



```

FFFFFFFFF 0C0000 RRRRRRRR RRRRRRRR EEEEEEEEE AAAAAA DDDDDDD IIIIII FFFFFFFFF
FFFFFFFFF 000000 RRRRRRRR RRRRRRRR EEEEEEEEE AAAAAA DDDDDDD IIIIII FFFFFFFFF
FF         00      00 RR      RR RR      RR EE      AA      AA DD      DD I      I FF
FF         00      00 RR      RR RR      RR EE      AA      AA DD      DD I      I FF
FF         00      00 RR      RR RR      RR EE      AA      AA DD      DD I      I FF
FF         00      00 RR      RR RR      RR EE      AA      AA DD      DD I      I FF
FFFFFFFFF 00      00 RRRRRRRR RRRRRRRR EEEEEEEEE AA      AA DD      DD I      I FFFFFFFF
FFFFFFFFF 00      00 RRRRRRRR RRRRRRRR EEEEEEEEE AA      AA DD      DD I      I FFFFFFFF
FF         00      00 RR  RR  RR  RR  RR  RR EE      AAAAAAAAAA DD      DD I      I FF
FF         00      00 RR  RR  RR  RR  RR  RR EE      AAAAAAAAAA DD      DD I      I FF
FF         00      00 RR  RR  RR  RR  RR  RR EE      AA      AA DD      DD I      I FF
FF         00      00 RR  RR  RR  RR  RR  RR EE      AA      AA DD      DD I      I FF
FF         00      00 RR  RR  RR  RR  RR  RR EE      AA      AA DD      DD I      I FF
FF         000000 RR      RR RR      RR EEEEEEEEE AA      AA DDDDDDD IIIIII FF
FF         000000 RR      RR RR      RR EEEEEEEEE AA      AA DDDDDDD IIIIII FF

```

```

LL         IIIIII SSSSSSSS
LL         IIIIII SSSSSSSS
LL         II      SS
LL         II      SS
LL         II      SS
LL         II      SS
LL         II      SSSSSS
LL         II      SSSSSS
LL         II      SS
LL         II      SS
LL         II      SS
LL         II      SS
LLLLLLLLLL IIIIII SSSSSSSS
LLLLLLLLLL IIIIII SSSSSSSS

```

FOR\$READ\_IF  
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- entry point for FORTRAN READ INTERNAL <sup>D 2</sup> 15-SEP-1984 23:56:34 VAX/VMS Macro V04-00

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HISTORY ; Detailed Current Edit History  
DECLARATIONS  
FOR\$READ\_IF - READ INTERNAL formatted

```

0000 1      .TITLE FOR$READ_IF - entry point for FORTRAN READ INTERNAL FORMATTED
0000 2      .IDENT /1-012/ File: FORREADIF.MAR Edit: JAW1012
0000 3
0000 4      *****
0000 5      *
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0000 21     * DIGITAL ASSUMES NO RESPONSIBILITY FOR THE USE OR RELIABILITY OF ITS
0000 22     * SOFTWARE ON EQUIPMENT WHICH IS NOT SUPPLIED BY DIGITAL.
0000 23     *
0000 24     *
0000 25     *****
0000 26
0000 27
0000 28     ++
0000 29     FACILITY: FORTRAN Support Library - user callable
0000 30
0000 31     ABSTRACT:
0000 32
0000 33     This module contains the entry point for the FORTRAN
0000 34     READ INTERNAL FORMATTED I/O statement. It is simply
0000 35     a call to FOR$$IO_BEG with bits in R0 which describe the
0000 36     parameter list. FOR$$IO_BEG interprets the parameters.
0000 37
0000 38     MAINTENANCE NOTE:
0000 39     The transfer vector (RTLVECTOR+ALLGBL) must have the following:
0000 40
0000 41     .TRANSFER      FOR$READ_IF
0000 42     .MASK          FOR$$IO_BEG
0000 43     BRW           FOR$READ_IF+2
0000 44
0000 45     This puts the correct mask in entry vector, that is FOR$$IO_BEG entry mask.
0000 46     Furthermore this module must only use R0 and R1
0000 47     since any other register might not be in the entry mask for FOR$$IO_BEG.
0000 48
0000 49     ENVIRONMENT: User access mode; mixture of AST level or not
0000 50
0000 51     AUTHOR:      Richard B. Grove, CREATION DATE: 28-May-78
0000 52
0000 53     MODIFIED BY:
0000 54     T. Hastings, 29-July-78

```

```
0000 56      .SBTTL HISTORY      ; Detailed Current Edit History
0000 57
0000 58
0000 59 : Edit History for Version 1
0000 60 :
0000 61 : 0-10 - Add comment about vectors. TNH 23-June-78
0000 62 : 0-12 - Pass arg in R0, not ROR, add comments. TNH 29-July-78
0000 63 : 1-001 - Update version number and copyright notice. JBS 16-NOV-78
0000 64 : 1-002 - Change statement type symbols to be LUB$K... JBS 07-DEC-78
0000 65 : 1-003 - Change statement type symbols to be ISB$K... JBS 11-DEC-78
0000 66 : 1-004 - Add " " to the PSECT directive. JBS 22-DEC-78
0000 67 : 1-005 - Add FOR$READ_KF, FOR$READ_KO, FOR$REWRITE_SF, FOR$REWRITE_SO,
0000 68 : FOR$READ_IF, FOR$READ_IO, FOR$WRITE_IF, FOR$WRITE_IO,
0000 69 : FOR$READ_KU, FOR$REWRITE_SU,
0000 70 : SBL 2-May-1979
0000 71 : 1-006 - Remove all entry points that need object time formatting,
0000 72 : putting them in FOR$ENTRY_OBJ so that we can arrange to
0000 73 : load the format compiler only when it is needed.
0000 74 : JBS 26-JUN-1979
0000 75 : 1-007 - Remove entry point FOR$ENCODE_MF; we will code a new module
0000 76 : for it and FOR$$IO_BEG, to see how much I/O initiation time
0000 77 : improves. JBS 02-JUL-1979
0000 78 : 1-008 - Do likewise for FOR$READ_DU and FOR$WRITE_DU. JBS 03-JUL-1979
0000 79 : 1-009 - Remove all entry points except FOR$READ_IF; each of the
0000 80 : others gets its own module so we can selectively load
0000 81 : the necessary UDF and REC modules. JBS 09-JUL-1979
0000 82 : 1-010 - Correct a typo that caused a data truncation error. JBS 10-JUL-1979
0000 83 : 1-011 - New parameter format for FOR$$IO_BEG. SBL 5-Dec-1979
0000 84 : 1-012 - Change BRW FOR$$IO_BEG+2 to JMP G^FOR$$IO_BEG+2. JAW 21-Feb-1981
```

```

0000 86      .SBTTL  DECLARATIONS
0000 87
0000 88      :
0000 89      : INCLUDE FILES:
0000 90      :
0000 91
0000 92      $FORPAR      ; Define inter-module FORTRAN symbols
0000 93      $ISBDEF      ; Define statement type symbols
0000 94
0000 95      :
0000 96      : EXTERNAL SYMBOLS:
0000 97      :
0000 98
0000 99      .DSABL  GBL      ; Declare all external symbols
0000 100     .EXTRN  FOR$$IO_BEG      ; common I/O statement processing
0000 101     :+
0000 102     : The following references are to make sure the necessary UDF and REC
0000 103     : modules are loaded. These are the routines which are called through
0000 104     : the dispatch tables in FOR$$DISPAT.
0000 105     :-
0000 106     .EXTRN  FOR$$UDF_RFO, FOR$$UDF_RF1, FOR$$UDF_RF9
0000 107     .EXTRN  FOR$$REC_RIF0, FOR$$REC_RIF1, FOR$$REC_RIF9
0000 108
0000 109     :
0000 110     : MACROS:
0000 111     :
0000 112     : NONE
0000 113     :
0000 114     : PSECT DECLARATIONS:
0000 115     :
0000 116
0000 117     .PSECT  _FOR$CODE PIC,USR,CON,REL,LCL,SHR,EXE,RD,NOWRT,LONG
0000 118
0000 119     :
0000 120     : EQUATED SYMBOLS:
0000 121     :
0000 122
0000 123
0000 124     :
0000 125     : OWN STORAGE:
0000 126     :
0000 127     : NONE
0000 128     :
  
```

```

0000 130      .SBTTL FOR$READ_IF - READ INTERNAL formatted
0000 131
0000 132      :++
0000 133      : FUNCTIONAL DESCRIPTION:
0000 134      :
0000 135      : Initialize the FORTRAN I/O system to perform
0000 136      : a READ INTERNAL formatted I/O statement.
0000 137      :
0000 138      : CALLING SEQUENCE:
0000 139      :
0000 140      : CALL FOR$READ_IF (user_vbl.rt.dx, format_adr.mbu.ra
0000 141      : [err_adr.j.r-[end_adr.j.r]])
0000 142      :
0000 143      : INPUT PARAMETERS:
0000 144      :
0000 145      : user_vbl.rt.dx      User's string variable
0000 146      : format_adr.mbu.ra    adr. of compiled format byte array
0000 147      : [err_adr.j.r]      optional ERR= address
0000 148      : [end_adr.j.r]    optional END= address
0000 149      :
0000 150      : IMPLICIT INPUTS:
0000 151      :
0000 152      : NONE except those used by FOR$$IO_BEG.
0000 153      :
0000 154      : OUTPUT PARAMETERS:
0000 155      :
0000 156      : NONE
0000 157      :
0000 158      : IMPLICIT OUTPUTS:
0000 159      :
0000 160      : NONE except those left by FOR$$IO_BEG.
0000 161      :
0000 162      : COMPLETION CODES:
0000 163      :
0000 164      : NONE
0000 165      :
0000 166      : SIDE EFFECTS:
0000 167      :
0000 168      : NONE except those of FOR$$IO_BEG.
0000 169      :
0000 170      :--
0000 171
0000 172 FOR$READ_IF:: .MASK FOR$$IO_BEG
50 12 9A 0002 173 MOVZBL #ISB$K ST_IY RIF, R0 ; Statement type
00000002'GF 17 0005 174 JMP G^FOR$$IO_BEG+2 ; branch past call mask
000B 175
000B 176
000B 177      .END

```

```

FOR$$IO_BEG          ***** X 00
FOR$$REC_RIF0       ***** X 00
FOR$$REC_RIF1       ***** X 00
FOR$$REC_RIF9       ***** X 00
FOR$$UDF_RFO        ***** X 00
FOR$$UDF_RF1        ***** X 00
FOR$$UDF_RF9        ***** X 00
FOR$READ_IF         00000000 RG 01
ISB&K_ST_TY_RIF    = 00000012
    
```

-----  
 ! Psect synopsis !  
 -----

PSECT name	Allocation	PSECT No.	Attributes
ABS	00000000 ( 0.)	00 ( 0.)	NOPIC USR CON ABS LCL NOSHR NOEXE NORD NOWRT NOVEC BYTE
_FOR\$CODE	0000000B ( 11.)	01 ( 1.)	PIC USR CON REL LCL SHR EXE RD NOWRT NOVEC LONG

-----  
 ! Performance indicators !  
 -----

Phase	Page faults	CPU Time	Elapsed Time
Initialization	29	00:00:00.07	00:00:00.97
Command processing	110	00:00:00.61	00:00:03.61
Pass 1	125	00:00:01.19	00:00:04.05
Symbol table sort	0	00:00:00.19	00:00:00.27
Pass 2	46	00:00:00.46	00:00:01.70
Symbol table output	3	00:00:00.02	00:00:00.09
Psect synopsis output	2	00:00:00.01	00:00:00.02
Cross-reference output	0	00:00:00.00	00:00:00.00
Assembler run totals	317	00:00:02.57	00:00:10.71

The working set limit was 1050 pages.  
 6676 bytes (14 pages) of virtual memory were used to buffer the intermediate code.  
 There were 20 pages of symbol table space allocated to hold 187 non-local and 0 local symbols.  
 177 source lines were read in Pass 1, producing 8 object records in Pass 2.  
 9 pages of virtual memory were used to define 2 macros.

-----  
 ! Macro library statistics !  
 -----

Macro library name	Macros defined
_\$255\$DUA28:[FORRTL.OBJ]FORRTL.MLB;1	2
-\$255\$DUA28:[SYSLIB]STARLET.MLB;2	0
TOTALS (all libraries)	2

183 GETS were required to define 2 macros.

There were no errors, warnings or information messages.

MACRO/ENABLE=SUPPRESSION/DISABLE=(GLOBAL,TRACEBACK)/LIS=LIS\$:FORREADIF/OBJ=OBJ\$:FORREADIF MSRC\$:FORREADIF/UPDATE=(ENH\$:FORREADIF)+LI



