



```

000000      TTTTTTTTT      SSSSSSSS      CCCCCCCC      VV      VV      TTTTTTTTT      RRRRRRRR      DDDDDDDD      PPPPPPPP
000000      TTTTTTTTT      SSSSSSSS      CCCCCCCC      VV      VV      TTTTTTTTT      RRRRRRRR      DDDDDDDD      PPPPPPPP
00      00      TT      SS      CC      VV      VV      TT      RR      RR      DD      DD      PP      PP
00      00      TT      SS      CC      VV      VV      TT      RR      RR      DD      DD      PP      PP
00      00      TT      SS      CC      VV      VV      TT      RR      RR      DD      DD      PP      PP
00      00      TT      SS      CC      VV      VV      TT      RR      RR      DD      DD      PP      PP
00      00      TT      SS      CC      VV      VV      TT      RR      RR      DD      DD      PP      PP
00      00      TT      SS      CC      VV      VV      TT      RR      RR      DD      DD      PP      PP
00      00      TT      SS      CC      VV      VV      TT      RR      RR      DD      DD      PP      PP
00      00      TT      SS      CC      VV      VV      TT      RR      RR      DD      DD      PP      PP
00      00      TT      SS      CC      VV      VV      TT      RR      RR      DD      DD      PP      PP
00      00      TT      SS      CC      VV      VV      TT      RR      RR      DD      DD      PP      PP
00      00      TT      SS      CC      VV      VV      TT      RR      RR      DD      DD      PP      PP
000000      TT      SSSSSSSS      CCCCCCCC      VV      VV      TT      RR      RR      DD      DD      PP      PP
000000      TT      SSSSSSSS      CCCCCCCC      VV      VV      TT      RR      RR      DD      DD      PP      PP

```

```

LL      IIIIIII      SSSSSSSS
LL      IIIIIII      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
LLLLLLLLLLLL      IIIIIII      SSSSSSSS
LLLLLLLLLLLL      IIIIIII      SSSSSSSS

```

(2) 50  
(3) 62  
(4) 100

HISTORY ; Detailed Current Edit History  
DECLARATIONS  
OTSSCVTRDP\_R9

```

0000 1 .TITLE OTSSCVTRDP_R9 Convert Rounded Double Floating to Packed
0000 2 .IDENT /1-005/ ; File: OTSCVTRDP.MAR Edit: PLL1005
0000 3
0000 4
0000 5 *****
0000 6 *
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0000 23 * SOFTWARE ON EQUIPMENT WHICH IS NOT SUPPLIED BY DIGITAL. *
0000 24 *
0000 25 *
0000 26 *****
0000 27
0000 28
0000 29 FACILITY: LANGUAGE INDEPENDENT SUPPORT
0000 30 +-
0000 31 ABSTRACT:
0000 32 This module contains the routine that converts double floating
0000 33 numbers to packed with rounding.
0000 34
0000 35
0000 36 --
0000 37
0000 38 VERSION: 1
0000 39
0000 40 HISTORY:
0000 41
0000 42 AUTHOR:
0000 43 Marty Jack, 14-Mar-1979
0000 44
0000 45 MODIFIED BY:
0000 46
0000 47
0000 48

```

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OTSSCVTRDP\_R9  
1-005

L 3

Convert Rounded Double Floating to Packe 16-SEP-1984 00:26:41 VAX/VMS Macro V04-00 Page 2  
HISTORY ; Detailed Current Edit History 6-SEP-1984 11:13:24 [LIBRTL.SRC]OTSCVTRDP.MAR;1 (2)

```
0000 50      .SBTTL HISTORY      ; Detailed Current Edit History
0000 51
0000 52
0000 53 ; Edit History for Version 1 of OTSCVTRDP
0000 54 :
0000 55 : 1-001 - Original. MLJ 14-Mar-1979
0000 56 : 1-002 - Make external references explicit. RKR 17-JULY-1979
0000 57 : 1-003 - Change all references to FOR$CNV_OUT_E to OTSS$CNVOUT
0000 58 : RKR 27-SEPT-79
0000 59 : 1-004 - Cosmetic changes. RKR 18-OCT-79
0000 60 ; 1-005 - Change source name to OTSS and retain old entry point name. PLL 21-Jan-82
```

```
0000 62          .SBTTL  DECLARATIONS
0000 63
0000 64 :
0000 65 : INCLUDE FILES:
0000 66 :
0000 67          $DSCDEF
0000 68
0000 69 :
0000 70 : EXTERNAL SYMBOLS:
0000 71
0000 72          .DSABL  GBL          ; Prevent undeclared symbols from being
0000 73                          ; automatically global
0000 74
0000 75          .EXTRN  OTSS$CNVOUT    ; E-format conversion
0000 76          .EXTRN  LIB$STOP      ; Error halt
0000 77          .EXTRN  OTSS$_FATINTERR ; Fatal internal error code
0000 78 :
0000 79 :
0000 80 :
0000 81 : MACROS:
0000 82 :     NONE
0000 83 :
0000 84 :
0000 85 :
0000 86 : PSECT DECLARATIONS:
0000 87          .PSECT  _OTSS$CODE    PIC, SHR, LONG, EXE, NOWRT,-
0000 88                          ;USR, CON, REL, LCL, RD
0000 89
0000 90 :
0000 91 : EQUATED SYMBOLS:
0000 92 :     NONE
0000 93 :
0000 94 :
0000 95 :
0000 96 : OWN STORAGE:
0000 97 :     NONE
0000 98 :
```

```

0000 100      .SBTTL OTSSCVTRDP_R9
0000 101
0000 102      :++
0000 103      : FUNCTIONAL DESCRIPTION:
0000 104      :
0000 105      :     Converts a double floating number to packed with rounding.
0000 106      :
0000 107      : CALLING SEQUENCE:
0000 108      :
0000 109      :     JSB OTSSCVTRDP_R9 (scale.rl.v, src.rd.r, dstlen.rl.v, dst.wp.r)
0000 110      :
0000 111      :     Arguments are passed in R6, R7, R8 and R9.
0000 112      :
0000 113      : INPUT PARAMETERS:
0000 114      :
0000 115      :     SCALE.rl.v           The power of ten by which the internal
0000 116      :                          representation of the source must be
0000 117      :                          multiplied to scale the same as the
0000 118      :                          internal representation of the dest.
0000 119      :     SRC.rd.r             The number to be converted
0000 120      :     DSTLEN.rl.v         The number of digits in the destination
0000 121      :
0000 122      : IMPLICIT INPUTS:
0000 123      :
0000 124      :     All of the trap bits in the PSL are assumed off.
0000 125      :
0000 126      : OUTPUT PARAMETERS:
0000 127      :
0000 128      :     DST.wp.r             The place to store the converted number
0000 129      :
0000 130      : IMPLICIT OUTPUTS:
0000 131      :
0000 132      :     NONE
0000 133      :
0000 134      : FUNCTION VALUE:
0000 135      :
0000 136      :     1 = SUCCESS, 0 = FAILURE
0000 137      :
0000 138      : SIDE EFFECTS:
0000 139      :
0000 140      :     Destroys registers R0 through R9.
0000 141      :
0000 142      :--
0000 143
0000 144
0000 145 OTSSCVTRDP_R9::
0000 146 COBSCVTRDP_R9::
5E  30  C2 0000 147      SUBL2   #48,SP           ; Allocate temp space
6E  67  70 0003 148      MOVD    (R7),(SP)       ; Get input number
0006 149      :
0006 150      : Make a descriptor for the temporary string.
0006 151      :
0006 152      :     PUSHAB  8(SP)           ; Address = space reserved
7E  08  AE  9F 0006 152      :     MOVB   #DSC$K_CLASS_S,-(SP) ; Class = static
7E  01  90 0009 153      :     MOVB   #DSC$K_DTYPE_I,-(SP) ; Data type = ASCII string
7E  0E  90 000C 154      :     MOVW   #38,-(SP)          ; Length in bytes
7E  26  B0 000F 155      :
0012 156      ;

```

```

0012 157 : Call OTSSCNVOUT.
0012 158 :
0012 159 :
04 AE 9F 0014 160 : PUSHAB #31 : Digits in fraction
10 AE 9F 0017 161 : PUSHAB 4(SP) : Output string descriptor
00000000'GF 03 FB 001A 162 : PUSHAB 16(SP) : Number to convert
29 50 E9 0021 163 : CALLS #3,G^OTSSCNVOUT : Call conversion routine
0024 164 : BLBC R0,20$ : Should never fail
0024 165 :
0024 166 : Convert the exponent and correct for scale factor.
6E 02 33 AE 02 09 0024 167 : CVTSP #2,51(SP),#2,(SP) : Make packed exponent
50 6E 02 36 002A 168 : CVTPL #2,(SP),R0 : Make longword exponent
56 E1 A640 9E 002E 169 : MOVAB -31(R6)[R0],R6 : Correct for fraction size and scale
0033 170 :
0033 171 : Convert the fraction to packed.
0033 172 :
69 58 6E 05 1F 12 AE 10 AE 90 0033 173 : MOVAB 16(SP),18(SP) : Move sign over "."
1F 12 AE 1F 09 0038 174 : CVTSP #31,18(SP),#31,(SP) : Make packed fraction
003E 175 : ASHP R6,#31,(SP),#5,R8,(R9) : Scale to destination
0045 176 : (also clears R0)
0045 177 : BVS 10$ : Branch if overflowed
50 D6 0047 178 : INCL R0 : Indicate success, R0 = 1
5E 38 C0 0049 179 10$: ADDL2 #56,SP : Delete stack temps
05 004C 180 : RSB
004D 181 :
004D 182 : Come here on failure of OTSSCNVOUT. This should never happen.
004D 183 :
00000000'8F DD 004D 184 20$: PUSHAB #OTSS_FATALERR : OTS fatal error message
00000000'GF 01 FB 0053 185 : CALLS #1,G^CIB$STOP : Signal and don't return
005A 186 :
005A 187 : .END
    
```



OTSSCVTRDP R9  
Symbol table

COBSCVTRDP R9 = 00000000 RG 02  
DSCSK\_CLASS\_S = 00000001  
DSCSK\_DTYPE\_T = 0000000E  
LIB\$STOP \*\*\*\*\* X 00  
OTSSCNVOUT \*\*\*\*\* X 00  
OTSSCVTRDP R9 00000000 RG 02  
OTSS\_FATINTERR \*\*\*\*\* X 00

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

PSECT name	Allocation	PSECT No.	Attributes
. ABS .	00000000 ( 0.)	00 ( 0.)	NOPIC USR CON ABS LCL NOSHR NOEXE NORD NOWRT NOVEC BYTE
\$AB\$\$	00000000 ( 0.)	01 ( 1.)	NOPIC USR CON ABS LCL NOSHR EXE RD WRT NOVEC BYTE
_OTSSCODE	0000005A ( 90.)	02 ( 2.)	PIC USR CON REL LCL SHR EXE RD NOWRT NOVEC LONG

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

Phase	Page faults	CPU Time	Elapsed Time
Initialization	31	00:00:00.03	00:00:02.10
Command processing	120	00:00:00.34	00:00:03.07
Pass 1	135	00:00:01.15	00:00:06.70
Symbol table sort	0	00:00:00.11	00:00:00.98
Pass 2	52	00:00:00.34	00:00:03.57
Symbol table output	3	00:00:00.01	00:00:00.02
Psect synopsis output	2	00:00:00.01	00:00:00.01
Cross-reference output	0	00:00:00.00	00:00:00.00
Assembler run totals	345	00:00:02.00	00:00:16.46

The working set limit was 1050 pages.  
8392 bytes (17 pages) of virtual memory were used to buffer the intermediate code.  
There were 10 pages of symbol table space allocated to hold 136 non-local and 2 local symbols.  
187 source lines were read in Pass 1, producing 10 object records in Pass 2.  
8 pages of virtual memory were used to define 7 macros.

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

Macro library name	Macros defined
_\$255\$DUA28:[SYSLIB]STARLET.MLB;2	4

190 GETS were required to define 4 macros.

There were no errors, warnings or information messages.

MACRO/ENABLE=SUPPRESSION/DISABLE=(GLOBAL,TRACEBACK)/LIS=LIS\$:OTSCVTRDP/OBJ=OBJ\$:OTSCVTRDP MSRCS:OTSCVTRDP/UPDATE=(ENH\$:OTSCVTRDP)

