



```

000000  TTTTTTTTTT  SSSSSSSS  CCCCCCCC  VV      VV  TTTTTTTTTT  RRRRRRRR  FFFFFFFFFF  PPPPPPPP
000000  TTTTTTTTTT  SSSSSSSS  CCCCCCCC  VV      VV  TTTTTTTTTT  RRRRRRRR  FFFFFFFFFF  PPPPPPPP
00      00    TT      SS      CC      VV      VV  TT      RR      RR  FF      PP      PP
00      00    TT      SS      CC      VV      VV  TT      RR      RR  FF      PP      PP
00      00    TT      SS      CC      VV      VV  TT      RR      RR  FF      PP      PP
00      00    TT      SS      CC      VV      VV  TT      RR      RR  FF      PP      PP
00      00    TT      SS      CC      VV      VV  TT      RR      RR  FF      PP      PP
00      00    TT      SS      CC      VV      VV  TT      RR      RR  FF      PP      PP
00      00    TT      SS      CC      VV      VV  TT      RR      RR  FF      PP      PP
00      00    TT      SS      CC      VV      VV  TT      RR      RR  FF      PP      PP
00      00    TT      SS      CC      VV      VV  TT      RR      RR  FF      PP      PP
000000  TT      SSSSSSSS  CCCCCCCC  VV      VV  TT      RR      RR  FF      PP      PP
000000  TT      SSSSSSSS  CCCCCCCC  VV      VV  TT      RR      RR  FF      PP      PP

```

```

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
LLLLLLLL  IIIIII  SSSSSSSS
LLLLLLLL  IIIIII  SSSSSSSS

```

(2)	50	HISTORY	: Detailed Current Edit History
(3)	62	DECLARATIONS	
(4)	100	OTSSCVTRFP_R9	

```
0000 1 .TITLE OTSSCVTRFP_R9 Convert Rounded Floating to Packed
0000 2 .IDENT /1-005/ ; File: OTSCVTRFP.MAR Edit: PLL1005
0000 3
0000 4
0000 5 *****
0000 6 *
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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 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
```

```
0000 50 .SBTTL HISTORY ; Detailed Current Edit History
0000 51
0000 52
0000 53 : Edit History for Version 1 of OTSCVTRFP
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_OUT_E to COBSCNVOUT
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
```

OT  
Sy  
DS  
DS  
LII  
OT  
OT  
OT  
PS  
--  
SA  
\_O  
Ph  
In  
Co  
Pa  
Syl  
Pa  
Syl  
Psi  
Cri  
As  
Th  
90  
Th  
22  
8  
Ma  
--  
\_S  
19  
Th  
MA

```
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 OTSS$CVTRFP_R9
0000 101
0000 102 :++
0000 103 : FUNCTIONAL DESCRIPTION:
0000 104 :
0000 105 :     Converts a floating number to packed with rounding.
0000 106 :
0000 107 : CALLING SEQUENCE:
0000 108 :
0000 109 :     JSB OTSS$CVTRFP_R9 (scale.rl.v, src.rf.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.rf.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 OTSS$CVTRFP_R9::
0000 146 COB$CVTRFP_R9::
5E 30 C2 0000 147      SUBL2 #48,SP           ; Allocate temp space
6E 67 56 0003 148      CVTFD (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 0009 153      MOVB #DSC$K_CLASS_S,-(SP)   ; Class = static
7E 01 90 000C 154      MOVB #DSC$K_DTYPE_T,-(SP)   ; Data type = ASCII string
7E 0E 90 000F 155      MOVW #38,-(SP)           ; Length in bytes
7E 26 B0 0012 156 :

```

```

0012 157 : Call OTSSCNVOUT.
0012 158 :
04 1F DD 0012 159 : PUSHL #31 ; Digits in fraction
10 AE 9F 0014 160 : PUSHAB 4(SP) ; Output string descriptor
00000000'GF 03 FB 0017 161 : PUSHAB 16(SP) ; Number to convert
29 50 E9 001A 162 : CALLS #3,G^OTSSCNVOUT ; Call conversion routine
0021 163 : BLBC R0,20$ ; Should never fail
0024 164 :
0024 165 : Convert the exponent and correct for scale factor.
0024 166 :
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 6E 12 AE 10 AE 90 0033 173 : MOVB 16(SP),18(SP) ; Move sign over "."
58 05 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
0047 178 : INCL R0 ; Indicate success, R0 = 1
5E 38 C0 0049 179 10$: ADDL2 #56,SP ; Delete stack temps
05 004C 180 : RSB
004D 181 :
004D 182 : Come here on failure of OTSSCNVOUT. This should never happen.
004D 183 :
00000000'8F DD 004D 184 20$: PUSHL #OTSS FATINTERR ; 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

```



OTSSCVTRFP R9  
Symbol table

Convert Rounded Floating to Packed <sup>K</sup> 4

COBSCVTRFP R9  
DSCSK\_CLASS\_S  
DSCSK\_DTYPE\_T  
LIB\$STOP  
OTSSCNVOUT  
OTSSCVTRFP 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	35	00:00:00.02	00:00:03.43
Command processing	126	00:00:00.29	00:00:02.72
Pass 1	132	00:00:01.11	00:00:04.90
Symbol table sort	0	00:00:00.11	00:00:00.69
Pass 2	49	00:00:00.35	00:00:02.90
Symbol table output	3	00:00:00.01	00:00:00.01
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	349	00:00:01.91	00:00:14.67

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\$:OTSCVTRFP/OBJ=OBJ\$:OTSCVTRFP MSRC\$:OTSCVTRFP/UPDATE=(ENH\$:OTSCVTRFP)

