


```
FFFFFFFFF 000000 RRRRRRRR RRRRRRRR EEEEEEEEE AAAAAA DDDDDDDD DDDDDDDD UU UU
FFFFFFFFF 000000 RRRRRRRR RRRRRRRR EEEEEEEEE AAAAAA DDDDDDDD DDDDDDDD UU UU
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FOR\$READ_DU
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HISTORY ; Detailed Current Edit History
DECLARATIONS
FOR\$READ_DU - READ DIRECT UNFORMATTED

```
0000 1 .TITLE FOR$READ_DU - entry point for FORTRAN READ DIRECT UNFORMATTED
0000 2 .IDENT /1-012/ File: FORREADDU.MAR Edit: JAW1012
0000 3
0000 4 :*****
0000 5 :*
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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 DIRECT UNFORMATTED 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$HEAD DO
0000 42 : .MASK FOR$$IO_BEG
0000 43 : BRW FOR$READ_DU+2
0000 44 :
0000 45 : This puts the correct mask in entry vector, that is FOR$$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
```

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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$$IO_BEG, to see how much I/O initiation time
0000 77 : improves.  JBS 02-JUL-1979
0000 78 : 1-008 - Do likewise for FOR$READ_DU and FOR$WRITE_DU.  JBS 03-JUL-1979
0000 79 : 1-009 - Remove all entry points and add FOR$READ_DO; each entry
0000 80 : point gets its own module so we can selectively load
0000 81 : the necessary UDF and REC modules.  JBS 09-JUL-1979
0000 82 : 1-010 - Correct some typos in the references to REC and UDF levels.
0000 83 : JBS 12-JUL-1979
0000 84 : 1-011 - New parameter format for FOR$$IO_BEG.  SBL 5-Dec-1979
0000 85 : 1-012 - Change BRW FOR$$IO_BEG+2 to JMP G^FOR$$IO_BEG+2.  JAW 21-Feb-1981
  
```

```

0000 87          .SBTTL  DECLARATIONS
0000 88
0000 89  :
0000 90  : INCLUDE FILES:
0000 91  :
0000 92
0000 93          $FORPAR          ; Define inter-module FORTRAN symbols
0000 94          $ISBDEF          ; Define statement type symbols
0000 95
0000 96  :
0000 97  : EXTERNAL SYMBOLS:
0000 98  :
0000 99
0000 100         .DSABL  GBL          ; Declare all external symbols
0000 101         .EXTRN  FOR$$IO_BEG ; common I/O statement processing
0000 102
0000 103  : The following references are to make sure the necessary UDF and REC
0000 104  : modules are loaded. These are the routines which are called through
0000 105  : the dispatch tables in FOR$$DISPAT.
0000 106  :-
0000 107         .EXTRN  FOR$$UDF_RU0, FOR$$UDF_RU1, FOR$$UDF_RU9
0000 108         .EXTRN  FOR$$REC_RD0, FOR$$REC_RD1, FOR$$REC_RD9
0000 109
0000 110  :
0000 111  : MACROS:
0000 112  :
0000 113         NONE
0000 114  :
0000 115  : PSECT DECLARATIONS:
0000 116  :
0000 117
0000 118         .PSECT  _FOR$CODE PIC,USR,CON,REL,LCL,SHR,EXE,RD,NOWRT,LONG
0000 119
0000 120  :
0000 121  : EQUATED SYMBOLS:
0000 122  :
0000 123  :
0000 124  :
0000 125  :
0000 126  : OWN STORAGE:
0000 127  :
0000 128         NONE
0000 129  :
  
```

```

0000 131          .SBTTL FOR$READ_DU - READ DIRECT UNFORMATTED
0000 132
0000 133 :++
0000 134 : FUNCTIONAL DESCRIPTION:
0000 135 :
0000 136 :     Initialize the FORTRAN I/O system to perform
0000 137 :     a READ DIRECT UNFORMATTED I/O statement.
0000 138 :
0000 139 : CALLING SEQUENCE:
0000 140 :
0000 141 :     CALL FOR$READ_DU (unit.rl.v, record_no.rl.v,
0000 142 :     [, err_adr.j.r [, end_adr.j.r]])
0000 143 :
0000 144 : INPUT PARAMETERS:
0000 145 :
0000 146 :     unit.rl.v           logical unit number
0000 147 :     record_no.rl.v     record number to read
0000 148 :     [err_adr.j.r]      optional ERR= address
0000 149 :     [end_adr.j.r]      optional END= address
0000 150 :
0000 151 : IMPLICIT INPUTS:
0000 152 :
0000 153 :     NONE except those used by FOR$$IO_BEG.
0000 154 :
0000 155 : OUTPUT PARAMETERS:
0000 156 :
0000 157 :     NONE
0000 158 :
0000 159 : IMPLICIT OUTPUTS:
0000 160 :
0000 161 :     NONE except those left by FOR$$IO_BEG.
0000 162 :
0000 163 : COMPLETION CODES:
0000 164 :
0000 165 :     NONE
0000 166 :
0000 167 : SIDE EFFECTS:
0000 168 :
0000 169 :     NONE except those of FOR$$IO_BEG.
0000 170 :
0000 171 :--
0000 172
0000 173 FOR$READ_DU:: .MASK FOR$$IO_BEG
50 08 0000' 0002 174 MOVZBL #ISB$K ST_TY RDO, R0 ; Statement type
00000002'GF 17 0005 175 JMP G^FOR$$IO_BEG+2 ; branch past call mask
000B 176
000B 177
000B 178          .END

```

```

FOR$$IO_BEG          ***** X 00
FOR$$REC_RDO        ***** X 00
FOR$$REC_RD1        ***** X 00
FOR$$REC_RD9        ***** X 00
FOR$$UDF_RU0        ***** X 00
FOR$$UDF_RU1        ***** X 00
FOR$$UDF_RU9        ***** X 00
FOR$READ_DU         00000000 RG 01
ISB$K_ST_TY_RDU    = 00000008
    
```

↑-----↑
 ! 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	00000008 (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	00:00:00.11	00:00:00.32
Command processing	127	00:00:00.55	00:00:02.52
Pass 1	129	00:00:01.28	00:00:03.79
Symbol table sort	0	00:00:00.19	00:00:00.44
Pass 2	46	00:00:00.41	00:00:01.53
Symbol table output	3	00:00:00.02	00:00:00.02
Psect synopsis output	2	00:00:00.03	00:00:00.06
Cross-reference output	0	00:00:00.00	00:00:00.00
Assembler run totals	338	00:00:02.60	00:00:08.71

The working set limit was 900 pages.
 6684 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.
 178 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\$:FORREADDU/OBJ=OBJ\$:FORREADDU MSRC\$:FORREADDU/UPDATE=(ENH\$:FORREADDU)+LI

A grid of 100 small, identical-looking panels, each containing technical diagrams and text. The panels are arranged in a 10x10 grid. Each panel features a header with a name and 'LIS' (likely Logical Interchange Specification), followed by a diagram showing data flow or system architecture, and a block of text. The names of the panels are as follows:

FORREADIF LIS	FORREADIO LIS								FORREWSU LIS
						FORRECPR LIS			
									FORIGNAL LIS
		FORREADKO LIS						FORREWIND LIS	
		FORREADSF LIS						FORREWSO LIS	
				FORREADSN LIS					
FORREADDU LIS						FORREADSU LIS			FORSECNDS LIS
	FORREADIL LIS								
		FORREADKF LIS							
		FORREADKU LIS						FORREWSF LIS	
				FORREADSL LIS	FORREADSO LIS				