





(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 :*****
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0000 24 :*
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

```

MTHSGINT  
1-004

E 13  
- FLOATING TRUNCATION  
HISTORY ; Detailed Current Edit History 16-SEP-1984 01:27:48 VAX/VMS Macro V04-00  
6-SEP-1984 11:23:42 [MTHRTL.SRC]MTHSGINT.MAR;1

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```
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)
0000 134     RET
0000 135

```

```

0011 137 .SBTTL MTHSGINT_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 = MTHSGINT_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 MTHSGINT R4:: : Argument in R0/R1
0011 176 MOVPSL R4 : Save PSL
0013 177 BICPSW #PSLSM_IV : Clear IV
0015 178 EMODG R0, #0, #1, R2, R2 : R2/R3 = fraction_part(arg)
001C 179 SUBG2 R2, R0 : R0/R1 = integer_part(arg)
0020 180 BICW #^C<PSLSM_IV>, R4 : Clear all but IV in saved PSW
0025 181 BISPSW R4 : Restore IV to original state
0027 182 RSB : Return to caller
0028 183
0028 184 .END

```

```

52 52 08 00 50 54FD 0015 178
50 52 42FD 001C 179
54 FFDF 8F AA 0020 180
8F AA 0020 180
54 B8 0025 181
05 0027 182
0028 183
0028 184

```



MTHSGINT  
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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MTHSGINT 00000000 RG 02  
MTHSGINT\_R4 00000011 RG 02  
PSLSM\_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 MSRC\$:MTHGINT/UPDATE=(ENH\$:MTHGINT)

MTHGCONJG 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	