


```

000000  TTTTTTTTTT  SSSSSSSS  CCCCCCCC  VV      VV  TTTTTTTTTT  PPPPPPPP  DDDDDDDD
000000  TTTTTTTTTT  SSSSSSSS  CCCCCCCC  VV      VV  TTTTTTTTTT  PPPPPPPP  DDDDDDDD
00      00    TT      SS      CC      VV      VV  TT      PP      PP  DD      DD
00      00    TT      SS      CC      VV      VV  TT      PP      PP  DD      DD
00      00    TT      SS      CC      VV      VV  TT      PP      PP  DD      DD
00      00    TT      SS      CC      VV      VV  TT      PP      PP  DD      DD
00      00    TT      SS      CC      VV      VV  TT      PP      PP  DD      DD
00      00    TT      SS      CC      VV      VV  TT      PP      PP  DD      DD
00      00    TT      SS      CC      VV      VV  TT      PP      PP  DD      DD
00      00    TT      SS      CC      VV      VV  TT      PP      PP  DD      DD
00      00    TT      SS      CC      VV      VV  TT      PP      PP  DD      DD
00      00    TT      SS      CC      VV      VV  TT      PP      PP  DD      DD
000000  TT      SSSSSSSS  CCCCCCCC  VV      VV  TT      PP      PP  DD      DD
000000  TT      SSSSSSSS  CCCCCCCC  VV      VV  TT      PP      PP  DD      DD

```

```

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
LL      IIIIII  SSSSSSSS
LLLLLLLL  IIIIII  SSSSSSSS

```

(2) 50
(3) 63
(4) 98

HISTORY ; Detailed Current Edit History
DECLARATIONS
OTSSCVTPD_R9

```

0000 1      .TITLE  OTSSCVTPD_R9      Convert Packed to Double
0000 2      .IDENT  /1-005/           ; File: OTSCVTPD.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 packed numbers
0000 33 :     to double floating.
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 :

```

01
S)
CC
DS
DS
01
01

PS
--
\$J
-C

PT
--
If
CC
Pa
Sy
Pa
Sy
Ps
Cr
As

TH
81
TH
17
8

M
-1
19
TH
M

```
0000 50      .SBTTL HISTORY      ; Detailed Current Edit History
0000 51
0000 52
0000 53 ; Edit History for Version 1 of OTSCVTPD
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 FORSCNV_IN_DEFG to OTSSCVT_I_D
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 but retain old entry point name.
0000 61 :
```

```
0000 63 .SBTTL DECLARATIONS
0000 64
0000 65 :
0000 66 : INCLUDE FILES:
0000 67 :
0000 68 .SDSCDEF
0000 69
0000 70 :
0000 71 : EXTERNAL SYMBOLS:
0000 72 .DSABL GBL ; Prevent undeclared symbols from being
0000 73 ; automatically global
0000 74
0000 75 .EXTRN OTSSCVT_T_D ; D, E, F, G Conversion routine
0000 76 :
0000 77
0000 78
0000 79 : MACROS:
0000 80 NONE
0000 81 :
0000 82 :
0000 83 :
0000 84 : PSECT DECLARATIONS:
00000000 85 .PSECT _OTSSCODE PIC, SHR, LONG, EXE, NOWRT,-
0000 86 USR, CON, REL, LCL, RD
0000 87
0000 88 :
0000 89 : EQUATED SYMBOLS:
0000 90 NONE
0000 91 :
0000 92 :
0000 93 :
0000 94 : OWN STORAGE:
0000 95 NONE
0000 96 :
```

```

0000 98      .SBTTL  OTSSCVTPD_R9
0000 99
0000 100    :++
0000 101    : FUNCTIONAL DESCRIPTION:
0000 102    :
0000 103    :     Converts packed numbers to double floating.
0000 104    :
0000 105    : CALLING SEQUENCE:
0000 106    :
0000 107    :     JSB OTSSCVTPD_R9 (scale.rl.v, srclen.rl.v, src.rp.r, dst.wd.r)
0000 108    :
0000 109    :     Arguments are passed in R6, R7, R8 and R9.
0000 110    :
0000 111    : INPUT PARAMETERS:
0000 112    :
0000 113    :     SCALE.rl.v           The power of ten by which the internal
0000 114    :                               representation of the source must be
0000 115    :                               multiplied to scale the same as the
0000 116    :                               internal representation of the dest.
0000 117    :     SRCLEN.rl.v         The number of digits in the source
0000 118    :     SRC.rp.r           The number to be converted
0000 119    :
0000 120    : IMPLICIT INPUTS:
0000 121    :
0000 122    :     ALL of the trap bits in the PSL are assumed off.
0000 123    :
0000 124    : OUTPUT PARAMETERS:
0000 125    :
0000 126    :     DST.wd.r           The place to store the converted number
0000 127    :
0000 128    : IMPLICIT OUTPUTS:
0000 129    :
0000 130    :     NONE
0000 131    :
0000 132    : FUNCTION VALUE:
0000 133    :
0000 134    :     1 = SUCCESS, 0 = FAILURE
0000 135    :
0000 136    : SIDE EFFECTS:
0000 137    :
0000 138    :     Destroys registers R0 through R9.
0000 139    :
0000 140    :--
0000 141
0000 142
0000 143  OTSSCVTPD_R9::
0000 144  COBSCVTPD_R9::
0000 145  SOB L2 #40,SP ; Space for temp string and result
08 AE 1F 5E 28 C2 0003 146  CVTPS R7,(R8),#31,8(SP) ; Make a separate sign string
0009 147 :
0009 148 : Make a descriptor for the leading separate string.
0009 149 :
0009 150  PUSH L R3 ; Address = temp string
7E 01 90 000B 151  MOV B #DSC$K_CLASS_S,-(SP) ; Class = static
7E 0E 90 000E 152  MOV B #DSC$K_DTYPE_T,-(SP) ; Data type = ASCII text
7E 20 B0 0011 153  MOV W #32,-(SP) ; Length = 32 bytes
0014 154 :

```

```
0014 155 ; Now call the conversion routine.
0014 156 ;
7E 56 CE 0014 157 MNEGL R6,-(SP) ; Scale factor
00 00 DD 0017 158 PUSHL #0 ; Digits in fraction
10 AE 9F 0019 159 PUSHAB 16(SP) ; Address of result area
OC AE 9F 001C 160 PUSHAB 12(SP) ; Address of descriptor
00000000'GF 04 FB 001F 161 CALLS #4,G^OTSS$CVT_T_D ; Call the routine
OB 50 E9 0026 162 BLBC R0,2$ ; Failure, must be overflow
69 08 AE 70 0029 163 MOVD 8(SP),(R9) ; Store result
50 01 D0 002D 164 MOVL #1,R0 ; Indicate success
5E 30 C0 0030 165 1$: ADDL2 #48,SP ; Delete stack temps
05 0033 166 RSB ; Return
0034 167 ;
0034 168 ; Come here on overflow to store the reserved operand.
0034 169 ;
69 01 0F 79 0034 170 2$: ASHQ #15,#1,(R9) ; Store reserved operand
50 04 0038 171 CLRL R0 ; Indicate failure
F4 11 003A 172 BRB 1$ ; Delete stack temps and return
003C 173 ;
003C 174 .END
```


