

(2)	50	HISTORY	; Detailed Current Edit History
(3)	62	DECLARATIONS	
(4)	93	MTHSGINT	G to G truncation
(5)	137	MTHSGINT_R4	JSB entry point

```

0000 1 .TITLE MTH$GINT - FLOATING TRUNCATION
0000 2 .IDENT /1-004/ ; File: MTH$GINT.MAR Edit: JAW1004
0000 3
0000 4
0000 5 :*****
0000 6 :*
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0000 25 :*
0000 26 :*****
0000 27
0000 28
0000 29 : FACILITY: MATH LIBRARY
0000 30 :++
0000 31 : ABSTRACT:
0000 32 : This module contains routine MTH$GINT:
0000 33 : Return truncated G floating argument.
0000 34 :
0000 35 :
0000 36 :--
0000 37
0000 38 : VERSION: 1
0000 39
0000 40 : HISTORY:
0000 41
0000 42 : AUTHOR:
0000 43 : Steven B. Lionel, 18-Jan-79: Version 1
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 MTHSGINT
0000 54 :
0000 55 : 1-001 - Original. SBL 18-Jan-79
0000 56 : 1-002 - Add a JSB entry point. JBS 16-AUG-1979
0000 57 : 1-003 - Change JSB entry to _R4 to reflect code that disables IV.
0000 58 : SBL 26-Sept-1979
0000 59 : 1-004 - Fix final operand of EMOGD in MTHSGINT_R4 (should be R2).
0000 60 : Also improve the next two instructions. JAW 26-Nov-1980
```

```
0000 62      .SBTTL DECLARATIONS
0000 63
0000 64 :
0000 65 : INCLUDE FILES:
0000 66 :     NONE
0000 67 :
0000 68
0000 69 :
0000 70 : EXTERNAL SYMBOLS:
0000 71 :     NONE
0000 72 :
0000 73
0000 74 :
0000 75 : MACROS:
0000 76 :     $PSLDEF                ; PSL macros
0000 77 :
0000 78
0000 79 :
0000 80 : PSECT DECLARATIONS:
00000000 81 :     .PSECT _MTH$CODE      PIC, SHR, LONG, EXE, NOWRT
0000 82
0000 83 :
0000 84 : EQUATED SYMBOLS:
0000 85 :     NONE
0000 86 :
0000 87
0000 88 :
0000 89 : OWN STORAGE:
0000 90 :     NONE
0000 91 :
```

```

0000 93      .SBTTL MTH$GINT      G to G truncation
0000 94
0000 95      :++
0000 96      : FUNCTIONAL DESCRIPTION:
0000 97      :
0000 98      : Returns the argument with all zeroes to the right of the radix
0000 99      : point.
0000 100
0000 101     CALLING SEQUENCE:
0000 102
0000 103     Truncation.wg.v = MTH$GINT (arg.rg.r)
0000 104
0000 105     INPUT PARAMETERS:
0000 106
0000 107     The one argument is a G floating-point value
0000 108     and is call-by-reference.
0000 109
0000 110     IMPLICIT INPUTS:
0000 111
0000 112     NONE
0000 113
0000 114     OUTPUT PARAMETERS:
0000 115
0000 116     NONE
0000 117
0000 118     IMPLICIT OUTPUTS:
0000 119
0000 120     NONE
0000 121
0000 122     COMPLETION CODES:
0000 123
0000 124     NONE
0000 125
0000 126     SIDE EFFECTS:
0000 127
0000 128     Reserved Operand exception can occur.
0000 129
0000 130     --
0000 131     .ENTRY MTH$GINT,      ^M<>
50 50 08 00 04 BC 54FD 0002 132     EMOVG @4(AP), #0, #1, R0, R0 ; R0/R1 = fraction_part(arg)
50 50 04 BC 50 43FD 000A 133     SUBG3 R0, @4(AP), R0 ; R0/R1 = integer_part(arg)
0010 134     RET
0011 135

```

0011 137 .SBTTL MTH\$GINT_R4 JSB entry point

0011 138

0011 139 :++

0011 140 : FUNCTIONAL DESCRIPTION:

0011 141

0011 142 : Returns the argument with all zeroes to the right of the radix

0011 143 : point.

0011 144

0011 145 : CALLING SEQUENCE:

0011 146

0011 147 : Truncation.wg.v = MTH\$GINT_R4 (arg.rg.v)

0011 148

0011 149 : INPUT PARAMETERS:

0011 150

0011 151 : The one argument is a G floating-point value
0011 152 : and is call-by-value.

0011 153

0011 154 : IMPLICIT INPUTS:

0011 155

0011 156 : NONE

0011 157

0011 158 : OUTPUT PARAMETERS:

0011 159

0011 160 : NONE

0011 161

0011 162 : IMPLICIT OUTPUTS:

0011 163

0011 164 : NONE

0011 165

0011 166 : COMPLETION CODES:

0011 167

0011 168 : NONE

0011 169

0011 170 : SIDE EFFECTS:

0011 171

0011 172 : Reserved Operand exception can occur.

0011 173

0011 174 :--

0011 175 MTH\$GINT R4:: : Argument in R0/R1

0011 176

0011 177 MOVPSL R4 : Save PSL

0013 178 BICPSW #PSLSM_IV : Clear IV

0015 179 EMODG R0, #0, #1, R2, R2 : R2/R3 = fraction_part(arg)

001C 180 SUBG2 R2, R0 : R0/R1 = integer_part(arg)

0020 181 BICW #^C<PSLSM_IV>, R4 : Clear all but IV in saved PSW

0025 182 BISPSW R4 : Restore IV to original state

0027 183 RSB : Return to caller

0028 184

0028 184 .END

52 52 08 00 54 DC
50 50 54FD B9
54 FFDF 8F AA
54 B8
05

MTH\$GINT
Symbol table

- FLOATING TRUNCATION

I 13

16-SEP-1984 01:27:48 VAX/VMS Macro V04-00
6-SEP-1984 11:23:42 [MTHRTL.SRC]MTHGINT.MAR;1

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(5)

MTH\$GINT 00000000 RG 02
MTH\$GINT_R4 00000011 RG 02
PSL\$M_IV = 00000020

! 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
_MTH\$CODE	00000028 (40.)	02 (2.)	PIC USR CON REL LCL SHR EXE RD NOWRT NOVEC LONG

! Performance indicators !

Phase	Page faults	CPU Time	Elapsed Time
Initialization	32	00:00:00.07	00:00:00.55
Command processing	104	00:00:00.56	00:00:03.12
Pass 1	113	00:00:01.02	00:00:04.42
Symbol table sort	0	00:00:00.02	00:00:00.07
Pass 2	44	00:00:00.48	00:00:01.67
Symbol table output	2	00:00:00.01	00:00:00.01
Psect synopsis output	3	00:00:00.02	00:00:00.02
Cross-reference output	0	00:00:00.00	00:00:00.00
Assembler run totals	300	00:00:02.18	00:00:09.88

The working set limit was 1050 pages.
4025 bytes (8 pages) of virtual memory were used to buffer the intermediate code.
There were 10 pages of symbol table space allocated to hold 41 non-local and 0 local symbols.
184 source lines were read in Pass 1, producing 13 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

98 GETS were required to define 4 macros.

There were no errors, warnings or information messages.

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

MTHGCONJ LIS	MTHGINT LIS	MTHGMOD LIS
MTHEXP LIS	MTHFLOOR LIS	MTHGEXP LIS
MTHDTAN LIS	MTHDTANH LIS	MTHGMINI LIS
MTHGCOSH LIS	MTHGLOG LIS	MTHGACOS LIS
MTHGASTN LIS	MTHGINT LIS	MTHGATAN LIS
MTHGATANH LIS	MTHGMAXI LIS	