


```

FFFFFFFFF 000000 RRRRRRRR RRRRRRRR EEEEEEEEE EEEEEEEEE DDDDDDDD SSSSSSSS 000000
FFFFFFFFF 000000 RRRRRRRR RRRRRRRR EEEEEEEEE EEEEEEEEE DDDDDDDD SSSSSSSS 000000
FF          00      00 RR      RR RR      RR EE          AA      AA DD      DD SS          00      00
FF          00      00 RR      RR RR      RR EE          AA      AA DD      DD SS          00      00
FF          00      00 RR      RR RR      RR EE          AA      AA DD      DD SS          00      00
FF          00      00 RR      RR RR      RR EE          AA      AA DD      DD SS          00      00
FFFFFFFFF 00      00 RRRRRRRR RRRRRRRR EEEEEEEEE EEEEEEEEE DDD      DD SS          00      00
FFFFFFFFF 00      00 RRRRRRRR RRRRRRRR EEEEEEEEE EEEEEEEEE DDD      DD SS          00      00
FF          00      00 RR  RR  RR  RR  RR  RR EE          AAAAAAAAAA DD      DD SS          00      00
FF          00      00 RR  RR  RR  RR  RR  RR EE          AAAAAAAAAA DD      DD SS          00      00
FF          00      00 RR      RR RR      RR RR      RR EE          AA      AA DD      DD SS          00      00
FF          00      00 RR      RR RR      RR RR      RR EE          AA      AA DD      DD SS          00      00
FF          00      00 RR      RR RR      RR RR      RR EE          AA      AA DD      DD SS          00      00
FF          000000 RR      RR RR      RR RR      RR EEEEEEEEE AA      AA DDDDDDDD SSSSSSSS 000000
FF          000000 RR      RR RR      RR RR      RR EEEEEEEEE AA      AA DDDDDDDD SSSSSSSS 000000

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....
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....

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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
LLLLLLLLLLL IIIIII SSSSSSSS
LLLLLLLLLLL IIIIII SSSSSSSS

```

(2) 56
(3) 85
(4) 133

HISTORY ; Detailed Current Edit History
DECLARATIONS
FORSREAD_SO - READ Sequential OBJECT-FORMATTED

FO
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```
0000 1 .TITLE FOR$READ_SO - entry point for FORTRAN READ SEQUENTIAL OBJECT-FORMATT
0000 2 .IDENT /1-011/ File: FORREADSO.MAR Edit: JAW1011
0000 3
0000 4 *****
0000 5 *
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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 SEQUENTIAL OBJECT-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_SO
0000 42 .MASK FOR$$IO_BEG
0000 43 BRW FOR$READ_SO+2
0000 44
0000 45 This puts the correct mask in entry vector, that is FOR$$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 R0R, 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$$IO_BEG, to see how much I/O initiation time
0000 77 : improves. JBS 02-JUL-1979
0000 78 : 1-008 - Do likewise for FOR$READ_DU and FOR$WRITE_DU. JBS 03-JUL-1979
0000 79 : 1-009 - Remove all entry points and add FOR$READ_SO; each entry
0000 80 : point gets its own module so we can selectively load
0000 81 : the necessary UDF and REC modules. JBS 09-JUL-1979
0000 82 : 1-010 - New parameter format for FOR$$IO_BEG. SBL 5-Dec-1979
0000 83 : 1-011 - Change BRW FOR$$IO_BEG+2 to JMP G^FOR$$IO_BEG+2. JAW 21-Feb-1981
```

```
0000 85 .SBTTL DECLARATIONS
0000 86
0000 87 :
0000 88 : INCLUDE FILES:
0000 89 :
0000 90
0000 91 $FORPAR ; Define inter-module FORTRAN symbols
0000 92 $ISBDEF ; Define statement type symbols
0000 93
0000 94 :
0000 95 : EXTERNAL SYMBOLS:
0000 96 :
0000 97
0000 98 .DSABL GBL ; Declare all external symbols
0000 99 .EXTRN FOR$$IO_BEG ; common I/O statement processing
0000 100 :+
0000 101 : The following references are to make sure the necessary UDF and REC
0000 102 : modules are loaded. These are the routines which are called through
0000 103 : the dispatch tables in FOR$$DISPAT.
0000 104 :-
0000 105 .EXTRN FOR$$UDF_RFO, FOR$$UDF_RF1, FOR$$UDF_RF9
0000 106 .EXTRN FOR$$REC_RSFO, FOR$$REC_RSF1, FOR$$REC_RSF9
0000 107 :+
0000 108 : The following reference makes sure the format compiler is loaded.
0000 109 :-
0000 110 .EXTRN FOR$$FMT_COMPIL
0000 111
0000 112 :
0000 113 : MACROS:
0000 114 :
0000 115 : NONE
0000 116 :
0000 117 : PSECT DECLARATIONS:
0000 118 :
0000 119
00000000 120 .PSECT _FOR$CODE PIC,USR,CON,REL,LCL,SHR,EXE,RD,NOWRT,LONG
0000 121
0000 122 :
0000 123 : EQUATED SYMBOLS:
0000 124 :
0000 125
0000 126
0000 127 :
0000 128 : OWN STORAGE:
0000 129 :
0000 130 : NONE
0000 131 :
```

```

0000 133      .SBTTL FOR$READ_SO - READ Sequential OBJECT-FORMATTED
0000 134
0000 135 :++
0000 136 : FUNCTIONAL DESCRIPTION:
0000 137 :
0000 138 :     Initialize the FORTRAN I/O system to perform
0000 139 :     a READ sequential OBJECT-FORMATTED I/O statement.
0000 140 :
0000 141 : CALLING SEQUENCE:
0000 142 :
0000 143 :     CALL FOR$READ_SO (unit.rl.v, format_adr.rt.r
0000 144 :     [, err_adr.j.r [, end_adr.j.r]1)
0000 145 :
0000 146 : INPUT PARAMETERS:
0000 147 :
0000 148 :     unit.rl.v           logical unit number
0000 149 :     format_adr.rt.t    format string (needs compilation)
0000 150 :     [err_adr.j.r]      optional ERR= address
0000 151 :     [end_adr.j.r]      optional END= address
0000 152 :
0000 153 : IMPLICIT INPUTS:
0000 154 :
0000 155 :     NONE except those used by FOR$$IO_BEG.
0000 156 :
0000 157 : OUTPUT PARAMETERS:
0000 158 :
0000 159 :     NONE
0000 160 :
0000 161 : IMPLICIT OUTPUTS:
0000 162 :
0000 163 :     NONE except those left by FOR$$IO_BEG.
0000 164 :
0000 165 : COMPLETION CODES:
0000 166 :
0000 167 :     NONE
0000 168 :
0000 169 : SIDE EFFECTS:
0000 170 :
0000 171 :     NONE except those of FOR$$IO_BEG.
0000 172 :
0000 173 :--
0000 174
50 0102 8F 0000' 0000 175 FOR$READ_SO:: .MASK FOR$$IO_BEG
0000 176 MOVZWL #ISB$K ST TY RSF+
0000 177 <1@FOR$V OBJ-FMT>, R0 ; Statement type
0000 178 JMP G*FOR$$IO_BEG+2 ; branch past call mask
0000 179
0000 180
0000 181 .END
  
```

FOR\$READ_SO
Symbol table

FOR\$\$FMT_COMPIL	*****	X	00
FOR\$\$IO_BEG	*****	X	00
FOR\$\$REC_RSFO	*****	X	00
FOR\$\$REC_RSF1	*****	X	00
FOR\$\$REC_RSF9	*****	X	00
FOR\$\$UDF_RFO	*****	X	00
FOR\$\$UDF_RF1	*****	X	00
FOR\$\$UDF_RF9	*****	X	00
FOR\$READ_SO	00000000	RG	01
FOR\$V_OBJ_FMT	= 00000008		
ISBK_ST_TY_RSF	= 00000002		

! 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	0000000D (13.)	01 (1.)	PIC	USR	CON	REL	LCL	SHR	EXE	RD	NOWRT	NOVEC	LONG			

! Performance indicators !

Phase	Page faults	CPU Time	Elapsed Time
Initialization	32	00:00:00.07	00:00:01.76
Command processing	145	00:00:00.72	00:00:05.93
Pass 1	127	00:00:01.26	00:00:04.38
Symbol table sort	0	00:00:00.19	00:00:00.19
Pass 2	47	00:00:00.49	00:00:02.17
Symbol table output	3	00:00:00.01	00:00:00.10
Psect synopsis output	2	00:00:00.03	00:00:00.03
Cross-reference output	0	00:00:00.00	00:00:00.00
Assembler run totals	358	00:00:02.78	00:00:14.57

The working set limit was 1050 pages.
6703 bytes (14 pages) of virtual memory were used to buffer the intermediate code.
There were 20 pages of symbol table space allocated to hold 188 non-local and 0 local symbols.
181 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.

FOR\$READ_SO
VAX-11 Macro Run Statistics

- entry point for FORTRAN READ SEQUENTIA ^{H 7} 16-SEP-1984 00:00:12 VAX/VMS Macro V04-00 Page 6
6-SEP-1984 10:59:34 [FORRTL.SRC]FORREADSO.MAR;1 (4)

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

FC
1-

