


```

MM      MM      TTTTTTTTTT  HH      HH      CCCCCCCC  000000  NN      NN      JJ      GGGGGGGG
MM      MM      TTTTTTTTTT  HH      HH      CCCCCCCC  000000  NN      NN      JJ      GGGGGGGG
MMM     MMM     TT          HH      HH      CC          00      00  NN      NN      JJ      GG
MMM     MMM     TT          HH      HH      CC          00      00  NN      NN      JJ      GG
MM      MM      TT          HH      HH      CC          00      00  NNNN     NN      JJ      GG
MM      MM      TT          HH      HH      CC          00      00  NNNN     NN      JJ      GG
MM      MM      TT          HHHHHHHHHH  CC          00      00  NN      NN      JJ      GG
MM      MM      TT          HHHHHHHHHH  CC          00      00  NN      NN      JJ      GG
MM      MM      TT          HH      HH      CC          00      00  NN      NN      JJ      GG
MM      MM      TT          HH      HH      CC          00      00  NN      NN      JJ      GG
MM      MM      TT          HH      HH      CC          00      00  NN      NN      JJ      GG
MM      MM      TT          HH      HH      CC          00      00  NN      NN      JJ      GG
MM      MM      TT          HH      HH      CC          00      00  NN      NN      JJ      GG
MM      MM      TT          HH      HH      CCCCCCCC  000000  NN      NN      JJJJJJ  GGGGGG
MM      MM      TT          HH      HH      CCCCCCCC  000000  NN      NN      JJJJJJ  GGGGGG

```

```

LL      IIIIIII  SSSSSSSS
LL      IIIIIII  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
LLLLLLLLLLLL  IIIIIII  SSSSSSSS
LLLLLLLLLLLL  IIIIIII  SSSSSSSS

```

(2) 50
(3) 59
(4) 90

HISTORY ; Detailed Current Edit History
DECLARATIONS
MTH\$CONJG - return COMPLEX conjugate

```

0000 1      .TITLE MTH$CONJG - COMPLEX CONJUGATE
0000 2      .IDENT /1-002/ ; File: MTHCONJG.MAR
0000 3
0000 4
0000 5 :*****
0000 6 :*
0000 7 :* COPYRIGHT (c) 1978, 1980, 1982, 1984 BY
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0000 23 :* SOFTWARE ON EQUIPMENT WHICH IS NOT SUPPLIED BY DIGITAL.
0000 24 :*
0000 25 :*
0000 26 :*****
0000 27
0000 28
0000 29 : FACILITY: MATH LIBRARY
0000 30 : ++
0000 31 : ABSTRACT:
0000 32 :   This module contains routine MTH$CONJG:
0000 33 :   Return complex conjugate.
0000 34
0000 35
0000 36 : --
0000 37
0000 38 : VERSION: 0
0000 39
0000 40 : HISTORY:
0000 41
0000 42 : AUTHOR:
0000 43 :   Jonathan M. Taylor, 27-Jul-77: Version 0
0000 44
0000 45 : MODIFIED BY:
0000 46
0000 47
0000 48

```

MTH\$CONJG
1-002

0000 50 .SBTTL HISTORY ; Detailed Current Edit History
0000 51
0000 52
0000 53 : Edit History for Version 0 of MTH\$CONJG
0000 54 :
0000 55 : 0-3 - Remove FOR\$FLAG_JACKET. TNH 26-July-78
0000 56 : 1-001 - Update version number and copyright notice. JBS 16-NOV-78
0000 57 : 1-002 - Add "_" to the PSECT directive. JBS 21-DEC-78

```
0000 59      .SBTTL  DECLARATIONS
0000 60
0000 61  ::
0000 62  :: INCLUDE FILES:
0000 63  ::      oerr.mar
0000 64  ::
0000 65  ::
0000 66  ::
0000 67  :: EXTERNAL SYMBOLS:
0000 68  ::      NONE
0000 69  ::
0000 70  ::
0000 71  ::
0000 72  :: MACROS:
0000 73  ::      NONE
0000 74  ::
0000 75  ::
0000 76  ::
0000 77  :: PSECT DECLARATIONS:
0000 78  ::      .PSECT  _MTH$CODE      PIC, SHR, EXE, NOWRT, LONG
0000 79  ::
0000 80  ::
0000 81  :: EQUATED SYMBOLS:
0000 82  ::      NONE
0000 83  ::
0000 84  ::
0000 85  ::
0000 86  :: OWN STORAGE:
0000 87  ::      NONE
0000 88  ::
```

```

0000 90      .SBTTL MTH$CONJG - return COMPLEX conjugate
0000 91
0000 92      :++
0000 93      : FUNCTIONAL DESCRIPTION:
0000 94      : Returns the complex conjugate of COMPLEX*8 number (r,i).
0000 95      : Result is (r,-i).
0000 96      :
0000 97      :
0000 98      : CALLING SEQUENCE:
0000 99      : Complex_conjugate.wfc.v =MTH$CONJG (complex_arg.rfc.r)
0000 100     :
0000 101     :
0000 102     :
0000 103     : INPUT PARAMETERS:
0000 104     : The input parameter is a FORTRAN COMPLEX*8 value and is a
0000 105     : call-by-reference.
0000 106     :
0000 107     :
0000 108     : IMPLICIT INPUTS:
0000 109     : NONE
0000 110     :
0000 111     : OUTPUT PARAMETERS:
0000 112     : NONE
0000 113     :
0000 114     : IMPLICIT OUTPUTS:
0000 115     : NONE
0000 116     :
0000 117     : COMPLETION CODES:
0000 118     : NONE
0000 119     :
0000 120     : SIDE EFFECTS:
0000 121     : Reserved Operand exception can occur.
0000 122     :
0000 123     :
0000 124     :--
0000 125
0000 126
0000 127
0000 128     .ENTRY MTH$CONJG,      ^M<>
51  04 AC 0000 0002 129     MOVL 4(AP), R1      ; R1 -> COMPLEX parameter
50  81 50 0006 130     MOVF (R1)+, R0      ; R0 = real part
51  61 52 0009 131     MNEGF (R1), R1      ; R1 = - imag part
0000 132     RET
0000 133
0000 134
0000 135     .END

```

MTH\$CONJG
Symbol table

- COMPLEX CONJUGATE

E 7

16-SEP-1984 01:10:59
6-SEP-1984 11:21:15

VAX/VMS Macro V04-00
[MTHRTL.SRC]MTHCONJG.MAR;1

Page 5
(4)

MTH\$CONJG 00000000 RG 01

+-----+
! 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	0000000D (13.)	01 (1.)	PIC	USR	CON	REL	LCL	SHR	EXE	RD	NOWRT	NOVEC	LONG				

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

Phase	Page faults	CPU Time	Elapsed Time
Initialization	29	00:00:00.11	00:00:01.52
Command processing	134	00:00:00.53	00:00:04.52
Pass 1	64	00:00:00.35	00:00:02.82
Symbol table sort	0	00:00:00.00	00:00:00.00
Pass 2	37	00:00:00.33	00:00:02.06
Symbol table output	2	00:00:00.01	00:00:00.01
Psect synopsis output	2	00:00:00.02	00:00:00.15
Cross-reference output	0	00:00:00.00	00:00:00.00
Assembler run totals	270	00:00:01.37	00:00:11.11

The working set limit was 750 pages.
 1293 bytes (3 pages) of virtual memory were used to buffer the intermediate code.
 There were 10 pages of symbol table space allocated to hold 1 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
_\$255\$DUA28:[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\$:MTHCONJG/OBJ=OBJ\$:MTHCONJG MSRC\$:MTHCONJG/UPDATE=(ENH\$:MTHCONJG)

MT
1-

...	...	...	...	...	...	...	...	...	...	...	MTHCVTDG LIS	...	...	...
...	...	...	...	...	...	...	...	...	...	...	...	MTHDACOS LIS	...	...
...	...	MTHCGABS LIS	...	...	...	...	...	...	...	...	...	...	...	...
MTHCDSINC LIS	...	...	...	MTHCLOG LIS	...	...	...	...	...	...	...	MTHDASIN LIS	...	...
...	...	...	MTHCGLG LIS	...	MTHCONVER LIS	...	...	...	...	...	...	...	MTHDATAN LIS	...
...	...	...	...	...	...	...	...	...	...	MTHCSORT LIS	...	...	...	...
...
...	MTHCXP LIS	...	...	...	...	...	...	...	...	...	...	...	...	...
...	...	...	MTHCGSORT LIS	...	...	...	...	...	...	...	...	...	...	...
...	...	MTHCGEXP LIS	...	...	...	...	...	...	...	MTHCSINCO LIS	...	...	...	...
...	...	...	...	MTHCONJG LIS	...	...	...	...	...	...	...	...	...	...
...
MTHCDSORT LIS	...	...	MTHCGSINC LIS	...	...	...	...	...	MTHCOSH LIS	...	...	...	...	...