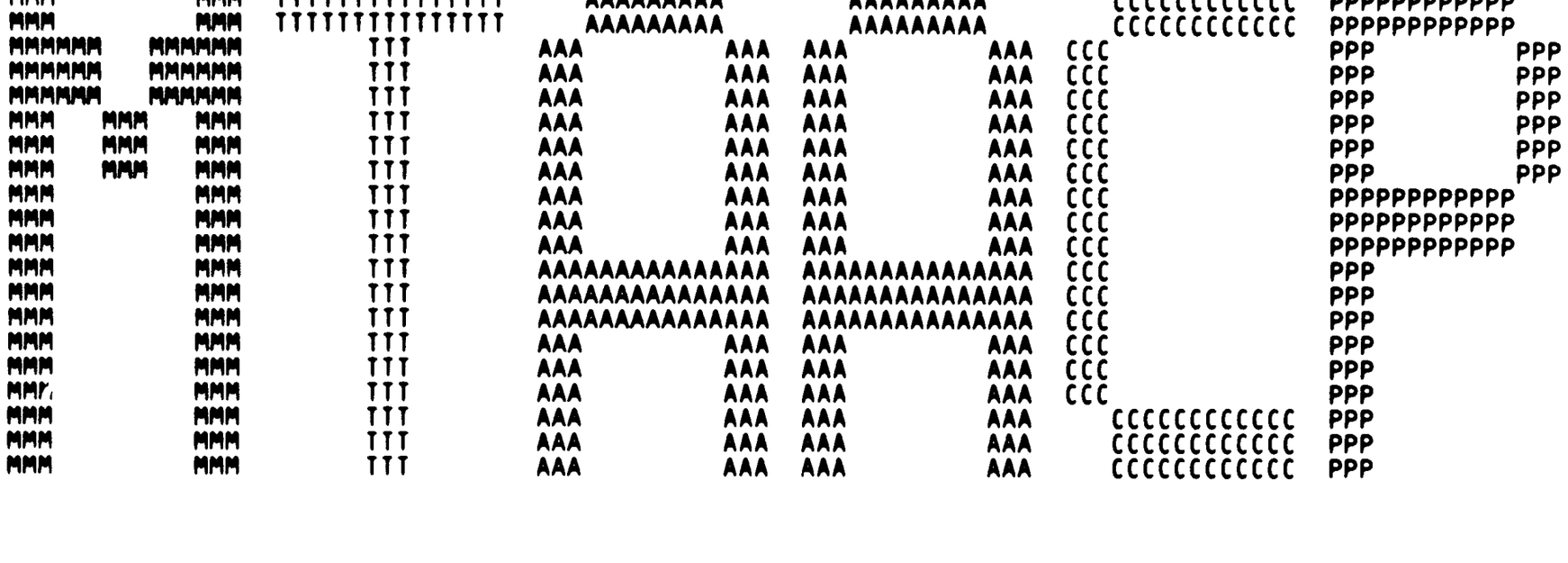
MMM MMM TTTTTTTTTTTTTTT AAAAAAAAA AAAAAAAAA CCCCCCCCCCCC PPPPPPPPPPPP
MMM MMM TTTTTTTTTTTTTTT AAAAAAAAA AAAAAAAAA CCCCCCCCCCCC PPPPPPPPPPPP
MMM MMM TTTTTTTTTTTTTTT AAAAAAAAA AAAAAAAAA CCCCCCCCCCCC PPPPPPPPPPPP
MMMMMM MMMMMM TTT AAA AAA AAA AAA CCC PPP PPP
MMMMMM MMMMMM TTT AAA AAA AAA AAA CCC PPP PPP
MMMMMM MMMMMM TTT AAA AAA AAA AAA CCC PPP PPP
MMM MMM MMM TTT AAA AAA AAA AAA CCC PPP PPP
MMM MMM MMM TTT AAA AAA AAA AAA CCC PPP PPP
MMM MMM MMM TTT AAA AAA AAA AAA CCC PPP PPP
MMM MMM TTT AAA AAA AAA AAA CCC PPPPPPPPPPPP
MMM MMM TTT AAA AAA AAA AAA CCC PPPPPPPPPPPP
MMM MMM TTT AAA AAA AAA AAA CCC PPPPPPPPPPPP
MMM MMM TTT AAAAAAAAAAAAAAA AAAAAAAAAAAAAAA CCC PPP
MMM MMM TTT AAAAAAAAAAAAAAA AAAAAAAAAAAAAAA CCC PPP
MMM MMM TTT AAAAAAAAAAAAAAA AAAAAAAAAAAAAAA CCC PPP
MMM MMM TTT AAA AAA AAA AAA CCC PPP
MMM MMM TTT AAA AAA AAA AAA CCC PPP
MMM MMM TTT AAA AAA AAA AAA CCC PPP
MMM MMM TTT AAA AAA AAA AAA CCCCCCCCCCCC PPP
MMM MMM TTT AAA AAA AAA AAA CCCCCCCCCCCC PPP
MMM MMM TTT AAA AAA AAA AAA CCCCCCCCCCCC PPP

FILEID**FRMHDR

```
FFFFFFFFFF  RRRRRRRR    MM      MM  HH      HH  DDDDDDDD    RRRRRRRR
FFFFFFFFFF  RRRRRRRR    MM      MM  HH      HH  DDDDDDDD    RRRRRRRR
FF          RR      RR  MMMM  MMMM  HH      HH  DD      DD  RR      RR
FF          RR      RR  MMMM  MMMM  HH      HH  DD      DD  RR      RR
FF          RR      RR  MM  MM  MM  HH      HH  DD      DD  RR      RR
FF          RR      RR  MM  MM  MM  HH      HH  DD      DD  RR      RR
FFFFFFFF    RRRRRRRR    MM      MM  HHHHHHHHHHH  DD      DD  RRRRRRRR
FFFFFFFF    RRRRRRRR    MM      MM  HHHHHHHHHHH  DD      DD  RRRRRRRR
FF          RR  RR      MM      MM  HH      HH  DD      DD  RR  RR
FF          RR  RR      MM      MM  HH      HH  DD      DD  RR  RR
FF          RR    RR    MM      MM  HH      HH  DD      DD  RR    RR        ....
FF          RR    RR    MM      MM  HH      HH  DD      DD  RR    RR        ....
FF          RR      RR  MM      MM  HH      HH  DDDDDDDD    RR      RR      ....
FF          RR      RR  MM      MM  HH      HH  DDDDDDDD    RR      RR      ....

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

```
;     1          0001  0 MODULE FRMHDR (LANGUAGE (BLISS32) ,
;     2          0002  0                  IDENT = 'V04-000'
;     3          0003  0                  ) =
;     4          0004  1 BEGIN
;     5          0005  1 !
;     6          0006  1 !**************************************************************************
;     7          0007  1 !*                                                                        *
;     8          0008  1 !*  COPYRIGHT (c) 1978, 1980, 1982, 1984 BY                              *
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;    22          0022  1 !*                                                                        *
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;    24          0024  1 !*  SOFTWARE ON EQUIPMENT WHICH IS NOT SUPPLIED BY DIGITAL.                *
;    25          0025  1 !*                                                                        *
;    26          0026  1 !*                                                                        *
;    27          0027  1 !**************************************************************************
;    28          0028  1
;    29          0029  1 !++
;    30          0030  1 !
;    31          0031  1 ! FACILITY:  MTAACP
;    32          0032  1 !
;    33          0033  1 ! ABSTRACT:
;    34          0034  1 !
;    35          0035  1 !       This module formats HDR1, HDR2, HDR3, and HDR4.
;    36          0036  1 !
;    37          0037  1 ! ENVIRONMENT:
;    38          0038  1 !
;    39          0039  1 !       Starlet operating system, including privileged system services
;    40          0040  1 !       and internal exec routines.
;    41          0041  1 !
;    42          0042  1 !--
;    43          0043  1
;    44          0044  1 !
;    45          0045  1 !
;    46          0046  1 ! AUTHOR:  D. H. GILLESPIE,      CREATION DATE:  2-JUN-77 14:35
;    47          0047  1 !
;    48          0048  1 ! MODIFIED BY:
;    49          0049  1 !
;    50          0050  1 !       V03-003 MMD0301         Meg Dumont,     20-Jun-1984  11:26
;    51          0051  1 !               Fix to default HDR4 file extension to ASCII zeros instead of
;    52          0052  1 !               decimal zeros
;    53          0053  1 !
;    54          0054  1 !       V03-002 MMD0279         Meg Dumont,     23-Mar-1984  10:25
;    55          0055  1 !               Fix long file name support such that for ANSI version
;    56          0056  1 !               3 volumes it converts the exentsion length to
;    57          0057  1 !               ASCII characters before writing it to the label.
```

```
;    58          0058  1 ;
;    59          0059  1 ;       V03-001 MMD0160         Meg Dumont,     26-Apr-1983  9:31
;    60          0060  1 ;               Add long file name support include: 1) Change FORMAT_FILE_NAME
;    61          0061  1 ;               to understand that VMS long file names are split between
;    62          0062  1 ;               the HDR1 and HDR4 labels. 2) Change FORMAT_HDRS to format the
;    63          0063  1 ;               HDR4. Added support for interchange qualifier.
;    64          0064  1 ;
;    65          0065  1 ;       V02-012 DMW00069        David Michael Walp      11-Jan-1981
;    66          0066  1 ;               Added support of ANSI "a" 17 character filename thru
;    67          0067  1 ;               QIO filename parameter
;    68          0068  1 ;
;    69          0069  1 ;       V02-011 DMW00064        David Michael Walp      6-Jan-1981
;    70          0070  1 ;               Return VMS file spec created by ASCNAME without quotes
;    71          0071  1 ;
;    72          0072  1 ;       V02-010 DMW00063        David Michael Walp      18-Dec-1981
;    73          0073  1 ;               Finished ANSI "a" 17 character file name support
;    74          0074  1 ;
;    75          0075  1 ;       V02-009 DMW00053        David Michael Walp      10-Nov-1981
;    76          0076  1 ;               Return if ANSI resultant name, return it minus trailing
;    77          0077  1 ;               spaces.
;    78          0078  1 ;
;    79          0079  1 ;       V02-008 DMW00043        David Michael Walp      27-Oct-1981
;    80          0080  1 ;               Added ANSI "a" 17 character file name support
;    81          0081  1 ;
;    82          0082  1 ;       V02-007 DMW00016        David Michael Walp      20-May-1981
;    83          0083  1 ;               Get the File Set Id from the MVL rather then 1st volume
;    84          0084  1 ;               mounted label in the VCB.
;    85          0085  1 ;
;    86          0086  1 ;       V02-006 DMW00008        David Michael Walp      23-Jan-1981
;    87          0087  1 ;               Added check for "%" wild card, needed beacuse of expanded
;    88          0088  1 ;               wild card support.  Also code commented out for support of
;    89          0089  1 ;               HDR2 attributes.
;    90          0090  1 ;
;    91          0091  1 ;       V02-005 REFORMAT        Maria del C. Nasr       30-Jun-1980
;    92          0092  1 ;
;    93          0093  1 ;       A0004   MCN0008         Maria del C. Nasr       22-Feb-1980  16:29
;    94          0094  1 ;               Temporary support of RMS attributes in HDR2
;    95          0095  1 ;
;    96          0096  1 ;       A0003   MCN0003         Maria del C. Nasr       28-Sep-79   10:23
;    97          0097  1 ;               Add HDR3 processing
;    98          0098  1 ;
;    99          0099  1 ;**
;   100          0100  1
;   101          0101  1 LIBRARY 'SYS$LIBRARY:LIB.L32';
;   102          0102  1
;   103          0103  1 REQUIRE 'SRC$:MTADEF.B32';
;   104          0487  1
;   105          0488  1 FORWARD ROUTINE
;   106          0489  1     FORMAT_HDRS         : COMMON_CALL NOVALUE;    ! format headers
```

```
;  108          M 0490  1 MACRO RAD50_TO_VMS ( STRING, VERSION, OUT_INDEX ) =
;  109          M 0491  1
;  110          M 0492  1 !++
;  111          M 0493  1 !
;  112          M 0494  1 ! FUNCTIONAL DESCRIPTION:
;  113          M 0495  1 !       This routine converts a RAD-50 file name block into the
;  114          M 0496  1 !       equivalent VMS format name. Long file names are not supported
;  115          M 0497  1 !       in RAD50 mode.
;  116          M 0498  1 !
;  117          M 0499  1 ! CALLING SEQUENCE:
;  118          M 0500  1 !       RAD50_TO_VMS ( ARG1, ARG2, ARG3 )
;  119          M 0501  1 !
;  120          M 0502  1 ! INPUT PARAMETERS:
;  121          M 0503  1 !       none
;  122          M 0504  1 !
;  123          M 0505  1 ! IMPLICIT INPUTS:
;  124          M 0506  1 !       NMBLOCK - the Radix 50 name block
;  125          M 0507  1 !
;  126          M 0508  1 ! OUTPUT PARAMETERS:
;  127          M 0509  1 !       ARG1 - buffer for file name string
;  128          M 0510  1 !       ARG2 - word to receive version number
;  129          M 0511  1 !       ARG2 - size of filename string
;  130          M 0512  1 !
;  131          M 0513  1 ! IMPLICIT OUTPUTS:
;  132          M 0514  1 !       none
;  133          M 0515  1 !
;  134          M 0516  1 ! SIDE EFFECTS:
;  135          M 0517  1 !       none
;  136          M 0518  1 !
;  137          M 0519  1 !--
;  138          M 0520  1
;  139          M 0521  1     BEGIN
;  140          M 0522  1
;  141          M 0523  1     EXTERNAL
;  142          M 0524  1         NMBLOCK : VECTOR [ , WORD ];            ! the rad50 name block
;  143          M 0525  1
;  144          M 0526  1     MAP
;  145          M 0527  1         STRING    : VECTOR [ , BYTE ],          ! string buffer arg
;  146          M 0528  1         VERSION   : WORD,                       ! version number arg
;  147          M 0529  1         OUT_INDEX : LONG;                       ! file name size arg
;  148          M 0530  1
;  149          M 0531  1     LOCAL
;  150          M 0532  1         CHARS   : VECTOR [ 3, BYTE ];           ! holding place for characters
;  151          M 0533  1
;  152          M 0534  1
;  153          M 0535  1     ! Set up the index. Then start up the outer loop, which iterates
;  154          M 0536  1     ! over name and type fields.
;  155          M 0537  1     !
;  156          M 0538  1     OUT_INDEX = 0;
;  157          M 0539  1
;  158          M 0540  1     INCR K FROM 0 TO 3 BY 3 DO
;  159          M 0541  1         BEGIN
;  160          M 0542  1
;  161          M 0543  1         ! The next loop iterates over the RAD-50 words in the name block.
;  162          M 0544  1         ! There are 3 words for name, 1 for type. Expand each word into
;  163          M 0545  1         ! the 3 RAD-50 characters.
;  164          M 0546  1         !
```

```
;  165          M 0547  1          INCR I FROM 0 TO ( IF .K THEN 0 ELSE 2 )
;  166          M 0548  1              DO
;  167          M 0549  1
;  168          M 0550  1              BEGIN
;  169          M 0551  1              CHARS [ 0 ] =   .NMBLOCK [ .I + .K ]  / ( 40 * 40 );
;  170          M 0552  1              CHARS [ 1 ] = ( .NMBLOCK [ .I + .K ]  / 40 )        MOD 40;
;  171          M 0553  1              CHARS [ 2 ] =   .NMBLOCK [ .I + .K ]                MOD 40;
;  172          M 0554  1
;  173          M 0555  1              ! Now convert each character into the correct ASCII code and store
;  174          M 0556  1              ! it in the string buffer if it is not null.
;  175          M 0557  1              !
;  176          M 0558  1              INCR J FROM 0 TO 2 DO
;  177          M 0559  1                  IF .CHARS [ .J ] NEQ 0 THEN
;  178          M 0560  1                      BEGIN
;  179          M 0561  1                      STRING [ .OUT_INDEX ] = ( IF .CHARS [ .J ] LSS 30
;  180          M 0562  1                                                THEN ( .CHARS [ .J ] - 1 ) + 'A'
;  181          M 0563  1                                                ELSE ( .CHARS [ .J ] - 30 ) + '0' );
;  182          M 0564  1
;  183          M 0565  1                      OUT_INDEX = .OUT_INDEX + 1;
;  184          M 0566  1                      END;
;  185          M 0567  1
;  186          M 0568  1              END;                                    ! end of word loop
;  187          M 0569  1
;  188          M 0570  1          ! At the end of name field, insert the dot.
;  189          M 0571  1          !
;  190          M 0572  1          IF .K EQL 0
;  191          M 0573  1          THEN
;  192          M 0574  1              BEGIN
;  193          M 0575  1              STRING [ .OUT_INDEX ] = '.';
;  194          M 0576  1              OUT_INDEX = .OUT_INDEX + 1;
;  195          M 0577  1              END;
;  196          M 0578  1          END;                                        ! end of outer loop
;  197          M 0579  1
;  198          M 0580  1      ! fill in the version number
;  199          M 0581  1      !
;  200          M 0582  1      VERSION = .NMBLOCK [ 4 ];
;  201          M 0583  1
;  202          M 0584  1      END;
;  203             0585  1      %;                                      ! end of macro RAD50_TO_ASCII
```

```
;  205     M 0586  1 MACRO FORMAT_FILE_NAME =
;  206     M 0587  1
;  207     M 0588  1 !++
;  208     M 0589  1 !
;  209     M 0590  1 ! FUNCTIONAL DESCRIPTION:
;  210     M 0591  1 !       formats the File's Name, Type and Version to placed into the header
;  211     M 0592  1 !
;  212     M 0593  1 ! CALLING SEQUENCE:
;  213     M 0594  1 !       FORMAT_FILE_NAME
;  214     M 0595  1 !
;  215     M 0596  1 ! INPUT PARAMETERS:
;  216     M 0597  1 !       none
;  217     M 0598  1 !
;  218     M 0599  1 ! IMPLICIT INPUTS:
;  219     M 0600  1 !       none
;  220     M 0601  1 !
;  221     M 0602  1 ! OUTPUT PARAMETERS:
;  222     M 0603  1 !       none
;  223     M 0604  1 !
;  224     M 0605  1 ! IMPLICIT OUTPUTS:
;  225     M 0606  1 !       file name is formatted in the HDR1 and HDR4 labels
;  226     M 0607  1 !
;  227     M 0608  1 ! SIDE EFFECTS:
;  228     M 0609  1 !       none
;  229     M 0610  1 !
;  230     M 0611  1 !--
;  231     M 0612  1
;  232     M 0613  1     BEGIN
;  233     M 0614  1
;  234     M 0615  1     EXTERNAL ROUTINE                                ! turn VMS version number
;  235     M 0616  1         CALC_TAPE_VER,                              !  into ANSI generation nums
;  236     M 0617  1         PARSE_NAME_TYPE,                            ! parse file name string
;  237     M 0618  1         PARSE_QUOTED_NAME: COMMON_CALL NOVALUE,     ! parse a spec in quotes
;  238     M 0619  1         RESULTANT_STRING: COMMON_CALL NOVALUE,      ! return resultant string
;  239     M 0620  1         STRIP_VERSION   : COMMON_CALL,              ! strip version from file spec
;  240     M 0621  1         SYS$FAO         : ADDRESSING_MODE ( ABSOLUTE ); ! format generation num
;  241     M 0622  1
;  242     M 0623  1     EXTERNAL
;  243     M 0624  1         ANSI_NAME_SIZE  : SIGNED BYTE,              ! size of the ANSI file name
;  244     M 0625  1         HDR1            : REF BBLOCK,               ! point to the HDR1
;  245     M 0626  1         HDR4            : REF BBLOCK,               ! point to the HDR4
;  246     M 0627  1         IO_PACKET       : REF BBLOCK,               ! pointer to current IRP
;  247     M 0628  1         LOCAL_FIB       : BBLOCK;                   ! copy of users File Info Blk
;  248     M 0629  1
;  249     M 0630  1     LOCAL
;  250     M 0631  1         ABD             : REF BBLOCKVECTOR [ , ABD$C_LENGTH ],
;  251     M 0632  1                                                     ! pointer to ACP buffer desc
;  252     M 0633  1         DESCRIPT        : VECTOR [ 2, LONG ],       ! general purpose descriptor
;  253     M 0634  1         FILE_SPEC_PTR   : LONG,                     ! point to file name buffer
;  254     M 0635  1         FILE_SPEC_LEN   : LONG,                     ! length of file name buffer
;  255     M 0636  1         NAME_STRING     : VECTOR [ FILE_SPEC_MAX, BYTE ],
;  256     M 0637  1                                                     ! buff to hold converted RAD50
;  257     M 0638  1         FILE_ID         : VECTOR [FILE_SPEC_MAX, BYTE], ! hole FILE ID
;  258     M 0639  1         GEN_NUM_VER     : VECTOR [ 2, LONG ],       ! ANSI version numbers
;  259     M 0640  1         QUOTED_NAME     : BITVECTOR [ 1 ],          ! was the spec passed in quotes
;  260     M 0641  1         VERSION         : WORD;                     ! VMS version number
;  261     M 0642  1
```

```
;  262          M 0643  1
;  263          M 0644  1      ! which filename should be used
;  264          M 0645  1      ! get the filename from name block if not specifed as attribute
;  265          M 0646  1      !
;  266          M 0647  1      ABD = .BBLOCK [ .IO_PACKET [ IRP$L_SVAPTE ], AIB$L_DESCRIPT ];
;  267          M 0648  1      IF .ABD [ ABD$C_NAME, ABD$W_COUNT ] EQLU 0
;  268          M 0649  1      THEN
;  269          M 0650  1          BEGIN
;  270          M 0651  1          RAD50_TO_VMS ( NAME_STRING, VERSION, FILE_SPEC_LEN );
;  271          M 0652  1          FILE_SPEC_PTR = NAME_STRING;
;  272          M 0653  1          QUOTED_NAME [ 0 ] = FALSE;
;  273          M 0654  1          END
;  274          M 0655  1      ELSE
;  275          M 0656  1          BEGIN
;  276          M 0657  1          FILE_SPEC_LEN = .ABD [ ABD$C_NAME, ABD$W_COUNT ];
;  277          M 0658  1          FILE_SPEC_PTR = .ABD [ ABD$C_NAME, ABD$W_TEXT ] +
;  278          M 0659  1                          ABD [ ABD$C_NAME, ABD$W_TEXT ] + 1;
;  279          M 0660  1
;  280          M 0661  1          ! do not allow wild cards in the version field
;  281          M 0662  1          !
;  282          M 0663  1          VERSION = STRIP_VERSION ( FILE_SPEC_LEN,
;  283          M 0664  1                                    FILE_SPEC_PTR,
;  284          M 0665  1                                    FALSE,
;  285          M 0666  1                                    QUOTED_NAME [ 0 ] );
;  286          M 0667  1          END;
;  287          M 0668  1
;  288          M 0669  1      ! check that it is not to large
;  289          M 0670  1      !
;  290          M 0671  1      IF .VERSION GTRU 32767 THEN ERR_EXIT ( SS$_BADFILEVER );
;  291          M 0672  1
;  292          M 0673  1      ! Space fill the temporary FILE_ID field
;  293          M 0674  1
;  294          M 0675  1      CH$FILL(' ',FILE_SPEC_MAX,FILE_ID);
;  295          M 0676  1
;  296          M 0677  1      ! parse the file name if is a VMS file spec and place into HDR1
;  297          M 0678  1      !
;  298          M 0679  1      IF .ANSI_NAME_SIZE LSS 0
;  299          M 0680  1      THEN
;  300          M 0681  1          BEGIN
;  301          M 0682  1          DESCRIPT [ 0 ] = FILE_SPEC_MAX;
;  302          M 0683  1          DESCRIPT [ 1 ] = FILE_ID[0];
;  303          M 0684  1
;  304          M 0685  1          ! call the correct parse routine
;  305          M 0686  1          !
;  306          M 0687  1          IF .QUOTED_NAME [ 0 ]
;  307          M 0688  1          THEN
;  308          M 0689  1              BEGIN
;  309          M 0690  1              PARSE_QUOTED_NAME ( .FILE_SPEC_LEN,
;  310          M 0691  1                                  .FILE_SPEC_PTR,
;  311          M 0692  1                                  DESCRIPT );
;  312          M 0693  1
;  313          M 0694  1              ! set a dummy value so it is tested to see if it is VMS spec
;  314          M 0695  1              !
;  315          M 0696  1              ANSI_NAME_SIZE = 1;
;  316          M 0697  1              END
;  317          M 0698  1          ELSE
;  318          M 0699  1              BEGIN
```

```
;  319          M 0700  1              IF NOT PARSE_NAME_TYPE ( FALSE, ! no wild cards allowed
;  320          M 0701  1                                      .FILE_SPEC_LEN,
;  321          M 0702  1                                      .FILE_SPEC_PTR,
;  322          M 0703  1                                      DESCRIPT )
;  323          M 0704  1              THEN ERR_EXIT ( SS$_BADFILENAME );
;  324          M 0705  1              END;
;  325          M 0706  1          END;
;  326          M 0707  1
;  327          M 0708  1      ! test if the file spec give to us by ATR$_ASCNAME or in quotes is a VMS
;  328          M 0709  1      ! spec so we do not return it in quotes.  A size of zero will not work
;  329          M 0710  1      ! cause you need at least a "."
;  330          M 0711  1      !
;  331          M 0712  1      IF .ANSI_NAME_SIZE GTR 0
;  332          M 0713  1      THEN
;  333          M 0714  1          BEGIN
;  334          M 0715  1          EXTERNAL WORK_AREA;      ! address of general work area
;  335          M 0716  1          DESCRIPT [ 0 ] = FILE_SPEC_MAX;
;  336          M 0717  1          DESCRIPT [ 1 ] = WORK_AREA;
;  337          M 0718  1          IF PARSE_NAME_TYPE ( FALSE, ! no wild cards allowed
;  338          M 0719  1                               FILE_SPEC_MAX,
;  339          M 0720  1                               FILE_ID[0],
;  340          M 0721  1                               DESCRIPT )
;  341          M 0722  1          THEN ANSI_NAME_SIZE = -1;
;  342          M 0723  1          END;
;  343          M 0724  1
;  344          M 0725  1      ! Fill in the HDR1 FILE ID field and the HDR4 label.
;  345          M 0726  1
;  346          M 0727  1      CH$MOVE (HD1$S_FILEID, FILE_ID, HDR1[HD1$T_FILEID]);
;  347          M 0728  1      CH$MOVE (HD4$S_FILEID_EXT, FILE_ID[HD1$S_FILEID], HDR4[HD4$T_FILEID_EXT]);
;  348          M 0729  1
;  349          M 0730  1      ! Check the length of the file name. If the file name will fit in
;  350          M 0731  1      ! the HDR1 FILE ID then set the HDR4 length to zero. Else set up
;  351          M 0732  1      ! the lengths such that the HDR1 FILE ID is filed with the name
;  352          M 0733  1      ! then the remainder of the name is put in the HDR4 label with the
;  353          M 0734  1      ! size that is in the HDR4 label only.
;  354          M 0735  1      ! PLEASE NOTE that the actual implementation of this is different for
;  355          M 0736  1      ! volumes with a 4 in the VOL1 standard field as opposed to a 3 or less.
;  356          M 0737  1      ! This is because the new standard allows us to write any kind
;  357          M 0738  1      ! of data in implementation dependant fields. The old standard did not allow
;  358          M 0739  1      ! us to do this.
;  359          M 0740  1
;  360          M 0741  1      BEGIN
;  361          M 0742  1          BIND
;  362          M 0743  1              CVT2 = DESCRIPTOR ('!2ZW');
;  363          M 0744  1          LOCAL
;  364          M 0745  1              DESCR : VECTOR [2,LONG],
;  365          M 0746  1              MVL   : REF BBLOCK;
;  366          M 0747  1          MVL = .CURRENT_VCB[VCB$L_MVL];
;  367          M 0748  1          IF .FILE_SPEC_LEN  LEQU HD1$S_FILEID
;  368          M 0749  1             THEN
;  369          M 0750  1             BEGIN
;  370          M 0751  1                IF .MVL[MVL$B_STDVER] GTR 3
;  371          M 0752  1                  THEN
;  372          M 0753  1                      HDR4[HD4$B_FILEID_EXT_SIZE] = 0
;  373          M 0754  1                  ELSE
;  374          M 0755  1                      CH$FILL('0',HD4$S_FILEID_EXT_V3,HDR4[HD4$T_FILEID_EXT_V3]);
;  375          M 0756  1             END
```

```
;  376          M 0757  1              ELSE
;  377          M 0758  1              BEGIN
;  378          M 0759  1                 IF .MVL[MVL$B_STDVER] GTR 3
;  379          M 0760  1                   THEN
;  380          M 0761  1                       HDR4[HD4$B_FILEID_EXT_SIZE] = .FILE_SPEC_LEN - HD1$S_FILEID
;  381          M 0762  1                   ELSE
;  382          M 0763  1                   BEGIN
;  383          M 0764  1                      LOCAL LEN;
;  384          M 0765  1                      LEN = .FILE_SPEC_LEN - HD1$S_FILEID;
;  385          M 0766  1                      DESCR[0] = HD4$S_FILEID_EXT_V3;
;  386          M 0767  1                      DESCR[1] = HDR4[HD4$T_FILEID_EXT_V3];
;  387          M 0768  1                      $FAO(CVT2,0,DESCR,.LEN);
;  388          M 0769  1                   END;
;  389          M 0770  1              END;
;  390          M 0771  1          END;
;  391          M 0772  1
;  392          M 0773  1
;  393          M 0774  1      ! if enter function return file name string to user
;  394          M 0775  1      !
;  395          M 0776  1      IF .LOCAL_FIB [ FIB$W_DID_NUM ] NEQ 0
;  396          M 0777  1      THEN
;  397          M 0778  1          RESULTANT_STRING ( .ANSI_NAME_SIZE LSS 0,
;  398          M 0779  1                             FILE_SPEC_MAX,
;  399          M 0780  1                             FILE_ID[0],
;  400          M 0781  1                             .VERSION );
;  401          M 0782  1
;  402          M 0783  1      ! transform the VMS file version number into ANSI format
;  403          M 0784  1      !
;  404          M 0785  1      CALC_TAPE_VER ( .VERSION, GEN_NUM_VER );
;  405          M 0786  1      DESCRIPT [ 0 ] = HD1$S_GENNO + HDT$S_GENVER;
;  406          M 0787  1      DESCRIPT [ 1 ] = HDR1 [ HD1$T_GENNO ];
;  407          M 0788  1      SYS$FAO ( DESCRIPTOR ( '!4ZL!2ZL' ), 0, DESCRIPT,
;  408          M 0789  1                .GEN_NUM_VER [ 0 ], .GEN_NUM_VER [ 1 ] );
;  409          M 0790  1
;  410          M 0791  1      END;
;  411            0792  1      %;                                          ! end of macro FORMAT_FILE_NAME
```

```
;  413          0793  1 GLOBAL ROUTINE FORMAT_HDRS : COMMON_CALL NOVALUE =
;  414          0794  1
;  415          0795  1 !++
;  416          0796  1 !
;  417          0797  1 ! FUNCTIONAL DESCRIPTION:
;  418          0798  1 !       This routine formats HDR1, HDR2, HDR3 and HDR4.
;  419          0799  1 !
;  420          0800  1 ! CALLING SEQUENCE:
;  421          0801  1 !       FORMAT_HDRS()
;  422          0802  1 !
;  423          0803  1 ! INPUT PARAMETERS:
;  424          0804  1 !       none
;  425          0805  1 !
;  426          0806  1 ! IMPLICIT INPUTS:
;  427          0807  1 !       CURRENT_VCB - address of current vcb
;  428          0808  1 !       HDR1 - address of HDR1 label
;  429          0809  1 !       HDR2 - address of HDR2 label
;  430          0810  1 !       HDR3 - address of HDR3 label
;  431          0811  1 !       HDR4 - address of HDR4 label
;  432          0812  1 !       LOCAL_FIB - copy of user's fib
;  433          0813  1 !
;  434          0814  1 ! OUTPUT PARAMETERS:
;  435          0815  1 !       none
;  436          0816  1 !
;  437          0817  1 ! IMPLICIT OUTPUTS:
;  438          0818  1 !       HDR1, HDR2, HDR3, and HDR4 formatted
;  439          0819  1 !
;  440          0820  1 ! ROUTINE VALUE:
;  441          0821  1 !       none
;  442          0822  1 !
;  443          0823  1 ! SIDE EFFECTS:
;  444          0824  1 !       none
;  445          0825  1 !
;  446          0826  1 !--
;  447          0827  1
;  448          0828  2     BEGIN
;  449          0829  2
;  450          0830  2     EXTERNAL ROUTINE
;  451          0831  2         CONVDATE_R2J,                               ! convert regular date to
;  452          0832  2                                                     !  Julian for tape
;  453          0833  2         SYS$ASCTIM      : ADDRESSING_MODE(ABSOLUTE),! get ASCII date/time
;  454          0834  2         SYS$FAO         : ADDRESSING_MODE(ABSOLUTE),! format ASCII output
;  455          0835  2         WRITE_ATTRIBUTE : COMMON_CALL;              ! write user supplied attrbts
;  456          0836  2
;  457          0837  2
;  458          0838  2     EXTERNAL REGISTER
;  459          0839  2         COMMON_REG;
;  460          0840  2
;  461          0841  2     EXTERNAL
;  462          0842  2         CURRENT_UCB : REF BBLOCK,                   ! address of current UCB
;  463          0843  2         HDR1        : REF BBLOCK,                   ! address of HDR1(EOF1) label
;  464          0844  2         HDR2        : REF BBLOCK,                   ! address of HDR2(EOF2) label
;  465          0845  2         HDR3        : REF BBLOCK,                   ! address of HDR3(EOF3) label
;  466          0846  2         HDR4        : REF BBLOCK,                   ! address of HDR3(EOF4) label
;  467          0847  2         IO_PACKET   : REF BBLOCK,                   ! address of IO request packet
;  468          0848  2         LOCAL_FIB   : BBLOCK;                       ! copy of user file info block
;  469          0849  2
```

```
;  470          0850  2      BIND
;  471          0851  2          CVT4       = DESCRIPTOR ( '!4XW' ),
;  472          0852  2          CVT5       = DESCRIPTOR ( '!5ZW' ),
;  473          0853  2          DEFAULT    = UPLIT ('00512'),
;  474          0854  2          DEF_HEX    = UPLIT ('0200'),
;  475          0855  2          STARID     = UPLIT ('DECFILE11A');
;  476          0856  2
;  477          0857  2      GLOBAL
;  478          0858  2          NMBLOCK      : BBLOCK [10];                     ! name block
;  479          0859  2
;  480          0860  2      LOCAL
;  481          0861  2          DESCR        : VECTOR [2],                      ! general Pdescriptor
;  482          0862  2          MVL          : REF BBLOCK,                      ! magtape volume list
;  483          0863  2          TODAY        : VECTOR [12, BYTE];               ! regular date string
;  484          0864  2
;  485          0865  2
;  486          0866  2      ! Blank fill the headers and default the fields
;  487          0867  2      ! in HDR1, HDR2, HDR3, and HDR4
;  488          0868  2
;  489          0869  2      CH$FILL(' ', 320, .HDR1);
;  490          0870  2      HDR1[HD1$L_HD1LID] = 'HDR1';
;  491          0871  2      MVL = .CURRENT_VCB[VCB$L_MVL];
;  492          0872  2      CH$MOVE(HD1$S_FILESETID, MVL[MVL$T_SET_ID], HDR1[HD1$T_FILESETID]);
;  493          0873  2      CH$FILL('0', HD1$S_BLOCKCNT, HDR1[HD1$T_BLOCKCNT]);
;  494          0874  2
;  495          0875  2      ! If volume is for interchange do not write any VMS specific fields.
;  496          0876  2
;  497          0877  2      IF NOT .CURRENT_VCB[VCB$V_INTCHG]
;  498          0878  2          THEN
;  499          0879  2              CH$MOVE(10, STARID, HDR1[HD1$T_SYSCODE]);
;  500          0880  2
;  501          0881  2      ! default expiration and creation date
;  502          0882  2      !
;  503          0883  2      DESCR[0] = 12;
;  504          0884  2      DESCR[1] = TODAY;
;  505          0885  2      SYS$ASCTIM(0, DESCR, 0, 0);              ! get today's date in dd-mmm-yyyy
;  506          0886  2      CONVDATE_R2J(TODAY, HDR1[HD1$T_CREATEDT]);
;  507          0887  2      CH$MOVE(HD1$S_CREATEDT, HDR1[HD1$T_CREATEDT], HDR1[HD1$T_EXPIREDT]);
;  508          0888  2
;  509          0889  2      !++
;  510          0890  2      !
;  511          0891  2      ! format HDR2 defaults
;  512          0892  2      !
;  513          0893  2      !--
;  514          0894  2      HDR2[HD2$L_HD2LID] = 'HDR2';
;  515          0895  2      HDR2[HD2$B_RECFORMAT] = 'F';
;  516          0896  2      DESCR[0] = HD2$S_BLOCKLEN;
;  517          0897  2      DESCR[1] = HDR2[HD2$T_BLOCKLEN];
;  518          0898  2
;  519          0899  2      ! fill in the blocksize
;  520          0900  2      !
;  521          0901  3      IF NOT $FAO(CVT5, 0, DESCR, .CURRENT_UCB[UCB$W_DEVBUFSIZ])
;  522          0902  2      THEN CH$MOVE(HD2$S_BLOCKLEN, DEFAULT, HDR2[HD2$T_BLOCKLEN]);
;  523          0903  2
;  524          0904  2      ! default the the record size to be the blocksize
;  525          0905  2      !
;  526          0906  2      CH$MOVE(HD2$S_RECLEN, HDR2[HD2$T_BLOCKLEN], HDR2[HD2$T_RECLEN]);
```

```
;   527          0907  2
;   528          0908  2      ! use the record size if it exists
;   529          0909  2      !
;   530          0910  2      IF .CURRENT_VCB[VCB$W_RECORDSZ] NEQ 0
;   531          0911  2      THEN
;   532          0912  3          BEGIN
;   533          0913  3          DESCR[0] = HD2$S_RECLEN;
;   534          0914  3          DESCR[1] = HDR2[HD2$T_RECLEN];
;   535          0915  3
;   536          0916  4          IF NOT $FAO(CVT5, 0, DESCR, .CURRENT_VCB[VCB$W_RECORDSZ])
;   537          0917  3          THEN
;   538          0918  3              CH$MOVE(HD2$S_RECLEN, HDR2[HD2$T_BLOCKLEN], HDR2[HD2$T_RECLEN]);
;   539          0919  2          END;
;   540          0920  2
;   541          0921  2      HDR2[HD2$T_BUFOFF] = '00';
;   542          0922  2
;   543          0923  2      !++
;   544          0924  2      !
;   545          0925  2      ! default HDR3 ( sequencial files, fixed lenght block size )
;   546          0926  2      !
;   547          0927  2      !--
;   548          0928  2      HDR3[HD3$L_HD3LID] = 'HDR3';
;   549          0929  2      CH$FILL('0', HD3$S_RECATR, HDR3[HD3$T_RECATR]);
;   550          0930  2      (HDR3[HD3$T_RECATR] + 4)<0, 32> = '0201';
;   551          0931  2
;   552          0932  2      !++
;   553          0933  2      !
;   554          0934  2      ! default HDR4 no long file name, make the default dependant on the
;   555          0935  2      ! ANSI version type
;   556          0936  2      !
;   557          0937  2      !--
;   558          0938  2      HDR4[HD4$L_HD4LID] = 'HDR4';
;   559          0939  2      IF .MVL[MV[$B_STDVER] GTR 3
;   560          0940  2          THEN
;   561          0941  2              HDR4[HD4$B_FILEID_EXT_SIZE] = 0
;   562          0942  2          ELSE
;   563          0943  2              CH$FILL('0', HD4$S_FILEID_EXT_V3, HDR4[HD4$T_FILEID_EXT_V3]);
;   564          0944  2
;   565          0945  2      !++
;   566          0946  2      !
;   567          0947  2      ! fill in the RMS default record size
;   568          0948  2      !   if record size on mount then use it
;   569          0949  2      !   else if blocks size the use it
;   570          0950  2      !   else default
;   571          0951  2      !
;   572          0952  2      !--
;   573          0953  2      DESCR[0] = 4;
;   574          0954  2      DESCR[1] = HDR3[HD3$T_RECATR];
;   575          0955  2      IF .CURRENT_VCB[VCB$W_RECORDSZ] NEQ 0
;   576          0956  2      THEN
;   577          0957  3          BEGIN
;   578          0958  4          IF NOT $FAO( CVT4, 0, DESCR, .CURRENT_VCB[VCB$W_RECORDSZ] )
;   579          0959  3          THEN
;   580          0960  4              BEGIN
;   581          0961  5              IF NOT $FAO( CVT4, 0, DESCR, .CURRENT_UCB[UCB$W_DEVBUFSIZ] )
;   582          0962  4              THEN CH$MOVE ( 4, DEF_HEX, HDR3[HD3$T_RECATR] );
;   583          0963  3              END;
```

```
;  584     0964  3          END
;  585     0965  2      ELSE
;  586     0966  3          BEGIN
;  587     0967  4          IF NOT $FAO( CVT4, 0, DESCR, .CURRENT_UCB[UCB$W_DEVBUFSIZ] )
;  588     0968  3          THEN CH$MOVE ( 4, DEF_HEX, HDR3[HD3$T_RECATR] );
;  589     0969  2          END;
;  590     0970  2
;  591     0971  2
;  592     0972  2      ! pickup user supplied attributes
;  593     0973  2      !
;  594     0974  2      CH$FILL ( 0, 10, NMBLOCK );
;  595     0975  2      WRITE_ATTRIBUTE ();
;  596     0976  2
;  597     0977  2      !+
;  598     0978  2      !
;  599     0979  2      ! set up the file specification
;  600     0980  2      !
;  601     0981  2      !-
;  602     0982  2      FORMAT_FILE_NAME;
;  603     0983  2
;  604     0984  1      END;                                    ! end of routine FORMAT_HDRS


                                                             .TITLE  FRMHDR
                                                             .IDENT  \V04-000\

                                                             .PSECT  $CODE$,NOWRT,2

                                          57  58  34  21  00000 P.AAB:  .ASCII  \!4XW\
                                            00000004  00004 P.AAA:  .LONG   4
                                            00000000' 00008          .ADDRESS P.AAB
                                          57  5A  35  21  0000C P.AAD:  .ASCII  \!5ZW\
                                            00000004  00010 P.AAC:  .LONG   4
                                            00000000' 00014          .ADDRESS P.AAD
                              00  00  00  32  31  35  30  30  00018 P.AAE:  .ASCII  \00512\<0><0><0>
                                              30  32  30  30  00020 P.AAF:  .ASCII  \0200\
00  00  41  31  31  45  4C  49  46  43  45  44  00024 P.AAG:  .ASCII  \DECFILE11A\<0><0>
                                          57  5A  32  21  00030 P.AAI:  .ASCII  \!2ZW\
                                            00000004  00034 P.AAH:  .LONG   4
                                            00000000' 00038          .ADDRESS P.AAI
                              4C  5A  32  21  4C  5A  34  21  0003C P.AAK:  .ASCII  \!4ZL!2ZL\
                                            00000008  00044 P.AAJ:  .LONG   8
                                            00000000' 00048          .ADDRESS P.AAK

                                                             .PSECT  $LOCKEDD1$,NOEXE,2

                                                    00000 NMBLOCK::
                                                             .BLKB   10

                                                          CVT4=              P.AAA
                                                          CVT5=              P.AAC
                                                          DEFAULT=           P.AAE
                                                          DEF_HEX=           P.AAF
                                                          STARID=            P.AAG
                                                          CVT2=              P.AAH
                                                             .EXTRN  CONVDATE_R2J, SYS$ASCTIM
                                                             .EXTRN  SYS$FAO, WRITE_ATTRIBUTE
```

```
                                                                .EXTRN  CURRENT_UCB, HDR1
                                                                .EXTRN  HDR2, HDR3, HDR4
                                                                .EXTRN  IO_PACKET, LOCAL_FIB
                                                                .EXTRN  CALC_TAPE_VER, PARSE_NAME_TYPE
                                                                .EXTRN  PARSE_QUOTED_NAME
                                                                .EXTRN  RESULTANT_STRING
                                                                .EXTRN  STRIP_VERSION, ANSI_NAME_SIZE
                                                                .EXTRN  WORK_AREA

                                                                .PSECT  $CODE$,NOWRT,2

                                              07FC 00000        .ENTRY  FORMAT_HDRS, Save R2,R3,R4,R5,R6,R7,R8,R9,- ; 0793
                                                                        R10                                         ;
                          5A 00000000G  00  9E 00002            MOVAB   SYS$FAO, R10                                ;
                          5E      FF24  CE  9E 00009            MOVAB   -220(SP), SP                                ;
                          56     0000G  CF  D0 0000E            MOVL    HDR1, R6                                    ; 0869
 0140   8F        20      6E            00  2C 00013            MOVC5   #0, (SP), #32, #320, (R6)                   ;
                          66                   0001A                                                                ;
                          66  31524448  8F  D0 0001B            MOVL    #827475016, (R6)                            ; 0870
                          57        34  AB  D0 00022            MOVL    52(CURRENT_VCB), MVL                        ; 0871
           15   A6    0C  A7            06  28 00026            MOVC3   #6, 12(MVL), 21(R6)                         ; 0872
        06      30        6E            00  2C 0002C            MOVC5   #0, (SP), #48, #6, 54(R6)                   ; 0873
                                    36  A6     00031                                                                ;
                06    2C  AB            04  E0 00033            BBS     #4, 44(CURRENT_VCB), 1$                     ; 0877
           3C   A6    9C  AF            0A  28 00038            MOVC3   #10, STARID, 60(R6)                         ; 0879
                      F8  AD            0C  D0 0003E  1$:       MOVL    #12, DESCR                                  ; 0883
                      FC  AD        EC  AD  9E 00042            MOVAB   TODAY, DESCR+4                              ; 0884
                                        7E  7C 00047            CLRQ    -(SP)                                       ; 0885
                                    F8  AD  9F 00049            PUSHAB  DESCR                                       ;
                                        7E  D4 0004C            CLRL    -(SP)                                       ;
            00000000G 9F                04  FB 0004E            CALLS   #4, @#SYS$ASCTIM                            ;
                7E   0000G  CF          29  C1 00055            ADDL3   #41, HDR1, -(SP)                            ; 0886
                                    EC  AD  9F 0005B            PUSHAB  TODAY                                       ;
                     0000G  CF          02  FB 0005E            CALLS   #2, CONVDATE_R2J                            ;
                          50     0000G  CF  D0 00063            MOVL    HDR1, R0                                    ; 0887
           2F   A0    29  A0            06  28 00068            MOVC3   #6, 41(R0), 47(R0)                          ;
                          50     0000G  CF  D0 0006E            MOVL    HDR2, R0                                    ; 0894
                          60  32524448  8F  D0 00073            MOVL    #844252232, (R0)                            ;
                      04  A0        46  8F  90 0007A            MOVB    #70, 4(R0)                                  ; 0895
                      F8  AD            05  D0 0007F            MOVL    #5, DESCR                                   ; 0896
                      FC  AD        05  A0  9E 00083            MOVAB   5(R0), DESCR+4                              ; 0897
                          50     0000G  CF  D0 00088            MOVL    CURRENT_UCB, R0                             ; 0901
                          7E        42  A0  3C 0008D            MOVZWL  66(R0), -(SP)                               ;
                                    F8  AD  9F 00091            PUSHAB  DESCR                                       ;
                                        7E  D4 00094            CLRL    -(SP)                                       ;
                                  FF2A  CF  9F 00096            PUSHAB  CVT5                                        ;
                          6A            04  FB 0009A            CALLS   #4, SYS$FAO                                 ;
                          0C            50  E8 0009D            BLBS    R0, 2$                                      ;
                          50     0000G  CF  D0 000A0            MOVL    HDR2, R0                                    ; 0902
           05   A0  FF22  CF            05  28 000A5            MOVC3   #5, DEFAULT, 5(R0)                          ;
                          56     0000G  CF  D0 000AC  2$:       MOVL    HDR2, R6                                    ; 0906
           0A   A6    05  A6            05  28 000B1            MOVC3   #5, 5(R6), 10(R6)                           ;
                          58        50  AB  3C 000B7            MOVZWL  80(CURRENT_VCB), R8                         ; 0910
                                        59  D4 000BB            CLRL    R9                                          ;
                                        58  D5 000BD            TSTL    R8                                          ;
                                        27  13 000BF            BEQL    3$                                          ;
                                        59  D6 000C1            INCL    R9                                          ;
```

```
                    F8  AD            05  D0 000C3        MOVL    #5, DESCR                               ; 0913
                    FC  AD       0A   A6  9E 000C7        MOVAB   10(R6), DESCR+4                         ; 0914
                                      58  DD 000CC        PUSHL   R8                                      ; 0916
                                 F8   AD  9F 000CE        PUSHAB  DESCR                                   ;
                                      7E  D4 000D1        CLRL    -(SP)                                   ;
                               FEED   CF  9F 000D3        PUSHAB  CVT5                                    ;
                        6A            04  FB 000D7        CALLS   #4, SYS$FAO                             ;
                        0B            50  E8 000DA        BLBS    R0, 3$                                  ;
                        50     0000G  CF  D0 000DD        MOVL    HDR2, R0                                ; 0918
        0A   A0     05  A0            05  28 000E2        MOVC3   #5, 5(R0), 10(R0)                       ;
                        50     0000G  CF  D0 000E8 3$:    MOVL    HDR2, R0                                ; 0921
                    32  A0      3030  8F  B0 000ED        MOVW    #12336, 50(R0)                          ;
                        56     0000G  CF  D0 000F3        MOVL    HDR3, R6                                ; 0928
                        66  33524448  8F  D0 000F8        MOVL    #861029448, (R6)                        ;
 0040  8F        30     6E            00  2C 000FF        MOVC5   #0, (SP), #48, #64, 4(R6)               ; 0929
                                 04   A6     00106                                                        ;
                    08  A6  31303230  8F  D0 00108        MOVL    #825242160, 8(R6)                       ; 0930
                        50     0000G  CF  D0 00110        MOVL    HDR4, R0                                ; 0938
                        60  34524448  8F  D0 00115        MOVL    #877806664, (R0)                        ;
                        03       22   A7  91 0011C        CMPB    34(MVL), #3                             ; 0939
                                      05  1B 00120        BLEQU   4$                                      ;
                                 04   A0  94 00122        CLRB    4(R0)                                   ; 0941
                                      06  11 00125        BRB     5$                                      ;
                    43  A0      3030  8F  B0 00127 4$:    MOVW    #12336, 67(R0)                          ; 0943
                    F8  AD            04  D0 0012D 5$:    MOVL    #4, DESCR                               ; 0953
                    FC  AD       04   A6  9E 00131        MOVAB   4(R6), DESCR+4                          ; 0954
                        11            59  E9 00136        BLBC    R9, 6$                                  ; 0955
                                      58  DD 00139        PUSHL   R8                                      ; 0958
                                 F8   AD  9F 0013B        PUSHAB  DESCR                                   ;
                                      7E  D4 0013E        CLRL    -(SP)                                   ;
                               FE74   CF  9F 00140        PUSHAB  CVT4                                    ;
                        6A            04  FB 00144        CALLS   #4, SYS$FAO                             ;
                        23            50  E8 00147        BLBS    R0, 7$                                  ;
                        50     0000G  CF  D0 0014A 6$:    MOVL    CURRENT_UCB, R0                         ; 0967
                        7E       42   A0  3C 0014F        MOVZWL  66(R0), -(SP)                           ;
                                 F8   AD  9F 00153        PUSHAB  DESCR                                   ;
                                      7E  D4 00156        CLRL    -(SP)                                   ;
                               FE5C   CF  9F 00158        PUSHAB  CVT4                                    ;
                        6A            04  FB 0015C        CALLS   #4, SYS$FAO                             ;
                        0B            50  E8 0015F        BLBS    R0, 7$                                  ;
                        50     0000G  CF  D0 00162        MOVL    HDR3, R0                                ; 0968
                    04  A0      FE69  CF  D0 00167        MOVL    DEF_HEX, 4(R0)                          ;
       0A        00     6E            00  2C 0016D 7$:    MOVC5   #0, (SP), #0, #10, NMBLOCK              ; 0974
                               0000'  CF     00172                                                        ;
                 0000G  CF            00  FB 00175        CALLS   #0, WRITE_ATTRIBUTE                     ; 0975
                        50     0000G  CF  D0 0017A        MOVL    IO_PACKET, R0                           ;
                        50       2C   B0  D0 0017F        MOVL    @44(R0), ABD                            ;
                                 12   A0  B5 00183        TSTW    18(ABD)                                 ;
                                      03  13 00186        BEQL    8$                                      ;
                               0099   31 00188            BRW     19$                                     ;
                                 0C   AE  D4 0018B 8$:    CLRL    FILE_SPEC_LEN                           ;
                                      54  D4 0018E        CLRL    K                                       ;
                        04            54  E9 00190 9$:    BLBC    K, 10$                                  ;
                                      55  D4 00193        CLRL    R5                                      ;
                                      03  11 00195        BRB     11$                                     ;
                        55            02  D0 00197 10$:   MOVL    #2, R5                                  ;
                        50            01  CE 0019A 11$:   MNEGL   #1, I                                   ;
```

```
                                        5B  11 0019D          BRB     17$
              51          50            54  C1 0019F  12$:    ADDL3   K, I, R1
                          52   0000GCF41    3C 001A3          MOVZWL  NMBLOCK[R1], R2
              51          52  00000640  8F  C7 001A9          DIVL3   #1600, R2, R1
                          6E            51  90 001B1          MOVB    R1, CHARS
              51          52            28  C7 001B4          DIVL3   #40, R2, R1
       7E     00          51            01  7A 001B8          EMUL    #1, R1, #0, -(SP)
       51     51          8E            28  7B 001BD          EDIV    #40, (SP)+, R1, R1
                     01   AE            51  90 001C2          MOVB    R1, CHARS+1
       7E     00          52            01  7A 001C6          EMUL    #1, R2, #0, -(SP)
       51     51          8E            28  7B 001CB          EDIV    #40, (SP)+, R1, R1
                     02   AE            51  90 001D0          MOVB    R1, CHARS+2
                                        51  D4 001D4          CLRL    J
                          53          6E41  9A 001D6  13$:    MOVZBL  CHARS[J], R3
                                        1A  13 001DA          BEQL    16$
                          52       70   AE  9E 001DC          MOVAB   NAME_STRING, R2
                          1E            53  91 001E0          CMPB    R3, #30
                                        06  1E 001E3          BGEQU   14$
                          53       40   A3  9E 001E5          MOVAB   64(R3), R3
                                        03  11 001E9          BRB     15$
                          53            12  C0 001EB  14$:    ADDL2   #18, R3
                     0C BE42            53  90 001EE  15$:    MOVB    R3, @FILE_SPEC_LEN[R2]
                                   0C   AE  D6 001F3          INCL    FILE_SPEC_LEN
              DC          51            02  F3 001F6  16$:    AOBLEQ  #2, J, 13$
              A1          50            55  F3 001FA  17$:    AOBLEQ  R5, I, 12$
                                        54  D5 001FE          TSTL    K
                                        0C  12 00200          BNEQ    18$
                          50       70   AE  9E 00202          MOVAB   NAME_STRING, R0
                     0C BE40            2E  90 00206          MOVB    #46, @FILE_SPEC_LEN[R0]
                                   0C   AE  D6 0020B          INCL    FILE_SPEC_LEN
     FF7C     54          03            03  F1 0020E  18$:    ACBL    #3, #3, K, 9$
                          57    0000G   CF  B0 00214          MOVW    NMBLOCK+8, VERSION
                     08   AE       70   AE  9E 00219          MOVAB   NAME_STRING, FILE_SPEC_PTR
                     04   AE            01  8A 0021E          BICB2   #1, QUOTED_NAME
                                        25  11 00222          BRB     20$
                     0C   AE       12   A0  3C 00224  19$:    MOVZWL  18(ABD), FILE_SPEC_LEN
                          51       10   A0  9E 00229          MOVAB   16(ABD), R1
                          50            61  3C 0022D          MOVZWL  (R1), R0
                     08   AE    01 A140  9E 00230          MOVAB   1(R1)[R0], FILE_SPEC_PTR
                                   04   AE  9F 00236          PUSHAB  QUOTED_NAME
                                        7E  D4 00239          CLRL    -(SP)
                                   10   AE  9F 0023B          PUSHAB  FILE_SPEC_PTR
                                   18   AE  9F 0023E          PUSHAB  FILE_SPEC_LEN
                  0000G   CF            04  FB 00241          CALLS   #4, STRIP_VERSION
                          57            50  B0 00246          MOVW    R0, VERSION
                   7FFF   8F            57  B1 00249  20$:    CMPW    VERSION, #32767
                                        04  1B 0024E          BLEQU   21$
                                 0820   8F  BF 00250          CHMU    #2080
  004F   8F   20          6E            00  2C 00254  21$:    MOVC5   #0, (SP), #32, #79, FILE_ID
                                   20   AE     0025B
                                0000G   CF  95 0025D          TSTB    ANSI_NAME_SIZE
                                        3A  18 00261          BGEQ    23$
                     E4   AD       4F   8F  9A 00263          MOVZBL  #79, DESCRIPT
                     E8   AD       20   AE  9E 00268          MOVAB   FILE_ID, DESCRIPT+4
                          15       04   AE  E9 0026D          BLBC    QUOTED_NAME, 22$
                                   E4   AD  9F 00271          PUSHAB  DESCRIPT
                                   0C   AE  DD 00274          PUSHL   FILE_SPEC_PTR
```

```
                                 14   AE  DD 00277        PUSHL   FILE_SPEC_LEN
                 0000G  CF            03  FB 0027A        CALLS   #3, PARSE_QUOTED_NAME
                 0000G  CF            01  90 0027F        MOVB    #1, ANSI_NAME_SIZE
                                      17  11 00284        BRB     23$
                                 E4   AD  9F 00286 22$:   PUSHAB  DESCRIPT
                                 0C   AE  DD 00289        PUSHL   FILE_SPEC_PTR
                                 14   AE  DD 0028C        PUSHL   FILE_SPEC_LEN
                                      7E  D4 0028F        CLRL    -(SP)
                 0000G  CF            04  FB 00291        CALLS   #4, PARSE_NAME_TYPE
                        04            50  E8 00296        BLBS    R0, 23$
                               0818   8F  BF 00299        CHMU    #2072
                              0000G   CF  95 0029D 23$:   TSTB    ANSI_NAME_SIZE
                                      24  15 002A1        BLEQ    24$
                    E4  AD       4F   8F  9A 002A3        MOVZBL  #79, DESCRIPT
                    E8  AD    0000G   CF  9E 002A8        MOVAB   WORK_AREA, DESCRIPT+4
                                 E4   AD  9F 002AE        PUSHAB  DESCRIPT
                                 24   AE  9F 002B1        PUSHAB  FILE_ID
                        7E       4F   8F  9A 002B4        MOVZBL  #79, -(SP)
                                      7E  D4 002B8        CLRL    -(SP)
                 0000G  CF            04  FB 002BA        CALLS   #4, PARSE_NAME_TYPE
                        05            50  E9 002BF        BLBC    R0, 24$
                 0000G  CF            01  8E 002C2        MNEGB   #1, ANSI_NAME_SIZE
                        50    0000G   CF  D0 002C7 24$:   MOVL    HDR1, R0
     04   A0     20     AE            11  28 002CC        MOVC3   #17, FILE_ID, 4(R0)
                        56    0000G   CF  D0 002D2        MOVL    HDR4, R6
     05   A6     31     AE            3E  28 002D7        MOVC3   #62, FILE_ID+17, 5(R6)
                        50       34   AB  D0 002DD        MOVL    52(CURRENT_VCB), MVL
                        11       0C   AE  D1 002E1        CMPL    FILE_SPEC_LEN, #17
                                      13  1A 002E5        BGTRU   26$
                        03       22   A0  91 002E7        CMPB    34(MVL), #3
                                      05  1B 002EB        BLEQU   25$
                                 04   A6  94 002ED        CLRB    4(R6)
                                      33  11 002F0        BRB     28$
                    43  A6     3030   8F  B0 002F2 25$:   MOVW    #12336, 67(R6)
                                      2B  11 002F8        BRB     28$
          51        0C  AE            11  C3 002FA 26$:   SUBL3   #17, FILE_SPEC_LEN, R1
                        03       22   A0  91 002FF        CMPB    34(MVL), #3
                                      06  1B 00303        BLEQU   27$
                    04  A6            51  90 00305        MOVB    R1, 4(R6)
                                      1A  11 00309        BRB     28$
                        50            51  D0 0030B 27$:   MOVL    R1, LEN
                    10  AE            02  D0 0030E        MOVL    #2, DESCR
                    14  AE       43   A6  9E 00312        MOVAB   67(R6), DESCR+4
                                      50  DD 00317        PUSHL   LEN
                                 14   AE  9F 00319        PUSHAB  DESCR
                                      7E  D4 0031C        CLRL    -(SP)
                               FCC6   CF  9F 0031E        PUSHAB  CVT2
                        6A            04  FB 00322        CALLS   #4, SYS$FAO
                              0000G   CF  B5 00325 28$:   TSTW    LOCAL_FIB+10
                                      19  13 00329        BEQL    30$
                        7E            57  3C 0032B        MOVZWL  VERSION, -(SP)
                                 24   AE  9F 0032E        PUSHAB  FILE_ID
                        7E       4F   8F  9A 00331        MOVZBL  #79, -(SP)
                                      7E  D4 00335        CLRL    -(SP)
                              0000G   CF  95 00337        TSTB    ANSI_NAME_SIZE
                                      02  18 0033B        BGEQ    29$
                                      6E  D6 0033D        INCL    (SP)
```

```
                        0000G  CF           04  FB 0033F 29$:   CALLS   #4, RESULTANT_STRING              ;
                                      18    AE  9F 00344 30$:   PUSHAB  GEN_NUM_VER                       ;
                           7E               57  3C 00347        MOVZWL  VERSION, -(SP)                    ;
                        0000G  CF           02  FB 0034A        CALLS   #2, CALC_TAPE_VER                 ;
                           E4  AD           06  D0 0034F        MOVL    #6, DESCRIPT                      ;
         E8    AD       0000G  CF           23  C1 00353        ADDL3   #35, HDR1, DESCRIPT+4             ;
                                      1C    AE  DD 0035A        PUSHL   GEN_NUM_VER+4                     ;
                                      1C    AE  DD 0035D        PUSHL   GEN_NUM_VER                       ;
                                      E4    AD  9F 00360        PUSHAB  DESCRIPT                          ;
                                            7E  D4 00363        CLRL    -(SP)                             ;
                                    FC8F    CF  9F 00365        PUSHAB  P.AAJ                             ;
                           6A               05  FB 00369        CALLS   #5, SYS$FAO                       ;
                                                04 0036C        RET                                       ; 0984

; Routine Size:  877 bytes,    Routine Base:  $CODE$ + 004C


;  605         0985  1
;  606         0986  1 END
;  607         0987  1
;  608         0988  0 ELUDOM



;                                   PSECT SUMMARY
;
;       Name                       Bytes                     Attributes
;
;  $CODE$                           953  NOVEC,NOWRT,  RD ,  EXE,NOSHR,  LCL,  REL,  CON,NOPIC,ALIGN(2)
;  $LOCKEDD1$                        10  NOVEC,  WRT,  RD ,NOEXE,NOSHR,  LCL,  REL,  CON,NOPIC,ALIGN(2)


;                             Library Statistics
;
;                                             -------- Symbols --------      Pages       Processing
;       File                                  Total    Loaded   Percent      Mapped      Time
;
;  _$255$DUA28:[SYSLIB]LIB.L32;1              18619        50         0      1000         00:01.9



;                                 COMMAND QUALIFIERS

;       BLISS/CHECK=(FIELD,INITIAL,OPTIMIZE)/LIS=LIS$:FRMHDR/OBJ=OBJ$:FRMHDR MSRC$:FRMHDR/UPDATE=(ENH$:FRMHDR)

;  609         0989  0
; Size:        877 code + 86 data bytes
; Run Time:       00:19.9
```

```
; Elapsed Time:    00:38.7
; Lines/CPU Min:    2989
; Lexemes/CPU-Min: 23271
; Memory Used:  299 pages
; Compilation Complete
```

FREEPG
LIS

DEACCS
LIS

FIND
LIS

DATECN
LIS

FRMOD1
LIS

CREATE
LIS

GETREQ
LIS

EXPIRE
LIS

CNTRL
LIS

FRMHDR
LIS

HEADER
LIS

COMLABPRC
LIS

ENDVOL
LIS

GETFIB
LIS