```
MMM        MMM  TTTTTTTTTTTTTTT  HHH        HHH  RRRRRRRRRRRR       TTTTTTTTTTTTTTT  LLL
MMM        MMM  TTTTTTTTTTTTTTT  HHH        HHH  RRRRRRRRRRRR       TTTTTTTTTTTTTTT  LLL
MMM        MMM  TTTTTTTTTTTTTTT  HHH        HHH  RRRRRRRRRRRR       TTTTTTTTTTTTTTT  LLL
MMMMMM  MMMMMM        TTT        HHH        HHH  RRR        RRR           TTT        LLL
MMMMMM  MMMMMM        TTT        HHH        HHH  RRR        RRR           TTT        LLL
MMMMMM  MMMMMM        TTT        HHH        HHH  RRR        RRR           TTT        LLL
MMM  MMM   MMM        TTT        HHH        HHH  RRR        RRR           TTT        LLL
MMM  MMM   MMM        TTT        HHH        HHH  RRR        RRR           TTT        LLL
MMM  MMM   MMM        TTT        HHH        HHH  RRR        RRR           TTT        LLL
MMM        MMM        TTT        HHHHHHHHHHHHHH  RRRRRRRRRRRR           TTT        LLL
MMM        MMM        TTT        HHHHHHHHHHHHHH  RRRRRRRRRRRR           TTT        LLL
MMM        MMM        TTT        HHH        HHH  RRR    RRR             TTT        LLL
MMM        MMM        TTT        HHH        HHH  RRR    RRR             TTT        LLL
MMM        MMM        TTT        HHH        HHH  RRR    RRR             TTT        LLL
MMM        MMM        TTT        HHH        HHH  RRR        RRR           TTT        LLL
MMM        MMM        TTT        HHH        HHH  RRR        RRR           TTT        LLL
MMM        MMM        TTT        HHH        HHH  RRR        RRR           TTT        LLLLLLLLLLLLLLL
MMM        MMM        TTT        HHH        HHH  RRR        RRR           TTT        LLLLLLLLLLLLLLL
MMM        MMM        TTT        HHH        HHH  RRR        RRR           TTT        LLLLLLLLLLLLLLL
```

```
MM      MM  TTTTTTTTTT  HH      HH    GGGGGGGG    CCCCCCC    000000    NN      NN        JJ    GGGGGGGG
MM      MM  TTTTTTTTTT  HH      HH    GGGGGGGG    CCCCCCC    000000    NN      NN        JJ    GGGGGGGG
MMMM  MMMM      TT      HH      HH  GG           CC        00      00  NN      NN        JJ  GG
MMMM  MMMM      TT      HH      HH  GG           CC        00      00  NNNN    NN        JJ  GG
MM  MM  MM      TT      HH      HH  GG           CC        00      00  NNNN    NN        JJ  GG
MM      MM      TT      HHHHHHHHHH  GG           CC        00      00  NN  NN  NN        JJ  GG
MM      MM      TT      HHHHHHHHHH  GG           CC        00      00  NN  NN  NN        JJ  GG
MM      MM      TT      HH      HH  GG  GGGGGG   CC        00      00  NN    NNNN  JJ    JJ  GG  GGGGGG
MM      MM      TT      HH      HH  GG  GGGGGG   CC        00      00  NN    NNNN  JJ    JJ  GG  GGGGGG
MM      MM      TT      HH      HH  GG      GG   CC        00      00  NN      NN  JJ    JJ  GG      GG
MM      MM      TT      HH      HH  GG      GG   CC        00      00  NN      NN  JJ    JJ  GG      GG
MM      MM      TT      HH      HH    GGGGGG     CCCCCCC    000000    NN      NN    JJJJJ      GGGGGG
MM      MM      TT      HH      HH    GGGGGG     CCCCCCC    000000    NN      NN    JJJJJ      GGGGGG
```

```
LL              IIIIII      SSSSSSSS
LL              IIIIII      SSSSSSSS
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
LLLLLLLLLL      IIIIII      SSSSSSSS
LLLLLLLLLL      IIIIII      SSSSSSSS
```

,

MTH$GCONJG
1-001

D 10

- G COMPLEX*16 Conjugate   16-SEP-1984 01:26:15   VAX/VMS Macro V04-00   Page   1
                               6-SEP-1984 11:23:32   [MTHRTL.SRC]MTHGCONJG.MAR;1   (1)

```
0000     1              .TITLE   MTH$GCONJG - G COMPLEX*16 Conjugate
0000     2              .IDENT   /1-001/        ; File: MTHGCONJG.MAR
0000     3
0000     4  ;
0000     5  ;************************************************************************
0000     6  ;*                                                                     *
0000     7  ;*   COPYRIGHT (c) 1978, 1980, 1982, 1984 BY                           *
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0000    24  ;*                                                                     *
0000    25  ;*                                                                     *
0000    26  ;************************************************************************
0000    27  ;
0000    28  ;
0000    29  ;
0000    30  ; FACILITY: MATH LIBRARY
0000    31  ;++
0000    32  ; ABSTRACT:
0000    33  ;        This module contains routine MTH$GCONJG:
0000    34  ;        Return G COMPLEX*16 conjugate.
0000    35  ;
0000    36  ;
0000    37  ;--
0000    38  ;
0000    39  ; VERSION: 1
0000    40  ;
0000    41  ; HISTORY:
0000    42  ;
0000    43  ; AUTHOR:
0000    44  ;        Steven B. Lionel, 20-July-1979
0000    45  ;
0000    46  ; MODIFIED BY:
0000    47  ;
0000    48  ;
0000    49  ;
```

MTH$GCONJG
1-001

E 10
- G COMPLEX*16 Conjugate   16-SEP-1984 01:26:15   VAX/VMS Macro V04-00   Page   2
HISTORY ; Detailed Current Edit History 6-SEP-1984 11:23:32 [MTHRTL.SRC]MTHGCONJG.MAR;1   (2)

```
                    0000    51          .SBTTL  HISTORY          ; Detailed Current Edit History
                    0000    52
                    0000    53
                    0000    54  ; Edit History
                    0000    55  ;
                    0000    56  ; 1-001 - Adapted from MTH$CONJG version 1-002.  SBL 20-July-1979
```

```
0000    58              .SBTTL   DECLARATIONS
0000    59
0000    60  ;
0000    61  ; INCLUDE FILES:
0000    62  ;
0000    63  ;
0000    64
0000    65  ;
0000    66  ; EXTERNAL SYMBOLS:
0000    67  ;       NONE
0000    68  ;
0000    69
0000    70  ;
0000    71  ; MACROS:
0000    72  ;       NONE
0000    73  ;
0000    74
0000    75  ;
0000    76  ; PSECT DECLARATIONS:
00000000    77          .PSECT   _MTH$CODE        PIC, SHR, EXE, NOWRT, LONG
0000    78
0000    79  ;
0000    80  ; EQUATED SYMBOLS:
0000    81  ;       NONE
0000    82  ;
0000    83
0000    84  ;
0000    85  ; OWN STORAGE:
0000    86  ;       NONE
0000    87  ;
```

G 10

MTH$GCONJG - G COMPLEX*16 Conjugate 16-SEP-1984 01:26:15 VAX/VMS Macro V04-00 Page 4
1-001 MTH$GCONJG - return G COMPLEX*16 conjuga 6-SEP-1984 11:23:32 [MTHRTL.SRC]MTHGCONJG.MAR;1 (4)

```
                              0000     89                .SBTTL   MTH$GCONJG - return G COMPLEX*16 conjugate
                              0000     90
                              0000     91    ;++
                              0000     92    ; FUNCTIONAL DESCRIPTION:
                              0000     93    ;      Returns the complex conjugate of COMPLEX*16 number (r,i).
                              0000     94    ;      Result is (r,-i).
                              0000     95    ;
                              0000     96    ;
                              0000     97    ; CALLING SEQUENCE:
                              0000     98    ;      CALL MTH$GCONJG (result.wdc.r, arg.rdc.r)
                              0000     99    ;
                              0000    100    ;
                              0000    101    ;
                              0000    102    ; INPUT PARAMETERS:
                 00000008     0000    103    ;      arg     = 8                         ; G COMPLEX*16 argument by reference.
                              0000    104    ;
                              0000    105    ;
                              0000    106    ; IMPLICIT INPUTS:
                              0000    107    ;      NONE
                              0000    108    ;
                              0000    109    ; OUTPUT PARAMETERS:
                              0000    110    ;
                 00000004     0000    111    ;      result  = 4                         ; G COMPLEX*16 result by reference
                              0000    112    ;
                              0000    113    ; IMPLICIT OUTPUTS:
                              0000    114    ;      NONE
                              0000    115    ;
                              0000    116    ; COMPLETION CODES:
                              0000    117    ;      NONE
                              0000    118    ;
                              0000    119    ; SIDE EFFECTS:
                              0000    120    ;      Reserved Operand exception can occur.
                              0000    121    ;
                              0000    122    ;
                              0000    123    ;--
                              0000    124
                              0000    125
                              0000    126
                              0000    127                .ENTRY   MTH$GCONJG,       ^M<>
    50   08 AC   D0           0002    128                MOVL     arg(AP), R0         ; argument address
    51   04 AC   D0           0006    129                MOVL     result(AP), R1      ; result address
         81   80 50FD         000A    130                MOVG     (R0)+, (R1)+        ; real part
         61   60 52FD         000E    131                MNEGG    (R0), (R1)          ; imaginary part
                 04           0012    132                RET
                              0013    133
                              0013    134
                              0013    135                .END
```

MTH$GCONJG   - G COMPLEX*16 Conjugate   16-SEP-1984 01:26:15 VAX/VMS Macro V04-00   Page 5
Symbol table   6-SEP-1984 11:23:32 [MTHRTL.SRC]MTHGCONJG.MAR;1   (4)

ARG   = 00000008
MTH$GCONJG   00000000 RG   01
RESULT   = 00000004

```
                                      +-----------------+
                                      ! Psect synopsis !
                                      +-----------------+
```

PSECT name   Allocation   PSECT No. Attributes
----------   ----------   --------- ----------
. ABS .   00000000 (0.) 00 (0.) NOPIC USR   CON   ABS   LCL NOSHR NOEXE NORD NOWRT NOVEC BYTE
_MTH$CODE   00000013 (19.) 01 (1.)   PIC USR   CON   REL   LCL   SHR   EXE   RD NOWRT NOVEC LONG

```
                               +---------------------------+
                               ! Performance indicators !
                               +---------------------------+
```

Phase   Page faults   CPU Time   Elapsed Time
-----   -----------   --------   ------------
Initialization   29   00:00:00.08   00:00:00.68
Command processing   108   00:00:00.51   00:00:03.04
Pass 1   65   00:00:00.38   00:00:02.05
Symbol table sort   0   00:00:00.00   00:00:00.00
Pass 2   38   00:00:00.29   00:00:00.73
Symbol table output   2   00:00:00.02   00:00:00.01
Psect synopsis output   2   00:00:00.02   00:00:00.02
Cross-reference output   0   00:00:00.00   00:00:00.00
Assembler run totals   246   00:00:01.30   00:00:06.54

The working set limit was 900 pages.
1355 bytes (3 pages) of virtual memory were used to buffer the intermediate code.
There were 10 pages of symbol table space allocated to hold 3 non-local and 0 local symbols.
135 source lines were read in Pass 1, producing 10 object records in Pass 2.
0 pages of virtual memory were used to define 0 macros.

```
                               +-----------------------------+
                               ! Macro library statistics !
                               +-----------------------------+
```

Macro library name   Macros defined
------------------   --------------
_255DUA28:[SYSLIB]STARLET.MLB;2   0

0 GETS were required to define 0 macros.

There were no errors, warnings or information messages.

MACRO/ENABLE=SUPPRESSION/DISABLE=(GLOBAL,TRACEBACK)/LIS=LIS$:MTHGCONJG/OBJ=OBJ$:MTHGCONJG MSRC$:MTHGCONJG/UPDATE=(ENH$:MTHGCONJG)

MTHGCONJG
LIS

MTHGINT
LIS

MTHGMOD
LIS

MTHEXP
LIS

MTHFLOOR
LIS

MTHDTAN
LIS

MTHDTANH
LIS

MTHGEXP
LIS

MTHGFLOOR
LIS

MTHGMIN1
LIS

MTHGCOSH
LIS

MTHGLOG
LIS

MTHGACOS
LIS

MTHGASIN
LIS

MTHGNINT
LIS

MTHGATAN
LIS

MTHGATANH
LIS

MTHGMAX1
LIS