


```

FFFFFFFFF 000000 RRRRRRRR RRRRRRRR EEEEEEEEEE AAAAAA DDDDDDDD IIIIII 000000
FFFFFFFFF 000000 RRRRRRRR RRRRRRRR EEEEEEEEEE AAAAAA DDDDDDDD IIIIII 000000
FF        00      00 RR      RR RR      RR EE        AA      AA DD      DD II      00      00
FF        00      00 RR      RR RR      RR EE        AA      AA DD      DD II      00      00
FF        00      00 RR      RR RR      RR EE        AA      AA DD      DD II      00      00
FF        00      00 RR      RR RR      RR EE        AA      AA DD      DD II      00      00
FFFFFFFFF 00      00 RRRRRRRR RRRRRRRR EEEEEEEEEE AA      AA DD      DD II      00      00
FFFFFFFFF 00      00 RRRRRRRR RRRRRRRR EEEEEEEEEE AA      AA DD      DD II      00      00
FF        00      00 RR  RR  RR  RR  RR  RR EE        AAAAAAAAAA DD      DD II      00      00
FF        00      00 RR  RR  RR  RR  RR  RR EE        AAAAAAAAAA DD      DD II      00      00
FF        00      00 RR  RR  RR  RR  RR  RR EE        AA      AA DD      DD II      00      00
FF        00      00 RR  RR  RR  RR  RR  RR EE        AA      AA DD      DD II      00      00
FF        00      00 RR  RR  RR  RR  RR  RR EE        AA      AA DD      DD II      00      00
FF        00      00 RR  RR  RR  RR  RR  RR EE        AA      AA DD      DD II      00      00
FF        000000 RR      RR RR      RR EEEEEEEEEE AA      AA DDDDDDDD IIIIII 000000
FF        000000 RR      RR RR      RR EEEEEEEEEE AA      AA DDDDDDDD IIIIII 000000

```

```

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

```

- (2) 56
- (3) 86
- (4) 134

HISTORY : Detailed Current Edit History
DECLARATIONS
FOR\$READ_IO - READ INTERNAL OBJECT-FORMATTED

FC
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M)

```
0000 1 .TITLE FOR$READ_IO - entry point for FORTRAN READ INTERNAL OBJECT-FORMATTED
0000 2 .IDENT /1-012/ File: FORREADIO.MAR Edit: JAW1012
0000 3 :
0000 4 :*****
0000 5 :*
0000 6 :* COPYRIGHT (c) 1978, 1980, 1982, 1984 BY *
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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 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_IO
0000 42 : .MASK FOR$$IO_BEG
0000 43 : BRW FOR$READ_IO+2
0000 44 :
0000 45 : This puts the correct mask in entry vector, that is FOR$$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$$IO_BEG, to see how much I/O initiation time
0000 77 : improves. JBS 02-JUL-1979
0000 78 : 1-008 - Do likewise for FOR$READ_DU and FOR$WRITE_DU. JBS 03-JUL-1979
0000 79 : 1-009 - Remove all entry points and add FOR$READ_IO; each entry
0000 80 : point gets its own module so we can selectively load
0000 81 : the necessary UDF and REC modules. JBS 09-JUL-1979
0000 82 : 1-010 - Correct a typo that caused a data truncation error. JBS 10-JUL-1979
0000 83 : 1-011 - New parameter format for FOR$$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$$UDF_RF0, FOR$$UDF_RF1, FOR$$UDF_RF9
0000 107 .EXTRN FOR$$REC_RIF0, FOR$$REC_RIF1, FOR$$REC_RIF9
0000 108 :+
0000 109 : The following reference makes sure the format compiler is loaded.
0000 110 :-
0000 111 .EXTRN FOR$$FMT_COMPIL
0000 112
0000 113 :
0000 114 : MACROS:
0000 115 :
0000 116 : NONE
0000 117 :
0000 118 : PSECT DECLARATIONS:
0000 119 :
0000 120
0000 121 .PSECT _FOR$CODE PIC,USR,CON,REL,LCL,SHR,EXE,RD,NOWRT,LONG
0000 122
0000 123 :
0000 124 : EQUATED SYMBOLS:
0000 125 :
0000 126 :
0000 127 :
0000 128 :
0000 129 : OWN STORAGE:
0000 130 :
0000 131 : NONE
0000 132 :
```

```

0000 134      .SBTTL FOR$READ_IO - READ INTERNAL OBJECT-FORMATTED
0000 135
0000 136 :++
0000 137 : FUNCTIONAL DESCRIPTION:
0000 138 :
0000 139 :     Initialize the FORTRAN I/O system to perform
0000 140 :     a READ INTERNAL OBJECT-FORMATTED I/O statement.
0000 141 :
0000 142 : CALLING SEQUENCE:
0000 143 :
0000 144 :     CALL FOR$READ_IO (user_vbl.rt.dx, format_adr.rt.r
0000 145 :     [, err_adr.j.r [, end_adr.j.r]])
0000 146 :
0000 147 : INPUT PARAMETERS:
0000 148 :
0000 149 :     user_vbl.rt.dx      User's string variable
0000 150 :     format_adr.rt.r    format string (needs compilation)
0000 151 :     [err_adr.j.r]      optional ERR= address
0000 152 :     [end_adr.j.r]      optional END= address
0000 153 :
0000 154 : IMPLICIT INPUTS:
0000 155 :
0000 156 :     NONE except those used by FOR$$IO_BEG.
0000 157 :
0000 158 : OUTPUT PARAMETERS:
0000 159 :
0000 160 :     NONE
0000 161 :
0000 162 : IMPLICIT OUTPUTS:
0000 163 :
0000 164 :     NONE except those left by FOR$$IO_BEG.
0000 165 :
0000 166 : COMPLETION CODES:
0000 167 :
0000 168 :     NONE
0000 169 :
0000 170 : SIDE EFFECTS:
0000 171 :
0000 172 :     NONE except those of FOR$$IO_BEG.
0000 173 :
0000 174 :--
0000 175
0000 176 FOR$READ IO:: .MASK FOR$$IO BEG
50 0112 8F 0000' 0002 177 MOVZWL #ISB$K ST TY RIF+ -
00000002'GF 17 0007 178 <1@FOR$V OBJ-FMT>, R0 ; Statement type
0000 179 JMP G^FOR$$IO_BEG+2 ; branch past call mask
0000 180
0000 181
0000 182 .END
  
```

```

FOR$FMT_COMPIL ***** X 00
FOR$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$READ_10 00000000 RG 01
FOR$V_OBJ_FMT = 00000008
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	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	30	00:00:00.10	00:00:00.91
Command processing	119	00:00:00.59	00:00:02.83
Pass 1	124	00:00:01.28	00:00:04.88
Symbol table sort	0	00:00:00.18	00:00:00.61
Pass 2	47	00:00:00.48	00:00:01.56
Symbol table output	3	00:00:00.01	00:00:00.20
Psect synopsis output	2	00:00:00.02	00:00:00.05
Cross-reference output	0	00:00:00.00	00:00:00.00
Assembler run totals	327	00:00:02.67	00:00:11.04

The working set limit was 1050 pages.
 6711 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.
 182 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.

FORSREAD IO - entry point for FORTRAN READ INTERNAL 15-SEP-1984 23:57:13 VAX/VMS Macro V04-00 Page 6
VAX-11 Macro Run Statistics 6-SEP-1984 10:59:11 [FORRTL.SRC]FORREADIO.MAR;1 (4)

MACRO/ENABLE=SUPPRESSION/DISABLE=(GLOBAL,TRACEBACK)/LIS=LIS\$:FORREADIO/OBJ=OBJ\$:FORREADIO MSRCS\$:FORREADIO/UPDATE=(ENHS\$:FORREADIO)+LI

