



```

IIIIII  OOOOOO  DDDDDDD  AAAAAA  TTTTTTTTTT
IIIIII  OOOOOO  DDDDDDD  AAAAAA  TTTTTTTTTT
II      OO      OC  DD      DD  AA      AA  TT
II      OO      OO  DD      DD  AA      AA  TT
II      OO      OO  DD      DD  AA      AA  TT
II      OO      OO  DD      DD  AA      AA  TT
II      OO      OO  DD      DD  AA      AA  TT
II      OO      OO  DD      DD  AA      AA  TT
II      OO      OO  DD      DD  AA      AA  TT
II      OO      OO  DD      DD  AA      AA  TT
II      OO      OO  DD      DD  AA      AA  TT
II      OO      OO  DD      DD  AA      AA  TT
IIIIII  OOOOOO  DDDDDDD  AAAAAA  TTTTTTTTTT
IIIIII  OOOOOO  DDDDDDD  AAAAAA  TTTTTTTTTT

```

```

....
....
....
....

```

```

LL      IIIIII  SSSSSSS
LL      IIIIII  SSSSSSS
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
LLLLLLLLLL IIIIII  SSSSSSS
LLLLLLLLLL IIIIII  SSSSSSS

```

(2)	75	DECLARATIONS
-----	----	--------------

```
0000 1 .TITLE MAC$IODAT
0000 2 .IDENT 'V04-000'
0000 3
0000 4
0000 5 :*****
0000 6 :*
0000 7 :* COPYRIGHT (c) 1978, 1980, 1982, 1984 BY
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0000 24 :*
0000 25 :*
0000 26 :*****
0000 27 :
0000 28 :
0000 29 :++
0000 30 : FACILITY: VAX MACRO ASSEMBLER OBJECT LIBRARY
0000 31 :
0000 32 : ABSTRACT:
0000 33 :
0000 34 : The VAX-11 MACRO assembler translates MACRO-32 source code into object
0000 35 : modules for input to the VAX-11 LINKER.
0000 36 :
0000 37 : ENVIRONMENT: USER MODE
0000 38 :
0000 39 : AUTHOR: Benn Schreiber, CREATION DATE: 21-AUG-78
0000 40 :
0000 41 : MODIFIED BY:
0000 42 :
0000 43 : V03-003 RR0030 Rowland R. Bradley 06-Jul-1984
0000 44 : Add resultant and expanded string to MAC$OBJECT_NAM
0000 45 : and MAC$LIST_NAM (same string) to properly signal
0000 46 : errors when it is not possible to create the output
0000 47 : file. Add MAC$OBJ_NAM_BUF AND MAC$LIS_NAM_BUF for
0000 48 : proper defaulting.
0000 49 :
0000 50 : V03-002 RR0027 Rowland R. Bradley 29-May-1984
0000 51 : Add data structures for LIB$FIND_FILE. Attempted to
0000 52 : follow naming convention adopted in this language
0000 53 : processor.
0000 54 :
0000 55 : V03-001 MTR0026 Mike Rhodes 23-Feb-1983
0000 56 : Add MAC$GB_INPNAMLEN to remember the last input file
0000 57 : expanded name string length.
```

0000 58 :  
0000 59 :  
0000 60 :  
0000 61 :  
0000 62 :  
0000 63 :  
0000 64 :  
0000 65 :  
0000 66 :  
0000 67 :  
0000 68 :  
0000 69 :  
0000 70 :  
0000 71 :  
0000 72 :  
0000 73 :--

V02.09 MTR0001 Mike Rhodes 9-Nov-1981  
Modify the use of the default system library file name.

V02.08 CNH0039 Chris Hume 7-Oct-1980  
Closed off a few remaining object record length checking  
errors. (OHDOUT.MAR 02.02, P2ACT1.MAR 02.09)

V01.07 RN0029 R. Newland 5-Feb-1980  
Use OFP (output file parse) in file-options to  
form object and listing file specifications.

V01.06 RN0011 R. Newland 11-Sep-1979  
New Librarian support

DECLARATIONS

```

0000 75      .SBTTL  DECLARATIONS
0000 76      :
0000 77      : INCLUDE FILES:
0000 78      :
0000 79      :
0000 80      :
0000 81      : MACROS:
0000 82      :
0000 83      :
0000 84      $MAC_GENVALDEF      ;DEFINE VAX-11 MACRO GENERAL SYMBOLS
0000 85      $MAC_MLFDEF        ; Define MLF offsets
0177 86      :
0177 87      :
0177 88      : EQUATED SYMBOLS:
0177 89      :
0177 90      :
00000034 0177 91 WARN_LIMIT = 52.      ; Number of characters remaining in the object
0177 92      ; record at which the record must be output.
0177 93      :
0177 94      :
0177 95      : OWN STORAGE:
0177 96      :
0177 97      :
00000000 0177 98      .PSECT  MAC$IODAT_DATA,NOEXE, LONG
0000 99      :
0000 100     MAC$TERM_FAB::      ;FAB FOR TERMINAL OUTPUT
0000 101     $FAB      FNM=<SYSSERROR>,-
0000 102     FAC=<PUT>,-
0000 103     RAT=<CR>
0050 104     :
0050 105     MAC$TERM_RAB::      ;RAB FOR TERMINAL OUTPUT
0050 106     $RAB      FAB=MAC$TERM_FAB
0094 107     :
0094 108     MAC$INPUT_RAB::      ;RAB FOR READING INPUT FILE
0094 109     $RAB      UBF=MAC$AB_LINEBF,-
0094 110     USZ=IN$K_BUFSIZ,-
0094 111     ROP=<RAH>,-
0094 112     MBC=20,-
0094 113     MBF=20
00D8 114     :
00D8 115     MAC$INPUT_XAB::      ;XAB TO GET INPUT CREATION DATE
00D8 116     $XABDAT
0104 117     :
0104 118     MAC$INPUT_RLFNM::
0104 119     $NAM      -      ;RELATED FILE NAM BLOCK FOR DEFAULTING
0104 120     RSA=MAC$INP_NAM_BUF,-
0104 121     ESA=MAC$INP_NAM_BUF,-
0104 122     ESS=NAM$C_MAXRSS
0164 123     :
00000263 0164 124 MAC$INP_NAM_BUF::
0164 125     .BLKB  NAM$C_MAXRSS
0263 126     MAC$GB_INPNAMLEN::      ;LENGTH OF LAST STRING WRITTEN INTO
00 0263 127     .BYTE  0      ;MAC$INP_NAM_BUF.
0264 128     :
0264 129     .ALIGN  LONG
0264 130     MAC$LISTPT_RLFNM::      ;RELATED FILE NAM BLOCK FOR DEFAULTING
0264 131     ;(THIS IS THE RESULT OF FIRST SOURCE FILE)

```

DECLARATIONS

```

0264 132          $NAM          -
0264 133          RSA=MAC$LIS_NAM_BUF,-
0264 134          ESA=MAC$LIS_NAM_BUF,-
0264 135          ESS=NAM$C_MAXRSS
02C4 136
02C4 137          .ALIGN LONG
02C4 138 MAC$OBJPT_RLFNM::      ;RELATED FILE NAM BLOCK FOR DEFAULTING
02C4 139                                     ;(THIS IS THE RESULT OF FIRST SOURCE FILE)
02C4 140          $NAM          -
02C4 141          RSA=MAC$OBJ_NAM_BUF,-
02C4 142          ESA=MAC$OBJ_NAM_BUF,-
02C4 143          ESS=NAM$C_MAXRSS
0324 144
00000423 0324 145 MAC$OBJ_NAM_BUF::
0324 146          .BLRB  NAM$C_MAXRSS
0423 147
0423 148          .ALIGN LONG
0424 149
00000523 0424 150 MAC$LIS_NAM_BUF::
0424 151          .BLRB  NAM$C_MAXRSS
0523 152
0523 153          .ALIGN LONG
0524 154
00000623 0524 155 MAC$RES_NAM_BUF::
0524 156          .BLRB  NAM$C_MAXRSS      ;RESULTANT STRING BUFFER
0623 157
0623 158          .ALIGN LONG
0624 159
0624 160 MAC$OBJECT_FAB::      ;FAB FOR OBJECT FILE
0624 161          $FAB  DNM=<.OBJ>,FAC=<PUT>,-
0624 162          FOP=<TEF,OFPP>,-      ; TRUNCATE TO EOF
0624 163          DEQ=20,-
0624 164          NAM=MAC$OBJECT_NAM
0674 165 MAC$OBJECT_RAB::      ;RAB FOR WRITING OBJECT FILE
0674 166          $RAB  RBF=MAC$AB_OBJBUF,-
0674 167          ROP=<WBH>,-
0674 168          RSZ=OBJ$K_BUFSIZ,-
0674 169          FAB=MAC$OBJECT_FAB,-
0674 170          MBC=20,-
0674 171          MBF=20
06B8 172 MAC$OBJECT_NAM::      ;NAM BLOCK FOR OBJECT FILE
06B8 173          $NAM          -
06B8 174          RLF=MAC$OBJPT_RLFNM,-      ;RELATED FILENAME BLOCK (FIRST INPUT FILE)
06B8 175          RSA=MAC$RES_NAM_BUF,-
06B8 176          ESA=MAC$RES_NAM_BUF,-
06B8 177          ESS=NAM$C_MAXRSS
0718 178
0718 179 MAC$LIST_FAB::      ;FAB FOR WRITING LISTING FILE
0718 180          $FAB  DNM=<.LIS>,FAC=<PUT>,-
0718 181          RAT=<CR>,-
0718 182          FOP=<TEF,OFPP>,-      ; TRUNCATE TO END OF FILE
0718 183          DEQ=80,-      ;DEFAULT EXTEND QUANTITY
0718 184          NAM=MAC$LIST_NAM
0768 185 MAC$LIST_RAB::
0768 186          $RAB  RBF=MAC$AB_LST_END,-
0768 187          FAB=MAC$LIST_FAB,-
0768 188          ROP=<WBH>,-

```

DECLARATIONS

```

0768 189 MBC=20,-
0768 190 MBF=20
07AC 191 MAC$LIST_NAM:: ;NAM BLOCK FOR LISTING FILE
07AC 192 $NAM -
07AC 193 RLF=MAC$LISTPT_RLFNM,- ;RELATED FILENAME BLOCK
07AC 194 RSA=MAC$RES_NAM_BUF,-
07AC 195 ESA=MAC$RES_NAM_BUF,-
07AC 196 ESS=NAM$C_MAXRSS
080C 197
080C 198 MAC$SYSLIB_MLF::
00000824 080C 199 .BLKB <MLF$K_BLKSIZ-NAM$C_BLN-MLF$K_RSFNLN>
0824 200 $NAM ; NAM block for system library
00000983 0884 201 .BLKB MLF$K_RSFNLN
0983 202 ;
0983 203 .ALIGN LONG
0984 204 ;
45 4C 52 41 54 53 0000098C'010E0000' 0984 205 MAC$SYSLIB_FNM:: ; System library file name descriptor
54 0984 206 .ASCID /STARLET/
0992
0993 207 ;
49 4C 24 53 59 53 0000099B'010E0000' 0993 208 MAC$SYSLIB_DFN:: ; Default System library file name desc
42 4C 4D 2E 3A 59 52 41 52 42 0993 209 .ASCID /SYSS$LIBRARY:.MLB/
09A1
09AB 210 ;
42 4C 4D 2E 000009B3'010E0000' 09AB 211 MAC$MLB_DEFNAM:: ; Default name string for library files
09AB 212 .ASCID /.MLB/
09B7 213 ;
09B7 214 MAC$INP_DEFNAM:: ; Default name string for library files
52 41 4D 2E 000009BF'010E0000' 09B7 215 .ASCID /.MAR/
09C3 216 ;
09C3 217 .ALIGN LONG
09C4 218 ;
09C4 219 ; OUTPUT BUFFERS
09C4 220 ;
00000B90 09C4 221 MAC$AB_OBJBUF::
09C4 222 .BLKB OBJ$K_BUFSIZ-WARN_LIMIT ;BUFFER FOR WRITING OBJECT FILE
00000BC4 0B90 223 MAC$AB_OBJWRN::
00000BC6 0BC4 224 .BLKB WARN_LIMIT ;WARNING LIMIT
0BC6 225 .BLKB 2 ;PADDING
0BC6 226 ;
0BC6 227 ; DATA STRUCTURES NEEDED FOR LIB$FIND_FILE
0BC6 228 ;
00000000 0BC6 229 MAC$GL_STV_ADDR::
0BC6 230 .LONG 0 ;ADDRESS OF POSSIBLE RMS ERROR
0BCA 231
00000003 0BCA 232 MAC$GC_FFLAGS::
0BCA 233 .LONG 3 ;PERFORM MULTIPLE SEARCHLISTS
0BCE 234 ; AND "NO" WILDCARDING
0BCE 235
00000000 0BCE 236 MAC$GL_CONTEXT::
0BCE 237 .LONG 0 ; LISTING CONTEXT
0BD2 238 ; FOR LIB$FIND_FILE(initialized)
0BD2 239 MAC$GL_RESULT::
0000 0BD2 240 .WORD 0 ;DESCR FOR STORAGE OF RESULTING FILENAME
00' 0BD4 241 .BYTE DSC$K_DTYPE_T ;FOR LISTING AND OBJECT FILES
00' 0BD5 242 .BYTE DSC$K_CLASS_S
00000BDA' 0BD6 243 .ADDRESS MAC$GC_RESADDR ;ADDRESS OF RESULTING FILENAME

```



DECLARATIONS

```
00000CD9  OBDA 244 MAC$GL_RESADDR::  
           OBDA 245 .BLKB  
           OCD9 246  
           OCD9 247  
           OCD9 248 .END
```

255 ;



MAC\$IODAT  
Symbol table

C 3

16-SEP-1984 01:53:09 VAX/VMS Macro V04-00  
5-SEP-1984 01:48:40 [MACRO.SRC]IODAT.MAR;1

Page 8  
(2)

MAC  
V04

```

RDX$V_DOUBLE      = 00000005
RDX$V_FLOAT       = 00000004
RDX$V_GFLOAT     = 00000006
RDX$V_HEX        = 00000003
RDX$V_HFLOAT     = 00000007
RDX$V_OCTAL      = 00000001
REG$_PC          = 0000000F
SEMI             = 0000003B
STBSK_PG_MISS   = 0000000A
SYMSK_MAXLEN    = 0000001F
SYMSK_TWOCOL    = 00000010
TAB              = 00000009
WARN_LIMIT      = 00000034
XAB$C_DAT       = 00000012
XAB$C_DATLEN    = 0000002C
XAB$S_NXT       = 00000004
XAB$Q_EDT       = 0000001C

```

```

+-----+
! 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\$\$	00000177 ( 375.)	01 ( 1.)	NOPIC USR CON ABS LCL NOSHR EXE RD WRT NOVEC BYTE
MAC\$IODAT_DATA	00000CD9 ( 3289.)	02 ( 2.)	NOPIC USR CON REL LCL NOSHR NOEXE RD WRT NOVEC LONG
\$RMSNAM	00000012 ( 18.)	03 ( 3.)	NOPIC USR CON REL LCL NOSHR EXE RD WRT NOVEC BYTE

```

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

```

Phase	Page faults	CPU Time	Elapsed Time
Initialization	41	00:00:00.06	00:00:02.44
Command processing	146	00:00:00.39	00:00:04.70
Pass 1	238	00:00:05.05	00:00:25.73
Symbol table sort	0	00:00:00.47	00:00:01.68
Pass 2	60	00:00:00.93	00:00:04.07
Symbol table output	16	00:00:00.08	00:00:00.61
Psect synopsis output	3	00:00:00.02	00:00:00.53
Cross-reference output	0	00:00:00.00	00:00:00.00
Assembler run totals	506	00:00:07.00	00:00:39.77

The working set limit was 1350 pages.  
35584 bytes (70 pages) of virtual memory were used to buffer the intermediate code.  
There were 30 pages of symbol table space allocated to hold 588 non-local and 0 local symbols.  
248 source lines were read in Pass 1, producing 18 object records in Pass 2.  
24 pages of virtual memory were used to define 19 macros.

-----  
! Macro library statistics !  
-----

Macro library name	Macros defined
-----	-----
-\$255\$DUA28:[MACRO.OBJ]MACRO.MLB;1	2
-\$255\$DUA28:[SYSLIB]STARLET.MLB;2	16
TOTALS (all libraries)	18

827 GETS were required to define 18 macros.

There were no errors, warnings or information messages.

MACRO/LIS=LIS\$:IODAT/OBJ=OBJ\$:IODAT MSRCS\$:IODAT/UPDATE=(ENHS\$:IODAT)+LIB\$:MACRO/LIB

