


```

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
LLLLLLLLLLLL IIIIII          SSSSSSSS
LLLLLLLLLLLL IIIIII          SSSSSSSS

```


(2) 50
(3) 63
(4) 101

HISTORY
DECLARATIONS
OTSSCVTDP_R9

; Detailed Current Edit History

```
0000 1      .TITLE  OTSSCVTDP_R9      Convert Double Floating to Packed
0000 2      .IDENT  /1-005/           ; File: otscvtdp.MAR Edit: PLL1005
0000 3
0000 4
0000 5 *****
0000 6 *****
0000 7      *  COPYRIGHT (c) 1978, 1980, 1982, 1984 BY
0000 8      *  DIGITAL EQUIPMENT CORPORATION, MAYNARD, MASSACHUSETTS.
0000 9      *  ALL RIGHTS RESERVED.
0000 10
0000 11      *  THIS SOFTWARE IS FURNISHED UNDER A LICENSE AND MAY BE USED AND COPIED
0000 12      *  ONLY IN ACCORDANCE WITH THE TERMS OF SUCH LICENSE AND WITH THE
0000 13      *  INCLUSION OF THE ABOVE COPYRIGHT NOTICE. THIS SOFTWARE OR ANY OTHER
0000 14      *  COPIES THEREOF MAY NOT BE PROVIDED OR OTHERWISE MADE AVAILABLE TO ANY
0000 15      *  OTHER PERSON. NO TITLE TO AND OWNERSHIP OF THE SOFTWARE IS HEREBY
0000 16      *  TRANSFERRED.
0000 17
0000 18      *  THE INFORMATION IN THIS SOFTWARE IS SUBJECT TO CHANGE WITHOUT NOTICE
0000 19      *  AND SHOULD NOT BE CONSTRUED AS A COMMITMENT BY DIGITAL EQUIPMENT
0000 20      *  CORPORATION.
0000 21
0000 22      *  DIGITAL ASSUMES NO RESPONSIBILITY FOR THE USE OR RELIABILITY OF ITS
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.
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
```


OTSSCVTDP_R9
1-005

Convert Double Floating to Packed F 11
HISTORY ; Detailed Current Edit History 16-SEP-1984 00:22:57 VAX/VMS Macro V04-00
6-SEP-1984 11:12:49 [LIBRTL.SRC]OTSCVTDP.MAR;1

Page 2
(2)

```
0000 50      .SBTTL HISTORY      ; Detailed Current Edit History
0000 51
0000 52
0000 53 : Edit History for Version 1 of otscvtdp
0000 54 :
0000 55 : 1-001 - Original. MLJ 14-Mar-1979
0000 56 : 1-002 - Made externals explicit. RKR 17-JULY-79
0000 57 : 1-003 - Change all references to FOR$CNV_OUT_E to COB$CNVOUT
0000 58 : RKR 27-SEPT-79
0000 59 : 1-004 - Cosmetic changes. RKR 18-OCT-79
0000 60 : 1-005 - Rename source module to OTSS but retain old entry point name.
0000 61 : PLL 21-Jan-82
```

```

0000 63      .SBTTL  DECLARATIONS
0000 64
0000 65 :
0000 66 : INCLUDE FILES:
0000 67 :
0000 68      $DSCDEF
0000 69
0000 70 :
0000 71 : EXTERNAL SYMBOLS:
0000 72      .DSABL  GBL      ; Prevent undeclared symbols from
0000 73                          ; being automatically global
0000 74
0000 75      .EXTRN  OTSS$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 :
0000 82 : MACROS:
0000 83      NONE
0000 84 :
0000 85 :
0000 86 :
0000 87 : PSECT DECLARATIONS:
0000 88      .PSECT  _OTSS$CODE      PIC, SHR, LONG, EXE, NOWRT,-
0000 89                          USR, CON, REL, LCL, RD
0000 90
0000 91 :
0000 92 : EQUATED SYMBOLS:
0000 93      NONE
0000 94 :
0000 95 :
0000 96 :
0000 97 : OWN STORAGE:
0000 98      NONE
0000 99 :

```



```
0000 101      .SBTTL OTSSCVTDP_R9
0000 102
0000 103      :++
0000 104      : FUNCTIONAL DESCRIPTION:
0000 105      :
0000 106      :     Converts a double floating number to packed.
0000 107      :
0000 108      : CALLING SEQUENCE:
0000 109      :
0000 110      :     JSB OTSSCVTDP_R9 (scale.rl.v, src.rd.r, dstlen.rl.v, dst.wp.r)
0000 111      :
0000 112      :     Arguments are passed in R6, R7, R8 and R9.
0000 113      :
0000 114      : INPUT PARAMETERS:
0000 115      :
0000 116      :     SCALE.rl.v           The power of ten by which the internal
0000 117      :                               representation of the source must be
0000 118      :                               multiplied to scale the same as the
0000 119      :                               internal representation of the dest.
0000 120      :     SRC.rd.r             The number to be converted
0000 121      :     DSTLEN.rl.v         The number of digits in the destination
0000 122      :
0000 123      : IMPLICIT INPUTS:
0000 124      :
0000 125      :     All of the trap bits in the PSL are assumed off.
0000 126      :
0000 127      : OUTPUT PARAMETERS:
0000 128      :
0000 129      :     DST.wp.r                 The place to store the converted number
0000 130      :
0000 131      : IMPLICIT OUTPUTS:
0000 132      :
0000 133      :     NONE
0000 134      :
0000 135      : FUNCTION VALUE:
0000 136      :
0000 137      :     1 = SUCCESS, 0 = FAILURE
0000 138      :
0000 139      : SIDE EFFECTS:
0000 140      :
0000 141      :     Destroys registers R0 through R9.
0000 142      :
0000 143      :--
0000 144
0000 145
0000 146 OTSSCVTDP_R9::
0000 147 COBSCVTDP_R9::
0000 148      SOBL2    #48,SP           ; Allocate temp space
0000 149      MOVD    (R7),(SP)       ; Get input number
0000 150      :
0000 151      : Make a descriptor for the temporary string.
0000 152      :
0000 153      PUSHAB   8(SP)             ; Address = space reserved
0000 154      MOVB    #DSC$K_CLASS_S,-(SP) ; Class = static
0000 155      MOVB    #DSC$K_DTYPE_T,-(SP) ; Data type = ASCII string
0000 156      MOVW    #38,-(SP)        ; Length in bytes
0012 157      :
```

```
00000000'GF 1F DD 0012 158 : Call OTSS$CNVOUT.
04 AE 9F 0012 159 :
10 AE 9F 0014 160 : PUSHL #31 : Digits in fraction
00000000'GF 03 FB 0017 161 : PUSHAB 4(SP) : Output string descriptor
29 50 E9 001A 162 : PUSHAB 16(SP) : Number to convert
0021 163 : CALLS #3,G^OTSS$CNVOUT : Call conversion routine
0024 164 : BLBC R0,20$ : Should never fail
0024 165 :
0024 166 : Convert the exponent and correct for scale factor.
0024 167 :
6E 02 33 AE 02 09 0024 168 : CVTSP #2,51(SP),#2,(SP) : Make packed exponent
50 6E 02 36 002A 169 : CVTPL #2,(SP),R0 : Make longword exponent
56 E1 A640 9E 002E 170 : MOVAB -31(R6)[R0],R6 : Correct for fraction size and scale
0033 171 :
0033 172 : Convert the fraction to packed.
0033 173 :
69 58 00 12 AE 10 AE 90 0033 174 : MOVAB 16(SP),18(SP) : Move sign over "."
1F 12 AE 1F 09 0038 175 : CVTSP #31,18(SP),#31,(SP) : Make packed fraction
6E 1F 56 F8 003E 176 : ASHP R6,#31,(SP),#0,R8,(R9) : Scale to destination
0045 177 : : (also clears R0)
02 1D 0045 178 : BVS 10$ : Branch if overflowed
50 D6 0047 179 : INCL R0 : Indicate success, R0 = 1
5E 38 C0 0049 180 10$: ADDL2 #56,SP : Delete stack temps
05 004C 181 : RSB
004D 182 :
004D 183 : Come here on failure of OTSS$CNVOUT. This should never happen.
004D 184 :
00000000'8F DD 004D 185 20$: PUSHL #OTSS$FATINTERR : OTS fatal error message
00000000'GF 01 FB 0053 186 : CALLS #1,G^LIB$STOP : Signal and don't return
005A 187 :
005A 188 : .END
```


OTSSCVTDP R9
Symbol table

Convert Double Floating to Packed J 11

16-SEP-1984 00:22:57 VAX/VMS Macro V04-00
6-SEP-1984 11:12:49 [LIBRTL.SRC]OTSCVTDP.MAR;1

Page 6
(4)

COBSCVTDP R9
DSCSK_CLASS_S
DSCSK_DTYPE_T
LIB\$STOP
OTSSCNVOUT
OTSSCVTDP R9
OTSS_FATINTERR

00000000 RG 02
= 00000001
= 0000000E
***** X 00
***** X 00
00000000 RG 02
***** 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
\$ABSS	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	29	00:00:00.06	00:00:00.45
Command processing	106	00:00:00.35	00:00:05.45
Pass 1	135	00:00:01.17	00:00:05.17
Symbol table sort	0	00:00:00.11	00:00:00.11
Pass 2	48	00:00:00.35	00:00:00.92
Symbol table output	3	00:00:00.02	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	325	00:00:02.08	00:00:12.14

The working set limit was 1050 pages.
8399 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.
188 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\$:OTSCVTDP/OBJ=OBJ\$:OTSCVTDP MSRC\$:OTSCVTDP/UPDATE=(ENH\$:OTSCVTDP)

0211 AH-BT13A-SE
VAX/VMS V4.0

DIGITAL EQUIPMENT CORPORATION
CONFIDENTIAL AND PROPRIETARY

