Group
12-Bit SIG—12-Bit User Special Interest Group
RSX-11/IAS SIG
RT-11 SIG
EDUSIG—Educational Users Special Interest Group
DEBUG—Digital Equipment Business Users Group
MUSIG—Mumps Special Interest Group
PASCAL SIG
DBMS SIG
TECO SIG
LSI-11 SIG
FOCAL SIG
STANDARDS SIG

DIGITAL EQUIPMENT COMPUTER USERS SOCIETY

RT-11 SPECIAL INTEREST GROUP

A Special Interest Group has been formed to serve users of RT-11. The organization of the SIG consists of a SIG Chairman and working committees for standards, documentation, library submissions, newsletters, and help for new users. Submissions to the newsletter should be directed to:

John T. Rasted
JTR Associates
58 Rasted Lane
Meriden, CT 06450
(203) 634-1632

Other communications can be sent to:

Thomas J. Provost
P.O. Box 95
Middleton, MA 01949
(617) 774-2370
(617) 245-6600 (Boston tie line)

or

John T. Rasted
c/o DECUS
One Iron Way - MR2-3/E55
Marlboro, MA 01752

SIG's activities encompass the following:

1. Preparation of a SIG newsletter (user submissions are strongly encouraged).
2. Exchange of user-written programs. This exchange could include TASKS representing user-written extensions to RT-11 RT-11 (including, but not limited to device drivers) as well as utility and applications programs, etc.
3. Establishment of communications with the DECUS staff to obtain for SIG members early information on RT-11 related additions to the DECUS Library. These communications will also serve to provide prompt testing of such submissions.
4. Establishment of user input to appropriate groups within DEC, so that they will receive user feedback on any additions or needed changes to RT-11. Additionally, SIG members may receive early warning from DEC about RT-11 changes.
5. Establishment of SIG-maintained files of RT-11 errors and error solutions, where they exist, independent of DEC publications.
6. Establishment of RT-11 "Welcome Wagon" type services to aid new users.
7. Coordination of user input to standards and documentation work.

If you wish to become a member of the RT-11 SIG, please fill out the form below and return it to the DECUS Office. (Please type or print).

NAME _____ *DECUS MEMBERSHIP NO. _____

AFFILIATION _____

ADDRESS _____

CITY _____ STATE _____ ZIP CODE _____

Are you registered with DEC as an RT-11 user? _____ Version Number _____

Fortran? _____ Basic? _____

**Please note one must be a member of DECUS prior to requesting RT-11 SIG involvement. For general membership information, contact the DECUS Office, One Iron Way - MR2-3/E55, Marlboro, MA 01752*

SOFTWARE PROBLEMS OR ENHANCEMENTS

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

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United Kingdom	Digital Equipment Corp., LTD Fountain House Butts Centre RG1 7QN Reading England
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