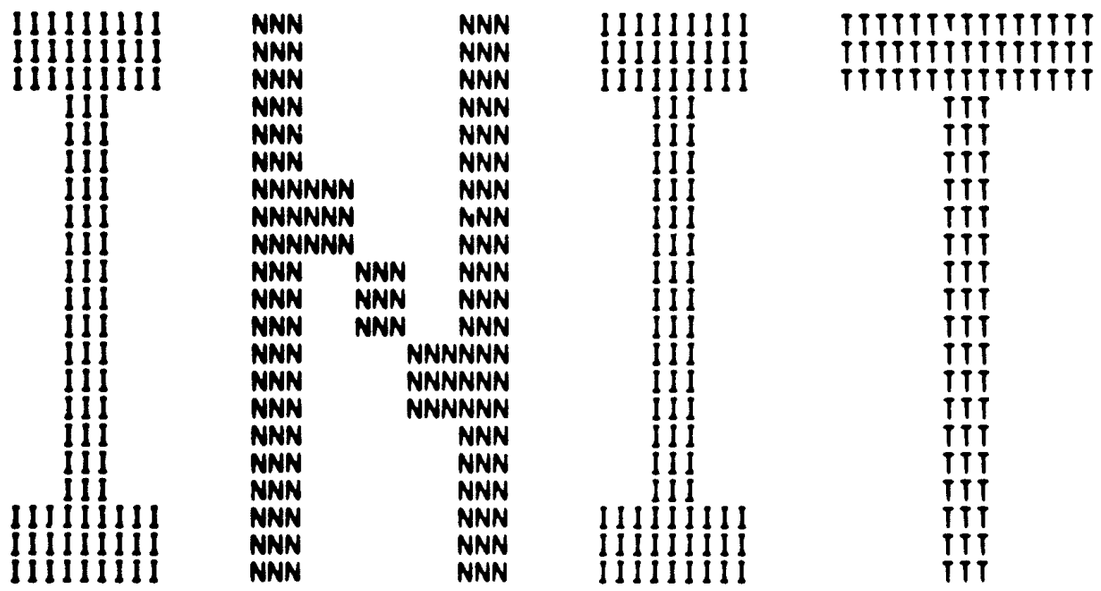
IIIIIIIII NNN NNN IIIIIIIII TTTTTTTTTTTTTTT
IIIIIIIII NNN NNN IIIIIIIII TTTTTTTTTTTTTTT
IIIIIIIII NNN NNN IIIIIIIII TTTTTTTTTTTTTTT
III NNN NNN III TTT
III NNN NNN III TTT
III NNN NNN III TTT
III NNNNNN NNN III TTT
III NNNNNN NNN III TTT
III NNNNNN NNN III TTT
III NNN NNN NNN III TTT
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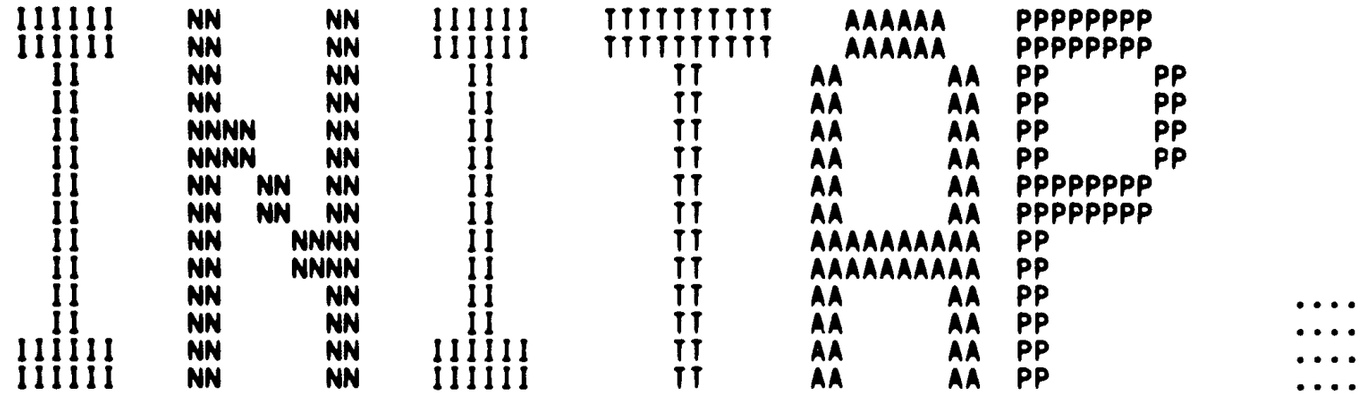
IIIIIIIII NNN NNN IIIIIIIII TTT
IIIIIIIII NNN NNN IIIIIIIII TTT

**FILE**ID**INITAP



```
;     1          0001  0 MODULE INITAP (
;     2          0002  0                 LANGUAGE (BLISS32),
;     3          0003  0                 IDENT = 'V04-000'
;     4          0004  0                 ) =
;     5          0005  1 BEGIN
;     6          0006  1
;     7          0007  1 !
;     8          0008  1 !**************************************************************************
;     9          0009  1 !*                                                                        *
;    10          0010  1 !*  COPYRIGHT (c) 1978, 1980, 1982, 1984 BY                               *
;    11          0011  1 !*  DIGITAL EQUIPMENT CORPORA ION, MAYNARD, MASSACHUSETTS.                 *
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;    13          0013  1 !*                                                                        *
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;    16          0016  1 !*  INCLUSION OF THE ABOVE COPYRIGHT NOTICE. THIS SOFTWARE OR  ANY  OTHER   *
;    17          0017  1 !*  COPIES THEREOF MAY NOT BE PROVIDED OR OTHERWISE MADE AVAILABLE TO ANY   *
;    18          0018  1 !*  OTHER PERSON.  NO TITLE TO AND OWNERSHIP OF  THE  SOFTWARE IS  HEREBY   *
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;    20          0020  1 !*                                                                        *
;    21          0021  1 !*  THE INFORMATION IN THIS SOFTWARE IS  SUBJECT TO CHANGE WITHOUT NOTICE   *
;    22          0022  1 !*  AND  SHOULD  NOT  BE  CONSTRUED AS  A COMMITMENT BY DIGITAL EQUIPMENT   *
;    23          0023  1 !*  CORPORATION.                                                           *
;    24          0024  1 !*                                                                        *
;    25          0025  1 !*  DIGITAL ASSUMES NO RESPONSIBILITY FOR THE USE  OR  RELIABILITY OF ITS  *
;    26          0026  1 !*  SOFTWARE ON EQUIPMENT WHICH IS NOT SUPPLIED BY DIGITAL.                *
;    27          0027  1 !*                                                                        *
;    28          0028  1 !*                                                                        *
;    29          0029  1 !**************************************************************************
;    30          0030  1
;    31          0031  1 !++
;    32          0032  1 !
;    33          0033  1 ! FACILITY:  INIT Utility Structure Level II
;    34          0034  1 !
;    35          0035  1 ! ABSTRACT:
;    36          0036  1 !
;    37          0037  1 !       THIS MODULE HANDLES INITIALIZATION OF ANSI MAGNETIC TAPE
;    38          0038  1 !
;    39          0039  1 ! ENVIRONMENT:
;    40          0040  1 !
;    41          0041  1 !       VAX/VMS operating system, including privileged system services
;    42          0042  1 !       and internal exec routines.
;    43          0043  1 !
;    44          0044  1 !--
;    45          0045  1 !
;    46          0046  1 !
;    47          0047  1 ! AUTHOR:  D. H. GILLESPIE,      CREATION DATE:  10-DEC-1977  18:10
;    48          0048  1 !
;    49          0049  1 ! MODIFIED BY:
;    50          0050  1 !
;    51          0051  1 !       V03-011 MMD0269         Meg Dumont,     23-Mar-1984  9:19
;    52          0052  1 !               Change the processing of the accessibility character fields
;    53          0053  1 !               in the VOL1 and or HDR1 label to call the installation
;    54          0054  1 !               specific accessibility routine. The return from this
;    55          0055  1 !               routine determines the users access to the volume and/or file.
;    56          0056  1 !
;    57          0057  1 !       V03-009 MMD0237         Meg Dumont,     14-Feb-1984  11:16
```

```
;    58          0058  1 !               Change all calls to CLEAR_VALID to a QIO IO$_AVAILABLE.
;    59          0059  1 !               Delete any reference to SET_VALID.
;    60          0060  1 !
;    61          0061  1 !       V03-008 MCN0140         Maria del C. Nasr       30-Nov-1983
;    62          0062  1 !               Define LABEL_STRING as BBLOCK descriptor and use
;    63          0063  1 !               descriptor offsets to find length.
;    64          0064  1 !
;    65          0065  1 !       V03-007 MMD0180         Meg Dumont,     26-May-1983  15:15
;    66          0066  1 !               Change VOL1 to indicate ANSI level 4 when writing a SYSTEM
;    67          0067  1 !               CODE in the VOL1 label.
;    68          0068  1 !
;    69          0069  1 !       V03-006 STJ3091         Steven T. Jeffreys,     27-Apr-1983
;    70          0070  1 !               Added support for /[NO]ERASE.
;    71          0071  1 !
;    72          0072  1 !       V03-005 MMD0133         Meg Dumont,     12-Apr-1983  17:20
;    73          0073  1 !               Turn on support for writing the VOL1 OWNER IDENTIFIER
;    74          0074  1 !               field so that it is now a nonVMS field. Add support
;    75          0075  1 !               for the underscore as a valid character to tape.
;    76          0076  1 !
;    77          0077  1 !       V03-004 MMD0127         Meg Dumont,     1-Apr-1983  14:13
;    78          0078  1 !               Fix to the temp fix
;    79          0079  1 !
;    80          0080  1 !       V03-003 MMD0126         Meg Dumont,     1-Apr-1983  13:28
;    81          0081  1 !               Temp take out references to VOL_OWNER
;    82          0082  1 !
;    83          0083  1 !       V03-002 MMD0117         Meg Dumont,     29-Mar-1983  0:42
;    84          0084  1 !               Add support for new VMS protection. Means writing a
;    85          0085  1 !               VOL2 label to the tape when a VMS protection is specified
;    86          0086  1 !
;    87          0087  1 !       V03-001 MMD0001         Meg Dumont,     13-Aug-1982  13:11
;    88          0088  1 !               Change from call to SET_VALID to QIO IO$_PACKACK
;    89          0089  1 !
;    90          0090  1 !       V02-013 DMW0018         David Michael Walp       2-Mar-1982
;    91          0091  1 !               Another correction for the volume invalid problem
;    92          0092  1 !
;    93          0093  1 !       V02-012 DMW0016         David Michael Walp      18-Dec-1981
;    94          0094  1 !               Increase Transtable size to 256
;    95          0095  1 !
;    96          0096  1 !       V02-011 DMW0011         David Michael Walp      21-Aug-1981
;    97          0097  1 !               Correct override typo and new Tape_Own_Prot and
;    98          0098  1 !               /LABEL for /ANSI
;    99          0099  1 !
;   100          0100  1 !       V02-010 DMW0010         David Michael Walp      18-Jun-1981
;   101          0101  1 !               Cleaned up defaulting of density.
;   102          0102  1 !
;   103          0103  1 !       V02-009 DMW0009         David Michael Walp      19-May-1981
;   104          0104  1 !               Placed Volume Id into the File Set Id of the 'Dummy File'
;   105          0105  1 !
;   106          0106  1 !       V02-008 DMW0008         David Michael Walp      1-May-1981
;   107          0107  1 !               Upcased Volume label and check for illegal ( non ANSI 'a'
;   108          0108  1 !               characters )
;   109          0109  1 !
;   110          0110  1 !       V02-007 DMW0006         David Michael Walp      25-Apr-1981
;   111          0111  1 !               Created routine SET_CHARACTER ( reset parity and
;   112          0112  1 !               format )
;   113          0113  1 !
;   114          0114  1 !       V02-006 DMW0004         David Michael Walp      9-Apr-1981
```

```
;   115          0115  1 !                 Added switch '/ANSI=VOLUME_ACCESSIBILITY:"x"'
;   116          0116  1 !                 Fixed bugs with overide switches and error returns
;   117          0117  1 !                 Created FORMAT_VOL1 from old and new code
;   118          0118  1 !                 Reformated module
;   119          0119  1 !
;   120          0120  1 !       V02-005 DMW0001         David Michael Walp      10-Dec-1980
;   121          0121  1 !                 Replace Check_Prot procedure. Old procedure was
;   122          0122  1 !                 confused by the fact that init was installed with sysprv
;   123          0123  1 !                 for version 2.
;   124          0124  1 !
;   125          0125  1 !       V02-004 RLRDENS         Robert L. Rappaport     8-Oct-1980
;   126          0126  1 !                 At the same time that /DENSITY=1 and /DENSITY=2 support
;   127          0127  1 !                 is being added to INITIALIZE, we correct the problem
;   128          0128  1 !                 of INITIALIZE returning SS$_VOLINV when the INITIALIZE
;   129          0129  1 !                 follows a DISMOUNT/NOUNLOAD in a command procedure.
;   130          0130  1 !
;   131          0131  1 !       V02-003 MCN0001         Maria del C. Nasr,      20-Jun-1980  15:10
;   132          0132  1 !                 Change DECFILE112 to DECFILE11A in HDR1, and eliminate binary
;   133          0133  1 !                 data from HDR2.  This is part of the implementation of HDR3.
;   134          0134  1 !
;   135          0135  1 !       V0100   ACG00001        Andrew C. Goldstein,  10-Oct-1978  21:27
;   136          0136  1 !                 Previous revision history moved to [INIT.SRC]INIT.REV
;   137          0137  1 !**
;   138          0138  1
;   139          0139  1
;   140          0140  1 LIBRARY 'SYS$LIBRARY:LIB.L32';
;   141          0141  1 REQUIRE 'SRC$:INIDEF.B32';
;   142          0432  1 REQUIRE 'LIBD$:[VMSLIB.OBJ]INITMSG.B32';
;   143          0564  1
;   144          0565  1 FORWARD ROUTINE
;   145          0566  1         CHECK_PROT,                             ! check volume protection
;   146          0567  1         DEFAULT_CHAR    : NOVALUE,              ! set default characteristic
;   147          0568  1                                                 !   of tape drive
;   148          0569  1         FORMAT_VOL1_VOL2,                       ! format the VOL1 and VOL2 label
;   149          0570  1         INIT_TAPE       : NOVALUE,              ! main control for tape init
;   150          0571  1         READ_VOLLABELS  : NOVALUE,              ! read & verify VOL1 & HDR1
;   151          0572  1                                                 !  ANSI labels
;   152          0573  1         SET_DENSITY     : NOVALUE;              ! set the density of the drive
;   153          0574  1
;   154          0575  1 EXTERNAL ROUTINE
;   155          0576  1         CALDAYNO,                               ! calculate day number ( chop
;   156          0577  1                                                 !  hour min sec from binary )
;   157          0578  1         CONVDATE_J2R,                           ! convert date ANSI tape JULIAN
;   158          0579  1                                                 !  to VMS
;   159          0580  1         CONVDATE_R2J,                           ! convert VMS date to ANSI
;   160          0581  1                                                 !  JULIAN format on tape
;   161          0582  1         GET_CHANNELUCB,                         ! Given channel number get assoc UCB
;   162          0583  1         GET_RECORD,                             ! get current record drive is reading
;   163          0584  1 !       WRITE_USER_UVL,                         ! write user volume labels
;   164          0585  1         FORMAT_VOLOWNER : NOVALUE,              ! format volume owner field
;   165          0586  1         LIB$CVT_OTB     : ADDRESSING_MODE(ABSOLUTE),
;   166          0587  1         PROCESS_VOL2_LABEL,                     ! process the VOL2 label
;   167          0588  1         TAPE_OWN_PROT;                          ! determine protection and
;   168          0589  1                                                 !  owner of tape
;   169          0590  1
;   170          0591  1 EXTERNAL
;   171          0592  1         CHANNEL,                                ! channel of volume
```

```
;  172          0593  1          CTL$GQ_PROCPRIV : REF BBLOCK ADDRESSING_MODE(ABSOLUTE),
;  173          0594  1          INIT_OPTIONS    : BITVECTOR,              ! init option bits
;  174          0595  1          LABEL_STRING    : BBLOCK [DSC$C_S_BLN],   ! label descriptor
;  175          0596  1          OWNER_UIC,                                ! value of owner switch
;  176          0597  1          PROCESS_UIC,                              ! process uic
;  177          0598  1          PROTECTION,                               ! value of protection switch
;  178          0599  1          VOL_ACC         : BYTE,                   ! value of label:volume switch
;  179          0600  1          VOL_OWNER       : VECTOR [14,BYTE];       ! value of owner id field
;  180          0601  1
;  181          0602  1  BIND
;  182          0603  1          STARID = UPLIT ('DECFILE11A');            ! Set the value for VOL1 syscode
;  183          0604  1  OWN
;  184          0605  1          ANSI_LABEL      : BBLOCK [80],            ! ANSI label
;  185          0606  1          IO_STATUS       : VECTOR [4,WORD],        ! I/O status
;  186          0607  1          PRIVILEGE_MASK  : REF BBLOCK,             ! process privilege mask
;  187          0608  1          VOLUME_PROT,                              ! protection for tape
;  188          0609  1          VOLUME_UIC,                               ! owner of tape
;  189          0610  1          ACCESS,                                   ! users's access to magnetic tape
;  190          0611  1          CURRENT_RECORD,                           ! Tape record before call to $MTACCESS
;  191          0612  1          LABEL_VER,                                ! ANSI label version decimal value
;  192          0613  1          UCB             : REF BBLOCK,             ! UCB address
;  193          0614  1          CHAR            : VECTOR [4,BYTE],        ! Char to output for tape accessibility
;  194          0615  1          VOL1            : BLOCK [80,BYTE]
;  195          0616  1                            INITIAL(BYTE ( 'VOL1',  ! VOL1 skeleton
;  196          0617  1                            REP 75 OF BYTE(' '),
;  197          0618  1                            '3')),
;  198          0619  1
;  199          0620  1          VOL2            : BLOCK [80,BYTE]
;  200          0621  1                            INITIAL(BYTE ( 'VOL2',  ! VOL2 skeleton
;  201          0622  1                            'D%C'
;  202          0623  1                            REP 73 OF BYTE (' '))),
;  203          0624  1
;  204          0625  1          HDR1            : BLOCK [80,BYTE]
;  205          0626  1                            INITIAL (BYTE ('HDR1',  ! HDR1 skeleton
;  206          0627  1                            REP 23 OF BYTE (' '),
;  207          0628  1                            REP 3 OF BYTE ('0'),
;  208          0629  1                            '1',
;  209          0630  1                            REP 7 OF BYTE ('0'),
;  210          0631  1                            '100',
;  211          0632  1                            REP 13 OF BYTE(' '),
;  212          0633  1                            REP 6 OF BYTE('0'),
;  213          0634  1                            'DECFILE11A  ',
;  214          0635  1                            REP 8 OF BYTE(' '))),
;  215          0636  1
;  216          0637  1
;  217          0638  1          HDR2            : BLOCK[80,BYTE]
;  218          0639  1                            INITIAL (BYTE('HDR2',   ! HDR2 skeleton
;  219          0640  1                            'F',
;  220          0641  1                            REP 10 OF BYTE('0'),
;  221          0642  1                            REP 35 OF BYTE(' '),
;  222          0643  1                            '00',
;  223          0644  1                            REP 28 OF BYTE(' '));
;  224          0645  1
```

```
;  226     0646  1 GLOBAL ROUTINE INIT_TAPE : NOVALUE  =
;  227     0647  1
;  228     0648  1 !++
;  229     0649  1 !
;  230     0650  1 ! FUNCTIONAL DESCRIPTION:
;  231     0651  1 !       This routine is the main control for tape initialization.  If the
;  232     0652  1 !       current tape is a valid files_11 ANSI tape, then the user must have
;  233     0653  1 !       write privileges or be the owner of the tape.  If the first file has
;  234     0654  1 !       not expired, then the user must specify override expiration date and
;  235     0655  1 !       have the privilege to do so.   On new tapes the user must specify
;  236     0656  1 !       to overide both the expiration date and accessilibity char in VOL1
;  237     0657  1 !       and HDR1 and have VOLPRO priv to avoid the run away tape condition.
;  238     0658  1 !
;  239     0659  1 ! CALLING SEQUENCE:
;  240     0660  1 !       INIT_TAPE()
;  241     0661  1 !
;  242     0662  1 ! INPUT PARAMETERS:
;  243     0663  1 !       none
;  244     0664  1 !
;  245     0665  1 ! IMPLICIT INPUTS:
;  246     0666  1 !       CLI parser database
;  247     0667  1 !
;  248     0668  1 ! OUTPUT PARAMETERS:
;  249     0669  1 !       none
;  250     0670  1 !
;  251     0671  1 ! IMPLICIT OUTPUTS:
;  252     0672  1 !       FILES-11 structure level II ansi magnetic tape initialized
;  253     0673  1 !
;  254     0674  1 ! ROUTINE VALUE:
;  255     0675  1 !       none
;  256     0676  1 !
;  257     0677  1 ! SIDE EFFECTS:
;  258     0678  1 !       none
;  259     0679  1 !
;  260     0680  1 ! USER ERRORS:
;  261     0681  1 !       none
;  262     0682  1 !
;  263     0683  1 !--
;  264     0684  1
;  265     0685  2 BEGIN
;  266     0686  2
;  267     0687  2 LOCAL
;  268     0688  2         DESCR           : VECTOR [2],           ! descriptor
;  269     0689  2         STATUS,                                 ! system service status
;  270     0690  2         TODAY           : VECTOR [12,BYTE],     ! buffer for today's date
;  271     0691  2         VMS_PROT;                               ! VMS protection was specified
;  272     0692  2
;  273     0693  2 EXTERNAL ROUTINE
;  274     0694  2         ERASE_BLOCKS;                           ! erase the tape
;  275     0695  2
;  276     0696  2 BIND
;  277     0697  2         SECONDS = UPLIT (-10000000,-1);         ! 1 second in 100 nsec units
;  278     0698  2
;  279     0699  2
;  280     0700  2 ! The following note is left for historical reasons only!
;  281     0701  2 !*****************************************************************************
;  282     0702  2 ! Here we have inserted a single QIO (IO$_REWIND) which apparently is not
```

```
;  283          0703  2 !  needed but which in fact is here to take care of an anomaly that
;  284          0704  2 !  sometimes occurs when the INITIALIZE command appears in a command file
;  285          0705  2 !  immediately following a DISMOUNT/NOUNLOAD command.
;  286          0706  2 !
;  287          0707  2 !  Under certain circumstances the INITIALIZE fails with a SS$_VOLINV status.
;  288          0708  2 !  The problem is due to a complicated interaction involving QIO dispatching
;  289          0709  2 !  logic, the MAGTAPE ACP, and the INITIALIZE command.  What occurs is the
;  290          0710  2 !  following.
;  291          0711  2 !
;  292          0712  2 !  DISMOUNT, before finishing issues a $QIOW with an I/O function code of
;  293          0713  2 !  IO$_ACPCONTROL!IO$M_DMOUNT.  This request is forwarded to the ACP and
;  294          0714  2 !  DISMOUNT then has its image rundown.
;  295          0715  2 !
;  296          0716  2 !  The ACP then issues a $QIOW with a function code of IO$_REWIND!IO$M_NOWAIT,
;  297          0717  2 !  while in parallel, INITIALIZE is starting up and it proceeds to set the
;  298          0718  2 !  UCB$M_VALID bit in UCB$W_STS (which in this case was still on due to the
;  299          0719  2 !  volume previously having been mounted) and then INITIALIZE issues its own
;  300          0720  2 !  $QIOW with an IO$_REWIND funciton code.
;  301          0721  2 !
;  302          0722  2 !  In some instances, the ACP's REWIND QIO does not get as far as REQCOM
;  303          0723  2 !  until after INITIALIZE's REWIND has been queued.  If this occurs, INIT's
;  304          0724  2 !  queued REWIND is started up before the ACP actually regains control and
;  305          0725  2 !  the driver has no trouble since it finds the UCB$M_VALID bit still on.
;  306          0726  2 !  Unfortunately, as since as the ACP regains control, following the
;  307          0727  2 !  driver's WFIKPCH, the ACP clears the UCB$M_VALID bit.  The next QIO
;  308          0728  2 !  issued by INITIALIZE will fail due to the absence of the UCB$M_VALID
;  309          0729  2 !  bit.
;  310          0730  2 !
;  311          0731  2 !  The solution (pronounced KLUDGE) herein implemented, simply inserts an extra
;  312          0732  2 !  single $QIOW with IO$_REWIND function code, surrounded by explicit
;  313          0733  2 !  settings of the UCB$M_VALID bit, before the real logic of INITIALIZE begins.
;  314          0734  2 !  This $QIOW allows the above potential interaction to occur, and after it is
;  315          0735  2 !  finished, we again set the UCB$M_VALID bit on.
;  316          0736  2 !
;  317          0737  2 !*****************************************************************************
;  318          0738  2 !
;  319          0739  2 ! The above is no longer true; that is we have elimentated the race condition
;  320          0740  2 ! mentioned above by not doing issuing the rewind at dismount time
;  321          0741  2 ! but infact marking the drive available. The following IO's mark
;  322          0742  2 ! the volume valid then issue the rewind, which is neccesary because
;  323          0743  2 ! of the preMSCP drivers will not rewind on this function. The MSCP drivers
;  324          0744  2 ! will and the second IO here becomes an NOP.
;  325          0745  2
;  326        P 0746  2 STATUS = $QIOW(
;  327        P 0747  2          CHAN = .CHANNEL,
;  328        P 0748  2          FUNC = IO$_PACKACK,
;  329          0749  2          IOSB = IO_STATUS[0]);
;  330          0750  2
;  331        P 0751  2 STATUS = $QIOW(
;  332        P 0752  2          CHAN = .CHANNEL,
;  333        P 0753  2          FUNC = IO$_REWIND,
;  334          0754  2          IOSB = IO_STATUS[0]);
;  335          0755  2
;  336          0756  2 ! wait 10 seconds before giving up
;  337          0757  2
;  338          0758  2 INCR J FROM 0 TO 9 DO
;  339          0759  3     BEGIN
```

```
;  340        P 0760  3     STATUS = $QIOW(
;  341        P 0761  3                     CHAN = .CHANNEL,
;  342        P 0762  3                     FUNC = IO$_PACKACK,
;  343          0763  3                     IOSB = IO_STATUS[0]);
;  344        P 0764  3     STATUS = $QIOW(     CHAN = .CHANNEL,
;  345        P 0765  3                         FUNC = IO$_REWIND,
;  346          0766  3                         IOSB = IO_STATUS);
;  347          0767  3     IF .STATUS THEN STATUS = .IO_STATUS[0];
;  348          0768  3     IF .STATUS NEQ SS$_MEDOFL AND .STATUS NEQ SS$_VOLINV THEN EXITLOOP;
;  349          0769  4     IF $SETIMR( DAYTIM = SECONDS, EFN = 0)
;  350          0770  3     THEN $WAITFR( EFN = 0);
;  351          0771  2     END;
;  352          0772  2
;  353          0773  2 ! all rewind errors reported to user
;  354          0774  2
;  355          0775  2 IF NOT .STATUS THEN ERR_EXIT(.STATUS);
;  356          0776  2
;  357          0777  2 ! set the VMS default tape drive characteristics
;  358          0778  2
;  359          0779  2 DEFAULT_CHAR();
;  360          0780  2
;  361          0781  2 ! check user access to rewrite ( DESTROY ) the tape
;  362          0782  2
;  363          0783  2 PRIVILEGE_MASK = CTL$GQ_PROCPRIV;                ! process privilege mask
;  364          0784  2
;  365          0785  2 ! Get the UCB associated with this channel
;  366          0786  2
;  367          0787  2 UCB = KERNEL_CALL(GET_CHANNELUCB,.CHANNEL);
;  368          0788  2
;  369          0789  2 ! The following check is here so that the operators has the ability
;  370          0790  2 ! to bypass the first read to magnetic tape. This should be
;  371          0791  2 ! used only when the magnetic tape is a blank tape. Blank tapes
;  372          0792  2 ! are prone to run away conditions especially on some of the older
;  373          0793  2 ! tape drives.
;  374          0794  2
;  375          0795  3 IF NOT (.INIT_OPTIONS[OPT_OVR_EXP]                ! bypass all protection if
;  376          0796  3 AND .INIT_OPTIONS[OPT_OVR_ACC]                   ! overide expiration and access
;  377          0797  3 AND .INIT_OPTIONS[OPT_OVR_VOLO]                  ! characters, volume owner,
;  378          0798  3 AND .PRIVILEGE_MASK[PRV$V_VOLPRO]                 ! and volpro
;  379          0799  3 AND .PRIVILEGE_MASK[PRV$V_OPER])                  ! and oper
;  380          0800  2 THEN
;  381          0801  3     BEGIN
;  382          0802  3     READ_VOLLABELS();                           ! is it an ANSI tape
;  383          0803  3
;  384          0804  3 ! If ACCESS is clear then we must give the user access to the tape
;  385          0805  3 ! regardless of what the VMS protection specifies.
;  386          0806  3
;  387          0807  3     IF .ACCESS
;  388          0808  3         THEN
;  389          0809  4             BEGIN
;  390          0810  5                 IF (
;  391          0811  6                    (.INIT_OPTIONS[OPT_OVR_EXP]          ! does user have privilege
;  392          0812  6                    OR .INIT_OPTIONS[OPT_OVR_VOLO])      ! or volume owner
;  393          0813  6                    AND NOT .PRIVILEGE_MASK[PRV$V_VOLPRO] ! ( volpro priv or
;  394          0814  6                    OR .VOLUME_UIC EQL .PROCESS_UIC)     ! owner of the tape )
;  395          0815  5                    )
;  396          0816  4                 OR
```

```
;  397          0817  5                    (
;  398          0818  6                    NOT KERNEL_CALL (CHECK_PROT, .VOLUME_PROT, .VOLUME_UIC)
;  399          0819  5                     )                              ! does user have VMS write priv
;  400          0820  4                     THEN ERR_EXIT(SS$_NOPRIV);
;  401          0821  3                END;
;  402          0822  2     END;
;  403          0823  2
;  404          0824  2
;  405          0825  2 ! set default version number to 3, and format the volume label. Please
;  406          0826  2 ! note that if we write a VMS protectionon this tape then the LABEL_VER
;  407          0827  2 ! is set to 4, inside FORMAT_VOL1_VOL2.
;  408          0828  2
;  409          0829  2 LABEL_VER = 3;
;  410          0830  2 VMS_PROT = (FORMAT_VOL1_VOL2 ());
;  411          0831  2
;  412          0832  2
;  413          0833  2 ! default expiration and creation dates to today's date for HDR1
;  414          0834  2
;  415          0835  2 DESCR[0] = 11;
;  416          0836  2 DESCR[1] = TODAY;
;  417          0837  2 $ASCTIM(TIMBUF = DESCR);
;  418          0838  2 CONVDATE_R2J(TODAY,HDR1[HD1$T_CREATEDT]);
;  419          0839  2 CH$MOVE(HD1$S_CREATEDT,HDR1[HD1$T_CREATEDT],HDR1[HD1$T_EXPIREDT]);
;  420          0840  2
;  421          0841  2 ! Call the accessibility system service to get the character to output.
;  422          0842  2 ! First keep the record that the UCB is reading. The accessibility
;  423          0843  2 ! routine can not move the tape from under us! Thus we will compare
;  424          0844  2 ! this to the field after the call and if the tape was moved we punt
;  425          0845  2 ! the operation.
;  426          0846  2
;  427          0847  2 CURRENT_RECORD = KERNEL_CALL(GET_RECORD,.UCB);
;  428          0848  2
;  429        P 0849  2 CHAR = $MTACCESS(LBLNAM = 0,
;  430        P 0850  2                  UIC = .PROCESS_UIC,
;  431        P 0851  2                  STD_VERSION = .LABEL_VER,
;  432        P 0852  2                  ACCESS_CHAR = 0,
;  433        P 0853  2                  ACCESS_SPEC = MTA$K_NOCHAR,
;  434          0854  2                  TYPE = MTA$K_OUTHDR1);
;  435          0855  2
;  436          0856  2 STATUS = KERNEL_CALL(GET_RECORD,.UCB);
;  437          0857  2 IF .CURRENT_RECORD NEQ .STATUS
;  438          0858  2    THEN ERR_EXIT(SS$_TAPEPOSLOST);
;  439          0859  2
;  440          0860  2 HDR1[HD1$B_FILACCESS] = .CHAR[0];
;  441          0861  2
;  442          0862  2 ! write the file set id from the volume label, the MOUNT will place it
;  443          0863  2 !   in the MVL and the MTAACP will use it as the FILE SET ID
;  444          0864  2 ! move must be done after VOL1 has been set up, because Legal ANSI 'a'
;  445          0865  2 !   character check is in FORMAT_VOL1_VOL2
;  446          0866  2
;  447          0867  2 CH$MOVE ( VL1$S_VOLLBL, VOL1[VL1$T_VOLLBL], HDR1[HD1$T_FILESETID] );
;  448          0868  2
;  449          0869  2 ! rewind the tape
;  450          0870  2
;  451        P 0871  2 STATUS = $QIOW(
;  452        P 0872  2                CHAN = .CHANNEL,
;  453        P 0873  2                FUNC = IO$_REWIND,
```

```
;  454          0874  2          IOSB = IO_STATUS[0]);
;  455          0875  2
;  456          0876  2 IF .STATUS THEN STATUS = .IO_STATUS[0]; ! report problems to user
;  457          0877  2 IF NOT .STATUS THEN ERR_EXIT(.STATUS);
;  458          0878  2
;  459          0879  2
;  460          0880  2 ! set tape density if users has used /DENSITY qualifier
;  461          0881  2
;  462          0882  2 IF .INIT_OPTIONS [OPT_DENSITY] THEN SET_DENSITY ();
;  463          0883  2
;  464          0884  2
;  465          0885  2 ! If the user requested it, erase the tape.  This function is only valid
;  466          0886  2 ! for the TU78 and MSCP tapes drives.  All others will return SS$_ILLIOFUNC
;  467          0887  2 ! to indicate that the hardware feature is not supported.  Notify the user
;  468          0888  2 ! if the erase did not happen.  The operation of the erase is for the controller
;  469          0889  2 ! to scribble on the tape starting from the current position and continuing to
;  470          0890  2 ! the EOT mark, then rewinding to the BOT mark.
;  471          0891  2
;  472          0892  2 IF .INIT_OPTIONS [OPT_ERASE]
;  473          0893  2 THEN
;  474          0894  3     BEGIN
;  475          0895  4     IF (STATUS = EXEC_CALL (ERASE_BLOCKS, 0, 1, .CHANNEL))
;  476          0896  3     THEN
;  477          0897  3         STATUS = .IO_STATUS[0];
;  478          0898  3     IF NOT .STATUS
;  479          0899  3     THEN
;  480          0900  3         ERR_MESSAGE (INIT$_ERASEFAIL, 0, .STATUS);
;  481          0901  2     END;
;  482          0902  2
;  483          0903  2
;  484          0904  2 ! now write VOL1 (UVL) HDR1 HDR2 ** EOF1 EOF2 **  in other words the volume
;  485          0905  2 ! label and a dummy empty file ( so the label set are complete )
;  486          0906  2
;  487        P 0907  2 STATUS = $QIOW(
;  488        P 0908  2          CHAN = .CHANNEL,
;  489        P 0909  2          IOSB = IO_STATUS[0],
;  490        P 0910  2          FUNC = IO$_WRITELBLK,
;  491        P 0911  2          P1 = VOL1,
;  492          0912  2          P2 = 80);
;  493          0913  2 IF .STATUS THEN STATUS = .IO_STATUS[0];
;  494          0914  2 IF NOT .STATUS THEN ERR_EXIT(.STATUS);
;  495          0915  2
;  496          0916  2 ! If this is not a tape for interchange and the user has requested VMS
;  497          0917  2 ! protection on the tape. Then write a VOL2 label after the VOL1 label.
;  498          0918  2
;  499          0919  2 IF NOT .INIT_OPTIONS[OPT_INTERCHG] AND .VMS_PROT NEQ 0
;  500          0920  2    THEN
;  501        P 0921  2    STATUS = $QIOW ( CHAN = .CHANNEL,
;  502        P 0922  2                     IOSB = IO_STATUS[0],
;  503        P 0923  2                     FUNC = IO$_WRITELBLK,
;  504        P 0924  2                     P1 = VOL2,
;  505          0925  2                     P2 = 80);
;  506          0926  2 IF .STATUS THEN STATUS = .IO_STATUS;
;  507          0927  2 IF NOT .STATUS THEN ERR_EXIT(.STATUS);
;  508          0928  2
;  509          0929  2
;  510          0930  2 ! Give the user the opportunity to write the user volume labels, the first
```

```
;  511          0931  2 ! 3 characters of which must be 'UVL'.  They should not be longer than 80 char-
;  512          0932  2 ! acters
;  513          0933  2
;  514          0934  2 !STATUS = WRITE_USER_UVL();
;  515          0935  2 !IF NOT .STATUS THEN ERR_EXIT(.STATUS);
;  516          0936  2
;  517        P 0937  2 STATUS = $QIOW(                                   ! HDR1
;  518        P 0938  2               CHAN = .CHANNEL,
;  519        P 0939  2               IOSB = IO_STATUS[0],
;  520        P 0940  2               FUNC = IO$_WRITELBLK,
;  521        P 0941  2               P1 = HDR1,
;  522          0942  2               P2 = 80);
;  523          0943  2 IF .STATUS THEN STATUS = .IO_STATUS[0];
;  524          0944  2 IF NOT .STATUS THEN ERR_EXIT(.STATUS);
;  525          0945  2
;  526        P 0946  2 STATUS = $QIOW(                                   ! HDR2
;  527        P 0947  2               CHAN = .CHANNEL,
;  528        P 0948  2               IOSB = IO_STATUS[0],
;  529        P 0949  2               FUNC = IO$_WRITELBLK,
;  530        P 0950  2               P1 = HDR2,
;  531          0951  2               P2 = 80);
;  532          0952  2 IF .STATUS THEN STATUS  = .IO_STATUS[0];
;  533          0953  2 IF NOT .STATUS THEN ERR_EXIT(.STATUS);
;  534          0954  2
;  535        P 0955  2 STATUS = $QIOW(                                   ! Tape Mark
;  536        P 0956  2               CHAN = .CHANNEL,
;  537        P 0957  2               IOSB = IO_STATUS[0],
;  538          0958  2               FUNC = IO$_WRITEOF);
;  539          0959  2 IF .STATUS THEN STATUS = .IO_STATUS[0];
;  540          0960  2 IF NOT .STATUS THEN ERR_EXIT(.STATUS);
;  541          0961  2
;  542        P 0962  2 STATUS = $QIOW(                                   ! Tape Mark
;  543        P 0963  2               CHAN = .CHANNEL,
;  544        P 0964  2               IOSB = IO_STATUS[0],
;  545          0965  2               FUNC = IO$_WRITEOF);
;  546          0966  2 IF .STATUS THEN STATUS = .IO_STATUS[0];
;  547          0967  2 IF NOT .STATUS THEN ERR_EXIT(.STATUS);
;  548          0968  2
;  549          0969  2 HDR1[HD1$L_HD1LID] = 'EOF1';                      ! format trailers
;  550          0970  2 HDR2[HD2$L_HD2LID] = 'EOF2';
;  551          0971  2
;  552        P 0972  2 STATUS = $QIOW(                                   ! EOF1
;  553        P 0973  2               CHAN = .CHANNEL,
;  554        P 0974  2               IOSB = IO_STATUS[0],
;  555        P 0975  2               FUNC = IO$_WRITELBLK,
;  556        P 0976  2               P1 = HDR1,
;  557          0977  2               P2 = 80);
;  558          0978  2 IF .STATUS THEN STATUS = .IO_STATUS[0];
;  559          0979  2 IF NOT .STATUS THEN ERR_EXIT(.STATUS);
;  560        P 0980  2 STATUS = $QIOW(                                   ! EOF2
;  561        P 0981  2               CHAN = .CHANNEL,
;  562        P 0982  2               IOSB = IO_STATUS[0],
;  563        P 0983  2               FUNC = IO$_WRITELBLK,
;  564        P 0984  2               P1 = HDR2,
;  565          0985  2               P2 = 80);
;  566          0986  2 IF .STATUS THEN STATUS = .IO_STATUS[0];
;  567          0987  2 IF NOT .STATUS THEN ERR_EXIT(.STATUS);
```

```
;   568          P 0988  2 STATUS = $QIOW(                                  ! Tape Mark
;   569          P 0989  2           CHAN = .CHANNEL,
;   570          P 0990  2           IOSB = IO_STATUS,
;   571            0991  2           FUNC = IO$_WRITEOF);
;   572            0992  2 IF .STATUS THEN STATUS = .IO_STATUS[0];
;   573            0993  2 IF NOT .STATUS THEN ERR_EXIT(.STATUS);
;   574          P 0994  2 STATUS = $QIOW(                                  ! Tape Mark
;   575          P 0995  2           CHAN = .CHANNEL,
;   576          P 0996  2           IOSB = IO_STATUS,
;   577            0997  2           FUNC = IO$_WRITEOF);
;   578            0998  2 IF .STATUS THEN STATUS = .IO_STATUS[0];
;   579            0999  2 IF NOT .STATUS THEN ERR_EXIT(.STATUS);
;   580            1000  2
;   581          P 1001  2 STATUS = $QIOW(
;   582          P 1002  2           CHAN = .CHANNEL,
;   583          P 1003  2           IOSB = IO_STATUS,
;   584            1004  2           FUNC = IO$_REWIND);
;   585            1005  2 IF .STATUS THEN STATUS = .IO_STATUS[0];
;   586            1006  2 IF NOT .STATUS THEN ERR_EXIT(.STATUS);
;   587            1007  2
;   588          P 1008  2 STATUS = $QIOW(
;   589          P 1009  2           CHAN = .CHANNEL,
;   590          P 1010  2           FUNC = IO$_AVAILABLE,
;   591            1011  2           IOSB = IO_STATUS[0]);
;   592            1012  2 RETURN 1;
;   593            1013  1 END;                                              ! end of routine INIT_TAPE

                                                        .TITLE  INITAP
                                                        .IDENT  \V04-000\

                                                        .PSECT  $PLIT$,NOWRT,NOEXE,2

00  00  41  31  31  45  4C  49  46  43  45  44  00000 P.AAA:  .ASCII  \DECFILE11A\<0><0>                    ;
                    FFFFFFFF  FF676980  0000C P.AAB:  .LONG   -10000000, -1                                ;

                                                        .PSECT  $OWN$,NOEXE,2

                                            00000 ANSI_LABEL:
                                                        .BLKB   80
                                            00050 IO_STATUS:
                                                        .BLKB   8
                                            00058 PRIVILEGE_MASK:
                                                        .BLKB   4
                                            0005C VOLUME_PROT:
                                                        .BLKB   4
                                            00060 VOLUME_UIC:
                                                        .BLKB   4
                                            00064 ACCESS: .BLKB   4
                                            00068 CURRENT_RECORD:
                                                        .BLKB   4
                                            0006C LABEL_VER:
                                                        .BLKB   4
                                            00070 UCB:    .BLKB   4
                                            00074 CHAR:   .BLKB   4
                        31  4C  4F  56      00078 VOL1:   .ASCII  \VOL1\                                   ;
                                    20      0007C         .ASCII  \ \                                      ;
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20  0007D          .ASCII  \ \
20  0007E          .ASCII  \ \
20  0007F          .ASCII  \ \
20  00080          .ASCII  \ \
20  00081          .ASCII  \ \
20  00082          .ASCII  \ \
20  00083          .ASCII  \ \
20  00084          .ASCII  \ \
20  00085          .ASCII  \ \
20  00086          .ASCII  \ \
20  00087          .ASCII  \ \
20  00088          .ASCII  \ \
20  00089          .ASCII  \ \
20  0008A          .ASCII  \ \
20  0008B          .ASCII  \ \
20  0008C          .ASCII  \ \
20  0008D          .ASCII  \ \
20  0008E          .ASCII  \ \
20  0008F          .ASCII  \ \
20  00090          .ASCII  \ \
20  00091          .ASCII  \ \
20  00092          .ASCII  \ \
20  00093          .ASCII  \ \
20  00094          .ASCII  \ \
20  00095          .ASCII  \ \
20  00096          .ASCII  \ \
20  00097          .ASCII  \ \
20  00098          .ASCII  \ \
20  00099          .ASCII  \ \
20  0009A          .ASCII  \ \
20  0009B          .ASCII  \ \
20  0009C          .ASCII  \ \
20  0009D          .ASCII  \ \
20  0009E          .ASCII  \ \
20  0009F          .ASCII  \ \
20  000A0          .ASCII  \ \
20  000A1          .ASCII  \ \
20  000A2          .ASCII  \ \
20  000A3          .ASCII  \ \
20  000A4          .ASCII  \ \
20  000A5          .ASCII  \ \
20  000A6          .ASCII  \ \
20  000A7          .ASCII  \ \
20  000A8          .ASCII  \ \
20  000A9          .ASCII  \ \
20  000AA          .ASCII  \ \
20  000AB          .ASCII  \ \
20  000AC          .ASCII  \ \
20  000AD          .ASCII  \ \
20  000AE          .ASCII  \ \
20  000AF          .ASCII  \ \
20  000B0          .ASCII  \ \
20  000B1          .ASCII  \ \
20  000B2          .ASCII  \ \
20  000B3          .ASCII  \ \
20  000B4          .ASCII  \ \
20  000B5          .ASCII  \ \
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                     20  000B6          .ASCII  \ \
                     20  000B7          .ASCII  \ \
                     20  000B8          .ASCII  \ \
                     20  000B9          .ASCII  \ \
                     20  000BA          .ASCII  \ \
                     20  000BB          .ASCII  \ \
                     20  000BC          .ASCII  \ \
                     20  000BD          .ASCII  \ \
                     20  000BE          .ASCII  \ \
                     20  000BF          .ASCII  \ \
                     20  000C0          .ASCII  \ \
                     20  000C1          .ASCII  \ \
                     20  000C2          .ASCII  \ \
                     20  000C3          .ASCII  \ \
                     20  000C4          .ASCII  \ \
                     20  000C5          .ASCII  \ \
                     20  000C6          .ASCII  \ \
                     33  000C7          .ASCII  \3\
32  4C  4F           56  000C8  VOL2:    .ASCII  \VOL2\
    43  25           44  000CC          .ASCII  \D%C\
                     20  000CF          .ASCII  \ \
                     20  000D0          .ASCII  \ \
                     20  000D1          .ASCII  \ \
                     20  000D2          .ASCII  \ \
                     20  000D3          .ASCII  \ \
                     20  000D4          .ASCII  \ \
                     20  000D5          .ASCII  \ \
                     20  000D6          .ASCII  \ \
                     20  000D7          .ASCII  \ \
                     20  000D8          .ASCII  \ \
                     20  000D9          .ASCII  \ \
                     20  000DA          .ASCII  \ \
                     20  000DB          .ASCII  \ \
                     20  000DC          .ASCII  \ \
                     20  000DD          .ASCII  \ \
                     20  000DE          .ASCII  \ \
                     20  000DF          .ASCII  \ \
                     20  000E0          .ASCII  \ \
                     20  000E1          .ASCII  \ \
                     20  000E2          .ASCII  \ \
                     20  000E3          .ASCII  \ \
                     20  000E4          .ASCII  \ \
                     20  000E5          .ASCII  \ \
                     20  000E6          .ASCII  \ \
                     20  000E7          .ASCII  \ \
                     20  000E8          .ASCII  \ \
                     20  000E9          .ASCII  \ \
                     20  000EA          .ASCII  \ \
                     20  000EB          .ASCII  \ \
                     20  000EC          .ASCII  \ \
                     20  000ED          .ASCII  \ \
                     20  000EE          .ASCII  \ \
                     20  000EF          .ASCII  \ \
                     20  000F0          .ASCII  \ \
                     20  000F1          .ASCII  \ \
                     20  000F2          .ASCII  \ \
                     20  000F3          .ASCII  \ \
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                20  000F4          .ASCII  \ \
                20  000F5          .ASCII  \ \
                20  000F6          .ASCII  \ \
                20  000F7          .ASCII  \ \
                20  000F8          .ASCII  \ \
                20  000F9          .ASCII  \ \
                20  000FA          .ASCII  \ \
                20  000FB          .ASCII  \ \
                20  000FC          .ASCII  \ \
                20  000FD          .ASCII  \ \
                20  000FE          .ASCII  \ \
                20  000FF          .ASCII  \ \
                20  00100          .ASCII  \ \
                20  00101          .ASCII  \ \
                20  00102          .ASCII  \ \
                20  00103          .ASCII  \ \
                20  00104          .ASCII  \ \
                20  00105          .ASCII  \ \
                20  00106          .ASCII  \ \
                20  00107          .ASCII  \ \
                20  00108          .ASCII  \ \
                20  00109          .ASCII  \ \
                20  0010A          .ASCII  \ \
                20  0010B          .ASCII  \ \
                20  0010C          .ASCII  \ \
                20  0010D          .ASCII  \ \
                20  0010E          .ASCII  \ \
                20  0010F          .ASCII  \ \
                20  00110          .ASCII  \ \
                20  00111          .ASCII  \ \
                20  00112          .ASCII  \ \
                20  00113          .ASCII  \ \
                20  00114          .ASCII  \ \
                20  00115          .ASCII  \ \
                20  00116          .ASCII  \ \
                20  00117          .ASCII  \ \
    31  52  44  48  00118 HDR1:     .ASCII  \HDR1\
                20  0011C          .ASCII  \ \
                20  0011D          .ASCII  \ \
                20  0011E          .ASCII  \ \
                20  0011F          .ASCII  \ \
                20  00120          .ASCII  \ \
                20  00121          .ASCII  \ \
                20  00122          .ASCII  \ \
                20  00123          .ASCII  \ \
                20  00124          .ASCII  \ \
                20  00125          .ASCII  \ \
                20  00126          .ASCII  \ \
                20  00127          .ASCII  \ \
                20  00128          .ASCII  \ \
                20  00129          .ASCII  \ \
                20  0012A          .ASCII  \ \
                20  0012B          .ASCII  \ \
                20  0012C          .ASCII  \ \
                20  0012D          .ASCII  \ \
                20  0012E          .ASCII  \ \
                20  0012F          .ASCII  \ \
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                                                20  00130          .ASCII  \ \
                                                20  00131          .ASCII  \ \
                                                20  00132          .ASCII  \ \
                                                30  00133          .ASCII  \0\
                                                30  00134          .ASCII  \0\
                                                30  00135          .ASCII  \0\
                                                31  00136          .ASCII  \1\
                                                30  00137          .ASCII  \0\
                                                30  00138          .ASCII  \0\
                                                30  00139          .ASCII  \0\
                                                30  0013A          .ASCII  \0\
                                                30  0013B          .ASCII  \0\
                                                30  0013C          .ASCII  \0\
                                                30  0013D          .ASCII  \0\
                                        30  30  31  0013E          .ASCII  \100\
                                                20  00141          .ASCII  \ \
                                                20  00142          .ASCII  \ \
                                                20  00143          .ASCII  \ \
                                                20  00144          .ASCII  \ \
                                                20  00145          .ASCII  \ \
                                                20  00146          .ASCII  \ \
                                                20  00147          .ASCII  \ \
                                                20  00148          .ASCII  \ \
                                                20  00149          .ASCII  \ \
                                                20  0014A          .ASCII  \ \
                                                20  0014B          .ASCII  \ \
                                                20  0014C          .ASCII  \ \
                                                20  0014D          .ASCII  \ \
                                                30  0014E          .ASCII  \0\
                                                30  0014F          .ASCII  \0\
                                                30  00150          .ASCII  \0\
                                                30  00151          .ASCII  \0\
                                                30  00152          .ASCII  \0\
                                                30  00153          .ASCII  \0\
20  20  41  31  31  45  4C  49  46  43  45  44  00154          .ASCII  \DECFILE11A  \
                                                20  00160          .ASCII  \ \
                                                20  00161          .ASCII  \ \
                                                20  00162          .ASCII  \ \
                                                20  00163          .ASCII  \ \
                                                20  00164          .ASCII  \ \
                                                20  00165          .ASCII  \ \
                                                20  00166          .ASCII  \ \
                                                20  00167          .ASCII  \ \
                                    32  52  44  48  00168  HDR2:    .ASCII  \HDR2\
                                                46  0016C          .ASCII  \F\
                                                30  0016D          .ASCII  \0\
                                                30  0016E          .ASCII  \0\
                                                30  0016F          .ASCII  \0\
                                                30  00170          .ASCII  \0\
                                                30  00171          .ASCII  \0\
                                                30  00172          .ASCII  \0\
                                                30  00173          .ASCII  \0\
                                                30  00174          .ASCII  \0\
                                                30  00175          .ASCII  \0\
                                                30  00176          .ASCII  \0\
                                                20  00177          .ASCII  \ \
                                                20  00178          .ASCII  \ \
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                20  00179          .ASCII  \ \
                20  0017A          .ASCII  \ \
                20  0017B          .ASCII  \ \
                20  0017C          .ASCII  \ \
                20  0017D          .ASCII  \ \
                20  0017E          .ASCII  \ \
                20  0017F          .ASCII  \ \
                20  00180          .ASCII  \ \
                20  00181          .ASCII  \ \
                20  00182          .ASCII  \ \
                20  00183          .ASCII  \ \
                20  00184          .ASCII  \ \
                20  00185          .ASCII  \ \
                20  00186          .ASCII  \ \
                20  00187          .ASCII  \ \
                20  00188          .ASCII  \ \
                20  00189          .ASCII  \ \
                20  0018A          .ASCII  \ \
                20  0018B          .ASCII  \ \
                20  0018C          .ASCII  \ \
                20  0018D          .ASCII  \ \
                20  0018E          .ASCII  \ \
                20  0018F          .ASCII  \ \
                20  00190          .ASCII  \ \
                20  00191          .ASCII  \ \
                20  00192          .ASCII  \ \
                20  00193          .ASCII  \ \
                20  00194          .ASCII  \ \
                20  00195          .ASCII  \ \
                20  00196          .ASCII  \ \
                20  00197          .ASCII  \ \
                20  00198          .ASCII  \ \
                20  00199          .ASCII  \ \
            30  30  0019A          .ASCII  \00\
                20  0019C          .ASCII  \ \
                20  0019D          .ASCII  \ \
                20  0019E          .ASCII  \ \
                20  0019F          .ASCII  \ \
                20  001A0          .ASCII  \ \
                20  001A1          .ASCII  \ \
                20  001A2          .ASCII  \ \
                20  001A3          .ASCII  \ \
                20  001A4          .ASCII  \ \
                20  001A5          .ASCII  \ \
                20  001A6          .ASCII  \ \
                20  001A7          .ASCII  \ \
                20  001A8          .ASCII  \ \
                20  001A9          .ASCII  \ \
                20  001AA          .ASCII  \ \
                20  001AB          .ASCII  \ \
                20  001AC          .ASCII  \ \
                20  001AD          .ASCII  \ \
                20  001AE          .ASCII  \ \
                20  001AF          .ASCII  \ \
                20  001B0          .ASCII  \ \
                20  001B1          .ASCII  \ \
                20  001B2          .ASCII  \ \
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                    20  001B3          .ASCII  \ \                                                     ;
                    20  001B4          .ASCII  \ \                                                     ;
                    20  001B5          .ASCII  \ \                                                     ;
                    20  001B6          .ASCII  \ \                                                     ;
                    20  001B7          .ASCII  \ \                                                     ;

                                STARID=             P.AAA
                                SECONDS=            P.AAB
                                       .EXTRN   CALDAYNO, CONVDATE_J2R
                                       .EXTRN   CONVDATE_R2J, GET_CHANNELUCB
                                       .EXTRN   GET_RECORD, FORMAT_VOLOWNER
                                       .EXTRN   LIB$CVT_OTB, PROCESS_VOL2_LABEL
                                       .EXTRN   TAPE_OWN_PROT, CHANNEL
                                       .EXTRN   CTL$GQ_PROCPRIV
                                       .EXTRN   INIT_OPTIONS, LABEL_STRING
                                       .EXTRN   OWNER_UIC, PROCESS_DIC
                                       .EXTRN   PROTECTION, VOL_ACC
                                       .EXTRN   VOL_OWNER, ERASE_BLOCKS
                                       .EXTRN   SYS$QIOW, SYS$SETIMR
                                       .EXTRN   SYS$WAITFR, SYS$CMKRNL
                                       .EXTRN   SYS$ASCTIM, SYS$MTACCESS
                                       .EXTRN   SYS$CMEXEC

                                       .PSECT   $CODE$,NOWRT,2

                        0FFC 00000     .ENTRY   INIT_TAPE, Save R2,R3,R4,R5,R6,R7,R8,R9,-      ; 0646
                                                R10,R11
5B      0000G   CF   9E 00002          MOVAB    CHANNEL, R11                                    ;
5A 00000000G    00   9E 00007          MOVAB    LIB$STOP, R10                                   ;
59 00000000G    00   9E 0000E          MOVAB    SYS$QIOW, R9                                    ;
58      0000'   CF   9E 00015          MOVAB    IO_STATUS, R8                                   ;
5E              14   C2 0001A          SUBL2    #20, SP                                         ;
                7E   7C 0001D          CLRQ     -(SP)                                           ; 0749
                7E   7C 0001F          CLRQ     -(SP)                                           ;
                7E   7C 00021          CLRQ     -(SP)                                           ;
                7E   7C 00023          CLRQ     -(SP)                                           ;
                58   DD 00025          PUSHL    R8                                              ;
                08   DD 00027          PUSHL    #8                                              ;
                6B   DD 00029          PUSHL    CHANNEL                                         ;
                7E   D4 0002B          CLRL     -(SP)                                           ;
            69  0C   FB 0002D          CALLS    #12, SYS$QIOW                                   ;
            56  50   D0 00030          MOVL     R0, STATUS                                      ;
                7E   7C 00033          CLRQ     -(SP)                                           ; 0754
                7E   7C 00035          CLRQ     -(SP)                                           ;
                7E   7C 00037          CLRQ     -(SP)                                           ;
                7E   7C 00039          CLRQ     -(SP)                                           ;
                58   DD 0003B          PUSHL    R8                                              ;
                24   DD 0003D          PUSHL    #36                                             ;
                6B   DD 0003F          PUSHL    CHANNEL                                         ;
                7E   D4 00041          CLRL     -(SP)                                           ;
            69  0C   FB 00043          CALLS    #12, SYS$QIOW                                   ;
            56  50   D0 00046          MOVL     R0, STATUS                                      ;
                52   D4 00049          CLRL     J                                               ; 0758
                7E   7C 0004B 1$:      CLRQ     -(SP)                                           ; 0763
                7E   7C 0004D          CLRQ     -(SP)                                           ;
                7E   7C 0004F          CLRQ     -(SP)                                           ;
                7E   7C 00051          CLRQ     -(SP)                                           ;
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                                58  DD 00053          PUSHL   R8                                                          ;
                                08  DD 00055          PUSHL   #8                                                          ;
                                6B  DD 00057          PUSHL   CHANNEL                                                     ;
                                7E  D4 00059          CLRL    -(SP)                                                       ;
                             69 56  0C FB 0005B          CALLS   #12, SYS$QIOW                                           ;
                             56 50  D0 0005E          MOVL    R0, STATUS                                                  ;
                                7E  7C 00061          CLRQ    -(SP)                                                       ; 0766
                                7E  7C 00063          CLRQ    -(SP)                                                       ;
                                7E  7C 00065          CLRQ    -(SP)                                                       ;
                                7E  7C 00067          CLRQ    -(SP)                                                       ;
                                58  DD 00069          PUSHL   R8                                                          ;
                                24  DD 0006B          PUSHL   #36                                                         ;
                                6B  DD 0006D          PUSHL   CHANNEL                                                     ;
                                7E  D4 0006F          CLRL    -(SP)                                                       ;
                             69 0C  FB 00071          CALLS   #12, SYS$QIOW                                           ;
                             56 50  D0 00074          MOVL    R0, STATUS                                                  ;
                             03 56  E9 00077          BLBC    STATUS, 2$                                                  ; 0767
                             56 68  3C 0007A          MOVZWL  IO_STATUS, STATUS                                           ;
000001A4                     8F 56  D1 0007D 2$:      CMPL    STATUS, #420                                                ; 0768
                                09  13 00084          BEQL    3$                                                          ;
00000254                     8F 56  D1 00086          CMPL    STATUS, #596                                                ;
                                1F  12 0008D          BNEQ    5$                                                          ;
                                7E  7C 0008F 3$:      CLRQ    -(SP)                                                       ; 0769
                          0000'     CF  9F 00091          PUSHAB  SECONDS                                                 ;
                                7E  D4 00095          CLRL    -(SP)                                                       ;
00000000G                    00  04  FB 00097          CALLS   #4, SYS$SETIMR                                          ;
                             09 50  E9 0009E          BLBC    R0, 4$                                                      ;
                                7E  D4 000A1          CLRL    -(SP)                                                       ; 0770
00000000G                    00  01  FB 000A3          CALLS   #1, SYS$WAITFR                                          ;
                          9D 52  09  F3 000AA 4$:      AOBLEQ  #9, J, 1$                                               ; 0758
                             05 56  E8 000AE 5$:      BLBS    STATUS, 6$                                                  ; 0775
                                56  DD 000B1          PUSHL   STATUS                                                      ;
                             6A     01  FB 000B3          CALLS   #1, LIB$STOP                                            ;
                       0000V CF     00  FB 000B6 6$:      CALLS   #0, DEFAULT_CHAR                                        ; 0779
                          08 A8 00000000G  8F  D0 000BB          MOVL    #CTL$GQ_PROCPRIV, PRIVILEGE_MASK                ; 0783
                                6B  DD 000C3          PUSHL   CHANNEL                                                     ; 0787
                                01  DD 000C5          PUSHL   #1                                                          ;
                                5E  DD 000C7          PUSHL   SP                                                          ;
                          0000G CF  9F 000C9          PUSHAB  GET_CHANNELUCB                                              ;
                00000000G 9F        04  FB 000CD          CALLS   #4, @#SYS$CMKRNL                                        ;
                       20 A8        50  D0 000D4          MOVL    R0, UCB                                                 ;
                    15 0000G CF     03  E1 000D8          BBC     #3, INIT_OPTIONS+3, 7$                                  ; 0795
                    0F 0000G CF     06  E1 000DE          BBC     #6, INIT_OPTIONS+3, 7$                                  ; 0796
                             0A 0000G  CF  E9 000E4          BLBC    INIT_OPTIONS+5, 7$                                  ; 0797
                    05    08 B8     15  E1 000E9          BBC     #21, @PRIVILEGE_MASK, 7$                                ; 0798
                    3C    08 B8     12  E0 000EE          BBS     #18, @PRIVILEGE_MASK, 11$                               ; 0799
                       0000V CF     00  FB 000F3 7$:      CALLS   #0, READ_VOLLABELS                                      ; 0802
                             33   14  A8  E9 000F8          BLBC    ACCESS, T1$                                         ; 0807
                    05 0000G CF     03  E0 000FC          BBS     #3, INIT_OPTIONS+3, 8$                                  ; 0811
                             0D 0000G  CF  E9 00102          BLBC    INIT_OPTIONS+5, 9$                                  ; 0812
                    08    08 B8     15  E0 00107 8$:      BBS     #21, @PRIVILEGE_MASK, 9$                                ; 0813
                       0000G CF     10  A8  D1 0010C          CMPL    VOLUME_UIC, PROCESS_UIC                             ; 0814
                                16  12 00112          BNEQ    10$                                                         ;
                             7E  0C  A8  7D 00114 9$:      MOVQ    VOLUME_PROT, -(SP)                                  ; 0818
                                02  DD 00118          PUSHL   #2                                                          ;
                                5E  DD 0011A          PUSHL   SP                                                          ;
                          0000V CF  9F 0011C          PUSHAB  CHECK_PROT                                                  ;
```

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                00000000G  9F              05  FB 00120          CALLS   #5, @#SYS$CMKRNL                                ;
                           05              50  E8 00127          BLBS    R0, 11$                                        ;
                                           24  DD 0012A 10$:     PUSHL   #36                                            ; 0820
                           6A              01  FB 0012C          CALLS   #1, LIB$STOP                                   ;
                        1C AB              03  D0 0012F 11$:     MOVL    #3, LABEL_VER                                  ; 0829
                     0000V CF              00  FB 00133          CALLS   #0, FORMAT_VOL1_VOL2                           ; 0830
                           57              50  D0 00138          MOVL    R0, VMS_PROT                                   ;
                        0C AE              0B  D0 0013B          MOVL    #11, DESCR                                     ; 0835
                        10 AE              6E  9E 0013F          MOVAB   TODAY, DESCR+4                                 ; 0836
                                           7E  7C 00143          CLRQ    -(SP)                                          ; 0837
                                    14 AE  9F  00145          PUSHAB  DESCR                                          ;
                                           7E  D4 00148          CLRL    -(SP)                                          ;
                00000000G  00              04  FB 0014A          CALLS   #4, SYS$ASCTIM                                 ;
                                    00F1 C8  9F  00151          PUSHAB  HDR1+41                                        ; 0838
                                    04 AE  9F  00155          PUSHAB  TODAY                                          ;
                     0000G CF              02  FB 00158          CALLS   #2, CONVDATE_R2J                               ;
                00F7 C8 00F1 C8              06  28 0015D          MOVC3   #6, HDR1+41, HDR1+47                           ; 0839
                                    20 AB  DD  00165          PUSHL   UCB                                            ; 0847
                                           01  DD 00168          PUSHL   #1                                             ;
                                           5E  DD 0016A          PUSHL   SP                                             ;
                                    0000G  CF  9F 0016C          PUSHAB  GET_RECORD                                     ;
                00000000G  9F              04  FB 00170          CALLS   #4, @#SYS$CMKRNL                               ;
                        18 AB              50  D0 00177          MOVL    R0, CURRENT_RECORD                             ;
                                           03  DD 0017B          PUSHL   #3                                             ; 0854
                                           7E  7C 0017D          CLRQ    -(SP)                                          ;
                                    1C AB  DD  0017F          PUSHL   LABEL_VER                                      ;
                                    0000G  CF  DD 00182          PUSHL   PROCESS_UIC                                    ;
                                           7E  D4 00186          CLRL    -(SP)                                          ;
                00000000G  00              06  FB 00188          CALLS   #6, SYS$MTACCESS                               ;
                        24 AB              50  D0 0018F          MOVL    R0, CHAR                                       ;
                                    20 AB  DD  00193          PUSHL   UCB                                            ; 0856
                                           01  DD 00196          PUSHL   #1                                             ;
                                           5E  DD 00198          PUSHL   SP                                             ;
                                    0000G  CF  9F 0019A          PUSHAB  GET_RECORD                                     ;
                00000000G  9F              04  FB 0019E          CALLS   #4, @#SYS$CMKRNL                               ;
                           56              50  D0 001A5          MOVL    R0, STATUS                                     ;
                           56        18 AB  D1  001A8          CMPL    CURRENT_RECORD, STATUS                         ; 0857
                                           08  13 001AC          BEQL    12$                                            ;
                           7E        0224 8F  3C 001AE          MOVZWL  #548, -(SP)                                    ; 0858
                           6A              01  FB 001B3          CALLS   #1, LIB$STOP                                   ;
                     00FD C8        24 AB  90  001B6 12$:     MOVB    CHAR, HDR1+53                                  ; 0860
                00DD C8 2C AB              06  28 001BC          MOVC3   #6, VOL1+4, HDR1+21                            ; 0867
                                           7E  7C 001C3          CLRQ    -(SP)                                          ; 0874
                                           7E  7C 001C5          CLRQ    -(SP)                                          ;
                                           7E  7C 001C7          CLRQ    -(SP)                                          ;
                                           7E  7C 001C9          CLRQ    -(SP)                                          ;
                                           58  DD 001CB          PUSHL   R8                                             ;
                                           24  DD 001CD          PUSHL   #36                                            ;
                                           6B  DD 001CF          PUSHL   CHANNEL                                        ;
                                           7E  D4 001D1          CLRL    -(SP)                                          ;
                           69              0C  FB 001D3          CALLS   #12, SYS$QIOW                                  ;
                           56              50  D0 001D6          MOVL    R0, STATUS                                     ;
                           06              56  E9 001D9          BLBC    STATUS, 13$                                    ; 0876
                           56              68  3C 001DC          MOVZWL  IO_STATUS, STATUS                              ;
                           05              56  E8 001DF          BLBS    STATUS, 14$                                    ; 0877
                                           56  DD 001E2 13$:     PUSHL   STATUS                                         ;
                           6A              01  FB 001E4          CALLS   #1, LIB$STOP                                   ;
```

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                        05      0000G   CF  E9 001E7 14$:    BLBC    INIT_OPTIONS, 15$                       ; 0882
                  0000V CF              00  FB 001EC         CALLS   #0, SET_DENSITY
              31  0000G CF              02  E1 001F1 15$:    BBC     #2, INIT_OPTIONS+5, 17$                 ; 0892
                                        6B  DD 001F7         PUSHL   CHANNEL                                 ; 0895
                                        C1  DD 001F9         PUSHL   #1
                        7E              03  7D 001FB         MOVQ    #3, -(SP)
                                        5E  DD 001FE         PUSHL   SP
                        0000G           CF  9F 00200         PUSHAB  ERASE_BLOCKS
                00000000G 9F            06  FB 00204         CALLS   #6, @#SYS$CMEXEC
                        56              50  D0 0020B         MOVL    R0, STATUS
                        06              56  E9 0020E         BLBC    STATUS, 16$
                        56              68  3C 00211         MOVZWL  IO_STATUS, STATUS                       ; 0897
                        11              56  E8 00214         BLBS    STATUS, 17$                             ; 0898
                                        56  DD 00217 16$:     PUSHL   STATUS                                  ; 0900
                                        7E  D4 00219         CLRL    -(SP)
                            00759010    8F  DD 0021B         PUSHL   #7704592
                00000000G 00            03  FB 00221         CALLS   #3, LIB$SIGNAL
                                        7E  7C 00228 17$:     CLRQ    -(SP)                                   ; 0912
                                        7E  7C 0022A         CLRQ    -(SP)
                        7E      50      8F  9A 0022C         MOVZBL  #80, -(SP)
                                28      A8  9F 00230         PUSHAB  VOL1
                                        7E  7C 00233         CLRQ    -(SP)
                                        58  DD 00235         PUSHL   R8
                                        20  DD 00237         PUSHL   #32
                                        6B  DD 00239         PUSHL   CHANNEL
                                        7E  D4 0023B         CLRL    -(SP)
                        69              0C  FB 0023D         CALLS   #12, SYS$QIOW
                        56              50  D0 00240         MOVL    R0, STATUS
                        06              56  E9 00243         BLBC    STATUS, 18$                             ; 0913
                        56              68  3C 00246         MOVZWL  IO_STATUS, STATUS
                        05              56  E8 00249         BLBS    STATUS, 19$                             ; 0914
                                        56  DD 0024C 18$:     PUSHL   STATUS
                        6A              01  FB 0024E         CALLS   #1, LIB$STOP
              1F  0000G CF              01  E0 00251 19$:     BBS     #1, INIT_OPTIONS+5, 20$                 ; 0919
                                        57  D5 00257         TSTL    VMS_PROT
                                        1B  13 00259         BEQL    20$
                                        7E  7C 0025B         CLRQ    -(SP)                                   ; 0925
                                        7E  7C 0025D         CLRQ    -(SP)
                        7E      50      8F  9A 0025F         MOVZBL  #80, -(SP)
                                78      A8  9F 00263         PUSHAB  VOL2
                                        7E  7C 00266         CLRQ    -(SP)
                                        58  DD 00268         PUSHL   R8
                                        20  DD 0026A         PUSHL   #32
                                        6B  DD 0026C         PUSHL   CHANNEL
                                        7E  D4 0026E         CLRL    -(SP)
                        69              0C  FB 00270         CALLS   #12, SYS$QIOW
                        56              50  D0 00273         MOVL    R0, STATUS
                        06              56  E9 00276 20$:     BLBC    STATUS, 21$                             ; 0926
                        56              68  D0 00279         MOVL    IO_STATUS, STATUS
                        05              56  E8 0027C         BLBS    STATUS, 22$                             ; 0927
                                        56  DD 0027F 21$:     PUSHL   STATUS
                        6A              01  FB 00281         CALLS   #1, LIB$STOP
                                        7E  7C 00284 22$:     CLRQ    -(SP)                                   ; 0942
                                        7E  7C 00286         CLRQ    -(SP)
                        7E      50      8F  9A 00288         MOVZBL  #80, -(SP)
                              00C8      C8  9F 0028C         PUSHAB  HDR1
                                        7E  7C 00290         CLRQ    -(SP)
```

```
                        58  DD 00292          PUSHL   R8                                                      ;
                        20  DD 00294          PUSHL   #32                                                     ;
                        6B  DD 00296          PUSHL   CHANNEL                                                 ;
                        7E  D4 00298          CLRL    -(SP)                                                   ;
                    69  0C  FB 0029A          CALLS   #12, SYS$QIOW                                           ;
                    56  50  D0 0029D          MOVL    R0, STATUS                                              ;
                    06  56  E9 002A0          BLBC    STATUS, 23$                                             ; 0943
                    56  68  3C 002A3          MOVZWL  IO_STATUS, STATUS                                       ;
                    05  56  E8 002A6          BLBS    STATUS, 24$                                             ; 0944
                        56  DD 002A9 23$:     PUSHL   STATUS                                                  ;
                    6A  01  FB 002AB          CALLS   #1, LIB$STOP                                            ;
                        7E  7C 002AE 24$:     CLRQ    -(SP)                                                   ; 0951
                        7E  7C 002B0          CLRQ    -(SP)                                                   ;
                    7E      8F  9A 002B2      MOVZBL  #80, -(SP)                                              ;
                  0118      C8  9F 002B6      PUSHAB  HDR2                                                    ;
                        7E  7C 002BA          CLRQ    -(SP)                                                   ;
                        58  DD 002BC          PUSHL   R8                                                      ;
                        20  DD 002BE          PUSHL   #32                                                     ;
                        6B  DD 002C0          PUSHL   CHANNEL                                                 ;
                        7E  D4 002C2          CLRL    -(SP)                                                   ;
                    69  0C  FB 002C4          CALLS   #12, SYS$QIOW                                           ;
                    56  50  D0 002C7          MOVL    R0, STATUS                                              ;
                    06  56  E9 002CA          BLBC    STATUS, 25$                                             ; 0952
                    56  68  3C 002CD          MOVZWL  IO_STATUS, STATUS                                       ;
                    05  56  E8 002D0          BLBS    STATUS, 26$                                             ; 0953
                        56  DD 002D3 25$:     PUSHL   STATUS                                                  ;
                    6A  01  FB 002D5          CALLS   #1, LIB$STOP                                            ;
                        7E  7C 002D8 26$:     CLRQ    -(SP)                                                   ; 0958
                        7E  7C 002DA          CLRQ    -(SP)                                                   ;
                        7E  7C 002DC          CLRQ    -(SP)                                                   ;
                        7E  7C 002DE          CLRQ    -(SP)                                                   ;
                        58  DD 002E0          PUSHL   R8                                                      ;
                        28  DD 002E2          PUSHL   #40                                                     ;
                        6B  DD 002E4          PUSHL   CHANNEL                                                 ;
                        7E  D4 002E6          CLRL    -(SP)                                                   ;
                    69  0C  FB 002E8          CALLS   #12, SYS$QIOW                                           ;
                    56  50  D0 002EB          MOVL    R0, STATUS                                              ;
                    06  56  E9 002EE          BLBC    STATUS, 27$                                             ; 0959
                    56  68  3C 002F1          MOVZWL  IO_STATUS, STATUS                                       ;
                    05  56  E8 002F4          BLBS    STATUS, 28$                                             ; 0960
                        56  DD 002F7 27$:     PUSHL   STATUS                                                  ;
                    6A  01  FB 002F9          CALLS   #1, LIB$STOP                                            ;
                        7E  7C 002FC 28$:     CLRQ    -(SP)                                                   ; 0965
                        7E  7C 002FE          CLRQ    -(SP)                                                   ;
                        7E  7C 00300          CLRQ    -(SP)                                                   ;
                        7E  7C 00302          CLRQ    -(SP)                                                   ;
                        58  DD 00304          PUSHL   R8                                                      ;
                        28  DD 00306          PUSHL   #40                                                     ;
                        6B  DD 00308          PUSHL   CHANNEL                                                 ;
                        7E  D4 0030A          CLRL    -(SP)                                                   ;
                    69  0C  FB 0030C          CALLS   #12, SYS$QIOW                                           ;
                    56  50  D0 0030F          MOVL    R0, STATUS                                              ;
                    06  56  E9 00312          BLBC    STATUS, 29$                                             ; 0966
                    56  68  3C 00315          MOVZWL  IO_STATUS, STATUS                                       ;
                    05  56  E8 00318          BLBS    STATUS, 30$                                             ; 0967
                        56  DD 0031B 29$:     PUSHL   STATUS                                                  ;
                    6A  01  FB 0031D          CALLS   #1, LIB$STOP                                            ;
```

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                00C8    C8 31464F45    8F   D0 00320 30$:    MOVL    #826691397, HDR1                ; 0969
                0118    C8 32464F45    8F   D0 00329         MOVL    #843468613, HDR2                ; 0970
                                       7E   7C 00332         CLRQ    -(SP)                           ; 0977
                                       7E   7C 00334         CLRQ    -(SP)                           ;
                        7E        50   8F   9A 00336         MOVZBL  #80, -(SP)                      ;
                              00C8   C8   9F 0033A           PUSHAB  HDR1                            ;
                                       7E   7C 0033E         CLRQ    -(SP)                           ;
                                       58   DD 00340         PUSHL   R8                              ;
                                       20   DD 00342         PUSHL   #32                             ;
                                       6B   DD 00344         PUSHL   CHANNEL                         ;
                                       7E   D4 00346         CLRL    -(SP)                           ;
                        69             0C   FB 00348         CALLS   #12, SYS$QIOW                   ;
                        56             50   D0 0034B         MOVL    R0, STATUS                      ;
                        06             56   E9 0034E         BLBC    STATUS, 31$                     ; 0978
                        56             68   3C 00351         MOVZWL  IO_STATUS, STATUS               ;
                        05             56   E8 00354         BLBS    STATUS, 32$                     ; 0979
                                       56   DD 00357 31$:     PUSHL   STATUS                          ;
                        6A             01   FB 00359         CALLS   #1, LIB$STOP                    ;
                                       7E   7C 0035C 32$:     CLRQ    -(SP)                           ; 0985
                                       7E   7C 0035E         CLRQ    -(SP)                           ;
                        7E        50   8F   9A 00360         MOVZBL  #80, -(SP)                      ;
                              0118   C8   9F 00364           PUSHAB  HDR2                            ;
                                       7E   7C 00368         CLRQ    -(SP)                           ;
                                       58   DD 0036A         PUSHL   R8                              ;
                                       20   DD 0036C         PUSHL   #32                             ;
                                       6B   DD 0036E         PUSHL   CHANNEL                         ;
                                       7E   D4 00370         CLRL    -(SP)                           ;
                        69             0C   FB 00372         CALLS   #12, SYS$QIOW                   ;
                        56             50   D0 00375         MOVL    R0, STATUS                      ;
                        06             56   E9 00378         BLBC    STATUS, 33$                     ; 0986
                        56             68   3C 0037B         MOVZWL  IO_STATUS, STATUS               ;
                        05             56   E8 0037E         BLBS    STATUS, 34$                     ; 0987
                                       56   DD 00381 33$:     PUSHL   STATUS                          ;
                        6A             01   FB 00383         CALLS   #1, LIB$STOP                    ;
                                       7E   7C 00386 34$:     CLRQ    -(SP)                           ; 0991
                                       7E   7C 00388         CLRQ    -(SP)                           ;
                                       7E   7C 0038A         CLRQ    -(SP)                           ;
                                       7E   7C 0038C         CLRQ    -(SP)                           ;
                                       58   DD 0038E         PUSHL   R8                              ;
                                       28   DD 00390         PUSHL   #40                             ;
                                       6B   DD 00392         PUSHL   CHANNEL                         ;
                                       7E   D4 00394         CLRL    -(SP)                           ;
                        69             0C   FB 00396         CALLS   #12, SYS$QIOW                   ;
                        56             50   D0 00399         MOVL    R0, STATUS                      ;
                        06             56   E9 0039C         BLBC    STATUS, 35$                     ; 0992
                        56             68   3C 0039F         MOVZWL  IO_STATUS, STATUS               ;
                        05             56   E8 003A2         BLBS    STATUS, 36$                     ; 0993
                                       56   DD 003A5 35$:     PUSHL   STATUS                          ;
                        6A             01   FB 003A7         CALLS   #1, LIB$STOP                    ;
                                       7E   7C 003AA 36$:     CLRQ    -(SP)                           ; 0997
                                       7E   7C 003AC         CLRQ    -(SP)                           ;
                                       7E   7C 003AE         CLRQ    -(SP)                           ;
                                       7E   7C 003B0         CLRQ    -(SP)                           ;
                                       58   DD 003B2         PUSHL   R8                              ;
                                       28   DD 003B4         PUSHL   #40                             ;
                                       6B   DD 003B6         PUSHL   CHANNEL                         ;
                                       7E   D4 003B8         CLRL    -(SP)                           ;
```

```
                69 0C  FB 003BA          CALLS   #12, SYS$QIOW                                   ;
                56 50  D0 003BD          MOVL    R0, STATUS                                      ;
                06 56  E9 003C0          BLBC    STATUS, 37$                                     ; 0998
                56 68  3C 003C3          MOVZWL  IO_STATUS, STATUS                               ;
                05 56  E8 003C6          BLBS    STATUS, 38$                                     ; 0999
                   56  DD 003C9 37$:      PUSHL   STATUS                                          ;
                6A 01  FB 003CB          CALLS   #1, LIB$STOP                                    ;
                   7E  7C 003CE 38$:      CLRQ    -(SP)                                           ; 1004
                   7E  7C 003D0          CLRQ    -(SP)                                           ;
                   7E  7C 003D2          CLRQ    -(SP)                                           ;
                   7E  7C 003D4          CLRQ    -(SP)                                           ;
                   58  DD 003D6          PUSHL   R8                                              ;
                   24  DD 003D8          PUSHL   #36                                             ;
                   6B  DD 003DA          PUSHL   CHANNEL                                         ;
                   7E  D4 003DC          CLRL    -(SP)                                           ;
                69 0C  FB 003DE          CALLS   #12, SYS$QIOW                                   ;
                56 50  D0 003E1          MOVL    R0, STATUS                                      ;
                06 56  E9 003E4          BLBC    STATUS, 39$                                     ; 1005
                56 68  3C 003E7          MOVZWL  IO_STATUS, STATUS                               ;
                05 56  E8 003EA          BLBS    STATUS, 40$                                     ; 1006
                   56  DD 003ED 39$:      PUSHL   STATUS                                          ;
                6A 01  FB 003EF          CALLS   #1, LIB$STOP                                    ;
                   7E  7C 003F2 40$:      CLRQ    -(SP)                                           ; 1011
                   7E  7C 003F4          CLRQ    -(SP)                                           ;
                   7E  7C 003F6          CLRQ    -(SP)                                           ;
                   7E  7C 003F8          CLRQ    -(SP)                                           ;
                   58  DD 003FA          PUSHL   R8                                              ;
                   11  DD 003FC          PUSHL   #17                                             ;
                   6B  DD 003FE          PUSHL   CHANNEL                                         ;
                   7E  D4 00400          CLRL    -(SP)                                           ;
                69 0C  FB 00402          CALLS   #12, SYS$QIOW                                   ;
                56 50  D0 00405          MOVL    R0, STATUS                                      ;
                   04  00408          RET                                                     ; 1013

; Routine Size:  1033 bytes,    Routine Base:  $CODE$ + 0000
```

```
;  595          1014  1 ROUTINE DEFAULT_CHAR : NOVALUE =
;  596          1015  1
;  597          1016  1 !++
;  598          1017  1 !
;  599          1018  1 ! FUNCTIONAL DESCRIPTION:
;  600          1019  1 !
;  601          1020  1 !       This routine sets the tape drive default characteristics.
;  602          1021  1 !
;  603          1022  1 ! CALLING SEQUENCE:
;  604          1023  1 !       DEFAULT_CHAR ();
;  605          1024  1 !
;  606          1025  1 ! INPUT PARAMETERS:
;  607          1026  1 !       NONE
;  608          1027  1 !
;  609          1028  1 ! IMPLICIT INPUTS:
;  610          1029  1 !       CHANNEL         - the I/O channel of the tape drive
;  611          1030  1 !
;  612          1031  1 ! OUTPUT PARAMETERS:
;  613          1032  1 !       NONE
;  614          1033  1 !
;  615          1034  1 ! IMPLICIT OUTPUTS:
;  616          1035  1 !       IO_STATUS       - set to the return status of the QIO
;  617          1036  1 !
;  618          1037  1 ! ROUTINE VALUE:
;  619          1038  1 !       NONE
;  620          1039  1 !
;  621          1040  1 ! SIDE EFFECTS:
;  622          1041  1 !       NONE
;  623          1042  1 !
;  624          1043  1 ! USER ERRORS:
;  625          1044  1 !       NONE
;  626          1045  1 !
;  627          1046  1 !--
;  628          1047  1
;  629          1048  2 BEGIN
;  630          1049  2
;  631          1050  2 LITERAL
;  632          1051  2         ODD_PARITY      = 0;
;  633          1052  2
;  634          1053  2 LOCAL
;  635          1054  2         CHARACTERISTIC  : VECTOR [4,WORD],      ! characteristics to set
;  636          1055  2         STATUS;
;  637          1056  2
;  638          1057  2 BIND
;  639          1058  2         !  Set up offsets into the characteristics buffer
;  640          1059  2         !
;  641          1060  2         FORMAT          = CHARACTERISTIC[2] : BBLOCK,
;  642          1061  2         PARITY          = CHARACTERISTIC[2] : BBLOCK,
;  643          1062  2         BUFFER_SIZE     = CHARACTERISTIC[1] : WORD,
;  644          1063  2         DENSITY         = CHARACTERISTIC[2] : BBLOCK;
;  645          1064  2
;  646          1065  2 CHARACTERISTIC[0]= CHARACTERISTIC[1]= CHARACTERISTIC[2]= CHARACTERISTIC[3]= 0;
;  647          1066  2
;  648          1067  2 ! Now set density
;  649          1068  2 !
;  650          1069  2 DENSITY[MT$V_DENSITY] = MT$K_PE_1600;
;  651          1070  2
```

```
;  652          1071  2 ! Parity set to odd, we only support 9-tracks and 9-tracks are always odd
;  653          1072  2 !
;  654          1073  2 PARITY [ MT$V_PARITY ] = ODD_PARITY;
;  655          1074  2
;  656          1075  2 ! Reset Tape format to FILES-11 ( only supported format )
;  657          1076  2 !
;  658          1077  2 FORMAT [ MT$V_FORMAT ] = MT$K_NORMAL11;
;  659          1078  2
;  660          1079  2 ! Set the buffer size to ANSI max ( VMS default )
;  661          1080  2 !
;  662          1081  2 BUFFER_SIZE = 2048;
;  663          1082  2
;  664          1083  2 ! write the characteristics to the tape drive
;  665          1084  2 !
;  666        P 1085  2 STATUS = $QIOW (CHAN = .CHANNEL,
;  667        P 1086  2                 IOSB = IO_STATUS,
;  668        P 1087  2                 FUNC = IO$_SETMODE,
;  669          1088  2                 P1 = CHARACTERISTIC);
;  670          1089  2 IF .STATUS THEN STATUS = .IO_STATUS[0];
;  671          1090  2 IF NOT .STATUS THEN ERR_EXIT (.STATUS);
;  672          1091  2
;  673          1092  1 END;                                    ! end of routine DEFAULT_CHAR


                                                0000 00000 DEFAULT_CHAR:
                                                           .WORD   Save nothing                          ; 1014
                                                7E  7C 00002       CLRQ    CHARACTERISTIC             ; 1065
05  AE              05                          04  F0 00004       INSV    #4, #0, #5, DENSITY+1      ; 1069
                        04  AE                  08  8A 0000A       BICB2   #8, PARITY                 ; 1073
04  AE              04                          0C  F0 0000E       INSV    #12, #4, #4, FORMAT        ; 1077
                        02  AE      0800        8F  B0 00014       MOVW    #2048, BUFFER_SIZE         ; 1081
                                                7E  7C 0001A       CLRQ    -(SP)                      ; 1088
                                                7E  7C 0001C       CLRQ    -(SP)                      ;
                                                7E  D4 0001E       CLRL    -(SP)                      ;
                                          14    AE  9F 00020       PUSHAB  CHARACTERISTIC             ;
                                                7E  7C 00023       CLRQ    -(SP)                      ;
                                        0000'   CF  9F 00025       PUSHAB  IO_STATUS                  ;
                                                23  DD 00029       PUSHL   #35                        ;
                                        0000G   CF  DD 0002B       PUSHL   CHANNEL                    ;
                                                7E  D4 0002F       CLRL    -(SP)                      ;
                    00000000G   00              0C  FB 00031       CALLS   #12, SYS$QIOW              ;
                                08              50  E9 00038       BLBC    STATUS, 1$                 ; 1089
                                50      0000'   CF  3C 0003B       MOVZWL  IO_STATUS, STATUS          ;
                                09              50  E8 00040       BLBS    STATUS, 2$                 ; 1090
                                                50  DD 00043 1$:   PUSHL   STATUS                     ;
                    00000000G   00              01  FB 00045       CALLS   #1, LIB$STOP               ;
                                                    04 0004C 2$:   RET                                ; 1092

; Routine Size:  77 bytes,    Routine Base:  $CODE$ + 0409
```

```
;  675          1093  1 ROUTINE SET_DENSITY : NOVALUE =
;  676          1094  1
;  677          1095  1 !++
;  678          1096  1 !
;  679          1097  1 ! FUNCTIONAL DESCRIPTION:
;  680          1098  1 !
;  681          1099  1 !       This routine sets the density of the tape drive.
;  682          1100  1 !
;  683          1101  1 ! CALLING SEQUENCE:
;  684          1102  1 !       SET_DENSITY ();
;  685          1103  1 !
;  686          1104  1 ! INPUT PARAMETERS:
;  687          1105  1 !       NONE
;  688          1106  1 !
;  689          1107  1 ! IMPLICIT INPUTS:
;  690          1108  1 !       CHANNEL         - the I/O channel of the tape drive
;  691          1109  1 !
;  692          1110  1 ! OUTPUT PARAMETERS:
;  693          1111  1 !       NONE
;  694          1112  1 !
;  695          1113  1 ! IMPLICIT OUTPUTS:
;  696          1114  1 !       IO_STATUS       - set to the return status of the QIO
;  697          1115  1 !
;  698          1116  1 ! ROUTINE VALUE:
;  699          1117  1 !       NONE
;  700          1118  1 !
;  701          1119  1 ! SIDE EFFECTS:
;  702          1120  1 !       NONE
;  703          1121  1 !
;  704          1122  1 ! USER ERRORS:
;  705          1123  1 !       NONE
;  706          1124  1 !
;  707          1125  1 !--
;  708          1126  1
;  709          1127  2 BEGIN
;  710          1128  2
;  711          1129  2 LOCAL
;  712          1130  2         CHARACTERISTIC  : VECTOR [4,WORD],      ! characteristics to set
;  713          1131  2         STATUS;
;  714          1132  2
;  715          1133  2 BIND
;  716          1134  2         !  Set up offsets into the characteristics buffer
;  717          1135  2         !
;  718          1136  2         BUFFER_SIZE     = CHARACTERISTIC[1] : WORD,
;  719          1137  2         DENSITY         = CHARACTERISTIC[2] : BBLOCK;
;  720          1138  2
;  721          1139  2
;  722          1140  2 ! read the characteristics of the tape drive
;  723          1141  2 !
;  724        P 1142  2 STATUS = $QIOW (CHAN = .CHANNEL,
;  725        P 1143  2                 IOSB = CHARACTERISTIC,
;  726          1144  2                 FUNC = IO$_SENSEMODE);
;  727          1145  2 IF .STATUS THEN STATUS = .CHARACTERISTIC[0];
;  728          1146  2 IF NOT .STATUS THEN ERR_EXIT (.STATUS);
;  729          1147  2
;  730          1148  2 ! Set up the buffer to hold the new characteristics.  Get the device
;  731          1149  2 !  independent stuff from the 2nd long word of IO_STATUS, use the default
```

```
;  732          1150  2 !  buffersize and zero the notused field
;  733          1151  2 !
;  734          1152  2 CHARACTERISTIC [ 0 ] = 0;
;  735          1153  2 BUFFER_SIZE          = 2048;
;  736          1154  2
;  737          1155  2 ! Now set density to what the user specified.
;  738          1156  2 !
;  739          1157  2 IF .INIT_OPTIONS[OPT_DENS_800]
;  740          1158  2   THEN DENSITY[MT$V_DENSITY] = MT$K_NRZI_800
;  741          1159  2   ELSE
;  742          1160  2     IF .INIT_OPTIONS[OPT_DENS_1600]
;  743          1161  2       THEN DENSITY[MT$V_DENSITY] = MT$K_PE_1600
;  744          1162  2       ELSE DENSITY[MT$V_DENSITY] = MT$K_GCR_6250;
;  745          1163  2
;  746          1164  2 ! write the characteristics to the tape drive
;  747          1165  2 !
;  748        P 1166  2 STATUS = $QIOW (CHAN = .CHANNEL,
;  749        P 1167  2                 IOSB = IO_STATUS,
;  750        P 1168  2                 FUNC = IO$_SETMODE,
;  751          1169  2                 P1 = CHARACTERISTIC);
;  752          1170  2 IF .STATUS THEN STATUS = .IO_STATUS[0];
;  753          1171  2 IF NOT .STATUS THEN ERR_EXIT (.STATUS);
;  754          1172  2
;  755          1173  1 END;                                    ! end of routine SET_DENSITY


                                                001C 00000 SET_DENSITY:
                                                           .WORD   Save R2,R3,R4                    ; 1093
                                  54 00000000G   00   9E 00002     MOVAB   LIB$STOP, R4
                                  53 00000000G   00   9E 00009     MOVAB   SYS$QIOW, R3
                                  5E             08   C2 00010     SUBL2   #8, SP
                                                 7E   7C 00013     CLRQ    -(SP)                    ; 1144
                                                 7E   7C 00015     CLRQ    -(SP)
                                                 7E   7C 00017     CLRQ    -(SP)
                                                 7E   7C 00019     CLRQ    -(SP)
                                        20       AE   9F 0001B     PUSHAB  CHARACTERISTIC
                                                 27   DD 0001E     PUSHL   #39
                                      0000G      CF   DD 00020     PUSHL   CHANNEL
                                                 7E   D4 00024     CLRL    -(SP)
                                  63             0C   FB 00026     CALLS   #12, SYS$QIOW
                                  52             50   D0 00029     MOVL    R0, STATUS
                                  06             52   E9 0002C     BLBC    STATUS, 1$               ; 1145
                                  52             6E   3C 0002F     MOVZWL  CHARACTERISTIC, STATUS
                                  05             52   E8 00032     BLBS    STATUS, 2$               ; 1146
                                                 52   DD 00035 1$:  PUSHL   STATUS
                                  64             01   FB 00037     CALLS   #1, LIB$STOP
                                  6E 08000000    8F   D0 0003A 2$:  MOVL    #134217728, CHARACTERISTIC ; 1152
                    08      0000G CF             01   E1 00041     BBC     #1, INIT_OPTIONS, 3$     ; 1157
05  AE                  05        00             03   F0 00047     INSV    #3, #0, #5, DENSITY+1    ; 1158
                                                 14   11 0004D     BRB     5$
                    08      0000G CF             01   E1 0004F 3$:  BBC     #1, INIT_OPTIONS+4, 4$   ; 1160
05  AE                  05        00             04   F0 00055     INSV    #4, #0, #5, DENSITY+1    ; 1161
                                                 06   11 0005B     BRB     5$
05  AE                  05        00             05   F0 0005D 4$:  INSV    #5, #0, #5, DENSITY+1    ; 1162
```

```
                                 7E  7C 00063 5$:      CLRQ    -(SP)                                          ; 1169
                                 7E  7C 00065         CLRQ    -(SP)                                          ;
                                 7E  D4 00067         CLRL    -(SP)                                          ;
                           14    AE  9F 00069         PUSHAB  CHARACTERISTIC                                 ;
                                 7E  7C 0006C         CLRQ    -(SP)                                          ;
                         0000'   CF  9F 0006E         PUSHAB  IO_STATUS                                      ;
                                 23  DD 00072         PUSHL   #35                                            ;
                         0000G   CF  DD 00074         PUSHL   CHANNEL                                        ;
                                 7E  D4 00078         CLRL    -(SP)                                          ;
                    63           0C  FB 0007A         CALLS   #12, SYS$QIOW                                  ;
                    52           50  D0 0007D         MOVL    R0, STATUS                                     ;
                    08           52  E9 00080         BLBC    STATUS, 6$                                     ; 1170
                    52   0000'   CF  3C 00083         MOVZWL  IO_STATUS, STATUS                              ;
                    05           52  E8 00088         BLBS    STATUS, 7$                                     ; 1171
                                 52  DD 0008B 6$:     PUSHL   STATUS                                         ;
                    64           01  FB 0008D         CALLS   #1, LIB$STOP                                   ;
                                     04 00090 7$:     RET                                                    ; 1173

; Routine Size:  145 bytes,    Routine Base:  $CODE$ + 0456
```

```
;  757          1174  1 ROUTINE READ_VOLLABELS : NOVALUE =
;  758          1175  1
;  759          1176  1 !++
;  760          1177  1 !
;  761          1178  1 ! FUNCTIONAL DESCRIPTION:
;  762          1179  1 !       this routine reads the first block on the magnetic tape and
;  763          1180  1 !       checks if it is an ANSI tape.  If it is, it then reads the
;  764          1181  1 !       HDR1 record to determine if the first file on the tape has expired.
;  765          1182  1 !
;  766          1183  1 ! CALLING SEQUENCE:
;  767          1184  1 !       READ_VOLLABELS()
;  768          1185  1 !
;  769          1186  1 ! INPUT PARAMETERS:
;  770          1187  1 !       none
;  771          1188  1 !
;  772          1189  1 ! IMPLICIT  NPUTS:
;  773          1190  1 !       channel - channel number assigned to device being initialized
;  774          1191  1 !
;  775          1192  1 ! OUTPUT PARAMETERS:
;  776          1193  1 !       none
;  777          1194  1 !
;  778          1195  1 ! IMPLICIT OUTPUTS:
;  779          1196  1 !       VOLUME_UIC      - owner of tape
;  780          1197  1 !       VOLUME_PROT     - tape protection
;  781          1198  1 !       ACCESS          - users' access to a magnetic tape volume is set
;  782          1199  1 !
;  783          1200  1 ! ROUTINE VALUE:
;  784          1201  1 !       none
;  785          1202  1 !
;  786          1203  1 ! SIDE EFFECTS:
;  787          1204  1 !       none
;  788          1205  1 !
;  789          1206  1 ! USER ERRORS:
;  790          1207  1 !       none
;  791          1208  1 !
;  792          1209  1 !--
;  793          1210  1
;  794          1211  2 BEGIN
;  795          1212  2
;  796          1213  2 LOCAL
;  797          1214  2         DATE            : VECTOR [2],           ! binary date
;  798          1215  2         DESCR           : VECTOR [2],           ! descriptor for today buffer
;  799          1216  2         REGDATE         : VECTOR [12,BYTE],     ! buffer for date in format
;  800          1217  2                                                 !  DD_MMM_YYYY
;  801          1218  2         STATUS,                                 ! system service status
;  802          1219  2         TODAY           : VECTOR [12,BYTE],
;  803          1220  2         VMS_TAPE        : BITVECTOR [1];        ! set if the VOL1 sys code is VMS
;  804          1221  2
;  805          1222  2 ! read first block on tape and check status
;  806          1223  2
;  807        P 1224  2 STATUS = $QIOW(
;  808        P 1225  2         CHAN = .CHANNEL,
;  809        P 1226  2         FUNC = IO$_READLBLK,
;  810        P 1227  2         IOSB = IO_STATUS,
;  811        P 1228  2         P1 = ANSI_LABEL,
;  812          1229  2         P2 = 80);
;  813          1230  2 IF .STATUS THEN STATUS = .IO_STATUS[0];
```

```
;  814          1231  2
;  815          1232  2 ! set up default volume owner and protection, which is the current users UIC
;  816          1233  2 !   and read write allowed.  This will be reset by TAPE_OWN_PROT if this is
;  817          1234  2 !   a VAX/VMS tape
;  818          1235  2
;  819          1236  2 VOLUME_UIC  = .PROCESS_UIC;
;  820          1237  2 VOLUME_PROT = 0;
;  821          1238  2
;  822          1239  2
;  823          1240  2 ! if first record is Tape Mark then not ANSI tape
;  824          1241  2 ! if label is more than 80 characters ignore those characters beyond 80
;  825          1242  2
;  826          1243  3 IF (NOT .STATUS) AND (.STATUS NEQ SS$_DATAOVERUN)
;  827          1244  2 THEN
;  828          1245  3     BEGIN
;  829          1246  3
;  830          1247  3     ! if this is a new tape, the default density may have been changed
;  831          1248  3     ! by the QIO failure
;  832          1249  3
;  833          1250  3     IF .STATUS EQL SS$_OPINCOMPL
;  834          1251  3     THEN
;  835          1252  4         BEGIN
;  836          1253  4
;  837          1254  4         ! tape must be at begining ( no reads to set density )
;  838          1255  4
;  839        P 1256  4         STATUS = $QIOW( CHAN = .CHANNEL,
;  840        P 1257  4                         FUNC = IO$_REWIND,
;  841          1258  4                         IOSB = IO_STATUS);
;  842          1259  4         IF .STATUS THEN STATUS = .IO_STATUS[0];
;  843          1260  4         IF NOT .STATUS THEN ERR_EXIT (.STATUS);
;  844          1261  4
;  845          1262  4         DEFAULT_CHAR ();
;  846          1263  3         END;
;  847          1264  3
;  848          1265  3     RETURN 1;
;  849          1266  2     END;
;  850          1267  2
;  851          1268  2 ! now check if first block is VOL1, foreign
;  852          1269  2
;  853          1270  2 IF .ANSI_LABEL[VL1$L_VL1LID] NEQ 'VOL1' THEN RETURN 1;
;  854          1271  2
;  855          1272  2 ! Get the ANSI standard version off the tape.
;  856          1273  2
;  857          1274  2 LABEL_VER = .ANSI_LABEL[VL1$B_LBLSTDVER] - '0';
;  858          1275  2
;  859          1276  2 ! Call the accessibility system service to check the accessibility char
;  860          1277  2 ! on the VOL1 label.
;  861          1278  2 ! First keep the record that the UCB is reading. The accessibility
;  862          1279  2 ! routine can not move the tape from under us! Thus we will compare
;  863          1280  2 ! this to the field after the call and if the tape was moved we punt
;  864          1281  2 ! the operation.
;  865          1282  2
;  866          1283  2 CURRENT_RECORD = KERNEL_CALL(GET_RECORD,.UCB);
;  867          1284  2
;  868        P 1285  2 ACCESS = $MTACCESS(LBLNAM = ANSI_LABEL,
;  869        P 1286  2                    UIC = .PROCESS_UIC,
;  870        P 1287  2                    STD_VERSION = .LABEL_VER,
```

```
;  871        P 1288  2                   ACCESS_CHAR = 0,
;  872        P 1289  2                   ACCESS_SPEC = MTA$K_NOCHAR,
;  873          1290  2                   TYPE = MTA$K_INVOL1);
;  874          1291  2
;  875          1292  2 STATUS = KERNEL_CALL(GET_RECORD,.UCB);
;  876          1293  2 IF .CURRENT_RECORD NEQ .STATUS
;  877          1294  2    THEN ERR_EXIT(SS$_TAPEPOSLOST);
;  878          1295  2
;  879          1296  2 ! Now check the ACCESS returned from the service. For SS$_FILACCERR
;  880          1297  2 ! check to make sure /OVERRIDE=ACCESS was specified and the user
;  881          1298  2 ! has privilege then set to check VMS protection.
;  882          1299  2 ! For SS$_NOFILACC, SS$_NOVOLACC return the code
;  883          1300  2 ! to the user. In this case the user has no access to the tape volume.
;  884          1301  2 ! For a 0 give the user all access. For SS$_NORMAL check the VMS
;  885          1302  2 ! protection.
;  886          1303  2
;  887          1304  2 IF .ACCESS EQL SS$_NOVOLACC
;  888          1305  2    OR .ACCESS EQL SS$_NOFILACC
;  889          1306  2         THEN ERR_EXIT(.ACCESS);
;  890          1307  2
;  891          1308  2 IF .ACCESS EQL SS$_FILACCERR
;  892          1309  2    THEN
;  893          1310  3         BEGIN
;  894          1311  3            IF NOT .INIT_OPTIONS[OPT_OVR_ACC]
;  895          1312  3                 THEN ERR_EXIT(.ACCESS);
;  896          1313  3            IF NOT .PRIVILEGE_MASK[PRV$V_VOLPRO]
;  897          1314  3                 THEN ERR_EXIT(.ACCESS);
;  898          1315  3            ACCESS = SS$_NORMAL;
;  899          1316  2         END;
;  900          1317  2
;  901          1318  2
;  902          1319  2 ! Determine owner and VMS protection of the tape. If not VMS protected
;  903          1320  2 ! and pre ANSI version 4 and a DEC operating system wrote the tape
;  904          1321  2 ! then the user must override the owner id field.
;  905          1322  2
;  906          1323  2 STATUS = TAPE_OWN_PROT(VOLUME_UIC, VOLUME_PROT, .PROCESS_UIC, ANSI_LABEL);
;  907          1324  2
;  908          1325  2 ! If ACCESS allows see if user has VMS privilege to init the volume.
;  909          1326  2 ! Also set the VOLUME_PROT accordingly.
;  910          1327  2
;  911          1328  2 IF .ACCESS
;  912          1329  2    THEN
;  913          1330  3         BEGIN
;  914          1331  3            IF NOT .STATUS AND NOT .INIT_OPTIONS[OPT_OVR_VOLO]
;  915          1332  3            THEN ERR_EXIT(SS$_VOLOERR);
;  916          1333  3         END
;  917          1334  2    ELSE
;  918          1335  2         VOLUME_PROT = 0;
;  919          1336  2
;  920          1337  2 ! check to see if the VOL1 system code is VMS's if it isn't then we don't
;  921          1338  2 ! process the VOL2 label.
;  922          1339  2
;  923          1340  2 IF CH$EQL(10,STARID,10,ANSI_LABEL[VL1$T_SYSCODE],0)
;  924          1341  2    THEN VMS_TAPE = 1
;  925          1342  2    ELSE VMS_TAPE = 0;
;  926          1343  2
;  927          1344  2 ! first record on tape is VOL1.  Now read HDR1 and determine if first
```

```
;  928          1345  2 ! file has expired.  User volume labels may intervene.
;  929          1346  2
;  930          1347  2 WHILE 1 DO
;  931          1348  3     BEGIN
;  932        P 1349  3     STATUS = $QIOW(
;  933        P 1350  3         CHAN = .CHANNEL,
;  934        P 1351  3         FUNC = IO$_READLBLK,
;  935        P 1352  3         IOSB = IO_STATUS[0],
;  936        P 1353  3         P1 = ANSI_LABEL,
;  937          1354  3         P2 = 80);
;  938          1355  3     IF .STATUS THEN STATUS = .IO_STATUS[0];
;  939          1356  3     IF NOT .STATUS THEN
;  940          1357  3         IF .STATUS NEQ SS$_DATAOVERUN THEN RETURN 0;     ! ANSI tape, but can't
;  941          1358  3                                                          ! read HDR1
;  942          1359  3     ! If the sys code of the VOL1 label indicates that this is a VMS tape
;  943          1360  3     ! and we find a VOL2 label then process the label.
;  944          1361  3
;  945          1362  3     IF .VMS_TAPE AND .ANSI_LABEL[VL2$L_VL2LID] EQL 'VOL2'
;  946          1363  3         THEN
;  947          1364  4             BEGIN
;  948          1365  4                 PROCESS_VOL2_LABEL (VOLUME_UIC, VOLUME_PROT, .PROCESS_UIC,
;  949          1366  4                                     ANSI_LABEL);
;  950          1367  4                 IF NOT .ACCESS THEN VOLUME_PROT= 0;
;  951          1368  3             END;
;  952          1369  3     IF .ANSI_LABEL[HD1$L_HD1LID] EQL 'HDR1' THEN EXITLOOP;
;  953          1370  2     END;
;  954          1371  2
;  955          1372  2 ! test if the first file on the tape has expired
;  956          1373  2 ! convert the JULIAN date on the tape to a VMS date
;  957          1374  2
;  958          1375  2 IF_CONVDATE_J2R(REGDATE,ANSI_LABEL[HD1$T_EXPIREDT])
;  959          1376  2 THEN
;  960          1377  3     BEGIN
;  961          1378  3     DESCR[0] = 12;                                  ! set up the descriptor
;  962          1379  3     DESCR[1] = REGDATE;
;  963          1380  3     REGDATE[11] = ' ';
;  964          1381  3     $BINTIM(TIMBUF = DESCR,TIMADR = DATE);          ! convert from ASCII to binary
;  965          1382  3     $GETTIM(TIMADR = TODAY);                        ! get today's date in binary
;  966          1383  3     CALDAYNO(DATE,TODAY);                           ! chop off hours min and sec
;  967          1384  3     END
;  968          1385  2 ELSE DATE = TODAY = 0;                             ! when all else fails
;  969          1386  2
;  970          1387  3 IF (.DATE GTRU .TODAY) AND NOT (.INIT_OPTIONS[OPT_OVR_EXP])
;  971          1388  2     THEN ERR_EXIT (SS$_FILNOTEXP);
;  972          1389  2
;  973          1390  2 ! Call the accessibility system service to check the accessibility char
;  974          1391  2 ! on the HDR1 label.
;  975          1392  2 ! First keep the record that the UCB is reading. The accessibility
;  976          1393  2 ! routine can not move the tape from under us! Thus we will compare
;  977          1394  2 ! this to the field after the call and if the tape was moved we punt
;  978          1395  2 !   e operation.
;  979          1396  2
;  980          1397  2 CURRENT_RECORD = KERNEL_CALL(GET_RECORD,.UCB);
;  981          1398  2
;  982        P 1399  2 ACCESS = $MTACCESS(LBLNAM = ANSI_LABEL,
;  983        P 1400  2                   UIC = .PROCESS_UIC,
;  984        P 1401  2                   STD_VERSION = .LABEL_VER,
```

```
;  985        P 1402  2                    ACCESS_CHAR = 0,
;  986        P 1403  2                    ACCESS_SPEC = MTA$K_NOCHAR,
;  987          1404  2                    TYPE = MTA$K_INHDR1);
;  988          1405  2
;  989          1406  2 STATUS = KERNEL_CALL(GET_RECORD,.UCB);
;  990          1407  2 IF .CURRENT_RECORD NEQ .STATUS
;  991          1408  2    THEN ERR_EXIT(SS$_TAPEPOSLOST);
;  992          1409  2
;  993          1410  2 ! Now check the ACCESS returned from the service. For SS$_FILACCERR
;  994          1411  2 ! check to make sure /OVERRIDE=ACCESS was specified and the user
;  995          1412  2 ! has privilege. For SS$_NOFILACC, SS$_NOVOLACC return the code
;  996          1413  2 ! to the user. In this case the user has no access to the tape volume.
;  997          1414  2 ! For a 0 give the user all access. For SS$_NORMAL check the VMS
;  998          1415  2 ! protection (whatever that means for files? maybe something in the
;  999          1416  2 ! future).
; 1000          1417  2
; 1001          1418  2 IF .ACCESS EQL SS$_NOVOLACC
; 1002          1419  2    OR .ACCESS EQL SS$_NOFILACC
; 1003          1420  2         THEN ERR_EXIT(.ACCESS);
; 1004          1421  2
; 1005          1422  2 IF .ACCESS EQL SS$_FILACCERR
; 1006          1423  2    THEN
; 1007          1424  3         BEGIN
; 1008          1425  3            IF NOT .INIT_OPTIONS[OPT_OVR_ACC]
; 1009          1426  3                 THEN ERR_EXIT(.ACCESS);
; 1010          1427  3            IF NOT .PRIVILEGE_MASK[PRV$V_VOLPRO]
; 1011          1428  3                 THEN ERR_EXIT(.ACCESS);
; 1012          1429  3            ACCESS = SS$_NORMAL;
; 1013          1430  2         END;
; 1014          1431  2
; 1015          1432  2
; 1016          1433  2 RETURN 0;                                   ! valid to rewrite the ANSI TAPE
; 1017          1434  1 END;                                        ! end of routine READ_VOLLABLES


                                                .EXTRN  SYS$BINTIM, SYS$GETTIM

                                    OFFC 00000 READ_VOLLABELS:
                                                .WORD   Save R2,R3,R4,R5,R6,R7,R8,R9,R10,R11        ; 1174
5B 00000000G   00   9E 00002                    MOVAB   SYS$MTACCESS, R11                           ;
5A       0000G  CF   9E 00009                    MOVAB   GET_RECORD, R10                             ;
59       0000G  CF   9E 0000E                    MOVAB   PROCESS_UIC, R9                             ;
58 00000000G   00   9E 00013                    MOVAB   SYS$QIOW, R8                                ;
57 00000000G   9F   9E 0001A                    MOVAB   @#SYS$CMKRNL, R7                            ;
56 00000000G   00   9E 00021                    MOVAB   LIB$STOP, R6                                ;
55       0000'  CF   9E 00028                    MOVAB   ACCESS, R5                                  ;
5E              28   C2 0002D                    SUBL2   #40, SP                                     ;
                7E   7C 00030                    CLRQ    -(SP)                                       ; 1229
                7E   7C 00032                    CLRQ    -(SP)                                       ;
7E        50    8F   9A 00034                    MOVZBL  #80, -(SP)                                  ;
          9C    A5   9F 00038                    PUSHAB  ANSI_LABEL                                  ;
                7E   7C 0003B                    CLRQ    -(SP)                                       ;
          EC    A5   9F 0003D                    PUSHAB  IO_STATUS                                   ;
                21   DD 00040                    PUSHL   #33                                         ;
       0000G    CF   DD 00042                    PUSHL   CHANNEL                                     ;
                7E   D4 00046                    CLRL    -(SP)                                       ;
```

```
                68              0C  FB 00048          CALLS   #12, SYS$QIOW                                   ;
                54              50  D0 0004B          MOVL    R0, STATUS                                      ;
                04              54  E9 0004E          BLBC    STATUS, 1$                                      ; 1230
                54        EC    A5  3C 00051          MOVZWL  IO_STATUS, STATUS                               ;
             FC A5              69  D0 00055 1$:      MOVL    PROCESS_UIC, VOLUME_UIC                         ; 1236
                F8 A5           D4  00059             CLRL    VOLUME_PROT                                     ; 1237
                40              54  E8 0005C          BLBS    STATUS, 4$                                      ; 1243
 00000838       8F              54  D1 0005F          CMPL    STATUS, #2104                                   ;
                                37  13 00066          BEQL    4$                                              ;
 000002D4       8F              54  D1 00068          CMPL    STATUS, #724                                    ; 1250
                                36  12 0006F          BNEQ    5$                                              ;
                                7E  7C 00071          CLRQ    -(SP)                                           ; 1258
                                7E  7C 00073          CLRQ    -(SP)                                           ;
                                7E  7C 00075          CLRQ    -(SP)                                           ;
                                7E  7C 00077          CLRQ    -(SP)                                           ;
                EC    A5        9F  00079             PUSHAB  IO_STATUS                                       ;
                                24  DD 0007C          PUSHL   #36                                             ;
              0000G             CF  DD 0007E          PUSHL   CHANNEL                                         ;
                                7E  D4 00082          CLRL    -(SP)                                           ;
                68              0C  FB 00084          CALLS   #12, SYS$QIOW                                   ;
                54              50  D0 00087          MOVL    R0, STATUS                                      ;
                07              54  E9 0008A          BLBC    STATUS, 2$                                      ; 1259
                54        EC    A5  3C 0008D          MOVZWL  IO_STATUS, STATUS                               ;
                05              54  E8 00091          BLBS    STATUS, 3$                                      ; 1260
                                54  DD 00094 2$:      PUSHL   STATUS                                          ;
                66              01  FB 00096          CALLS   #1, LIB$STOP                                    ;
          FE84  CF              00  FB 00099 3$:      CALLS   #0, DEFAULT_CHAR                                ; 1262
                                04  0009E             RET                                                     ; 1265
 314C4F56       8F        9C    A5  D1 0009F 4$:      CMPL    ANSI_LABEL, #827084630                          ; 1270
                                01  13 000A7 5$:      BEQL    6$                                              ;
                                04  000A9             RET                                                     ;
             08 A5        EB    A5  9A 000AA 6$:      MOVZBL  ANSI_LABEL+79, LABEL_VER                        ; 1274
             08 A5              30  C2 000AF          SUBL2   #48, LABEL_VER                                  ;
                      0C    A5  DD 000B3             PUSHL   UCB                                             ; 1283
                            01  DD 000B6             PUSHL   #1                                              ;
                          4400  8F BB 000B8          PUSHR   #^M<R10,SP>                                     ;
                67              04  FB 000BC          CALLS   #4, SYS$CMKRNL                                  ;
             04 A5              50  D0 000BF          MOVL    R0, CURRENT_RECORD                              ;
                                7E  7C 000C3          CLRQ    -(SP)                                           ; 1290
                                7E  D4 000C5          CLRL    -(SP)                                           ;
                      08    A5  DD 000C7             PUSHL   LABEL_VER                                       ;
                            69  DD 000CA             PUSHL   PROCESS_UIC                                     ;
                      9C    A5  9F 000CC             PUSHAB  ANSI_LABEL                                      ;
                6B              06  FB 000CF          CALLS   #6, SYS$MTACCESS                                ;
                65              50  D0 000D2          MOVL    R0, ACCESS                                      ;
                      0C    A5  DD 000D5             PUSHL   UCB                                             ; 1292
                            01  DD 000D8             PUSHL   #1                                              ;
                          4400  8F BB 000DA          PUSHR   #^M<R10,SP>                                     ;
                67              04  FB 000DE          CALLS   #4, SYS$CMKRNL                                  ;
                54              50  D0 000E1          MOVL    R0, STATUS                                      ;
                54        04    A5  D1 000E4          CMPL    CURRENT_RECORD, STATUS                          ; 1293
                                08  13 000E8          BEQL    7$                                              ;
                7E        0224  8F  3C 000EA          MOVZWL  #548, -(SP)                                     ; 1294
                66              01  FB 000EF          CALLS   #1, LIB$STOP                                    ;
                50              65  D0 000F2 7$:      MOVL    ACCESS, R0                                      ; 1304
 000022A4       8F              50  D1 000F5          CMPL    R0, #8868                                       ;
                                09  13 000FC          BEQL    8$                                              ;
```

```
                000022AC   8F              50  D1 000FE          CMPL    R0, #8876                                   ; 1305
                                           05  12 00105          BNEQ    9$
                                           50  DD 00107 8$:      PUSHL   R0                                          ; 1306
                                           66  01 FB 00109       CALLS   #1, LIB$STOP
                0000009C   8F              65  D1 0010C 9$:      CMPL    ACCESS, #156                                ; 1308
                                           18  12 00113          BNEQ    12$
          05      0000G    CF              06  E0 00115          BBS     #6, INIT_OPTIONS+3, 10$                     ; 1311
                                           65  DD 0011B          PUSHL   ACCESS                                      ; 1312
                                           66  01 FB 0011D       CALLS   #1, LIB$STOP
          05        F4     B5              15  E0 00120 10$:     BBS     #21, @PRIVILEGE_MASK, 11$                   ; 1313
                                           65  DD 00125          PUSHL   ACCESS                                      ; 1314
                                           66  01 FB 00127       CALLS   #1, LIB$STOP
                                           65  01 D0 0012A 11$:  MOVL    #1, ACCESS                                  ; 1315
                                      9C   A5  9F 0012D 12$:     PUSHAB  ANSI_LABEL                                  ; 1323
                                           69  DD 00130          PUSHL   PROCESS_UIC
                                      F8   A5  9F 00132          PUSHAB  VOLUME_PROT
                                      FC   A5  9F 00135          PUSHAB  VOLUME_UIC
                      0000G    CF          04  FB 00138          CALLS   #4, TAPE_OWN_PROT
                                           54  D0 0013D          MOVL    R0, STATUS
                                           12  65 E9 00140       BLBC    ACCESS, 13$                                 ; 1328
                                           12  54 E8 00143       BLBS    STATUS, 14$                                 ; 1331
                                           0D  0000G  CF  E8 00146  BLBS  INIT_OPTIONS+5, 14$
                                           7E  226C   8F  3C 0014B  MOVZWL #8812, -(SP)                               ; 1332
                                           66  01 FB 00150       CALLS   #1, LIB$STOP
                                           03  11 00153          BRB     14$                                         ; 1328
                                      F8   A5  D4 00155 13$:     CLRL    VOLUME_PROT                                 ; 1335
          B4    A5      0000'    CF          0A  29 00158 14$:     CMPC3   #10, STARID, ANSI_LABEL+24                ; 1340
                                           05  12 0015F          BNEQ    15$
                                           52  01 90 00161       MOVB    #1, VMS_TAPE                                ; 1341
                                           02  11 00164          BRB     16$
                                           52  94 00166 15$:     CLRB    VMS_TAPE                                    ; 1342
                                           7E  7C 00168 16$:     CLRQ    -(SP)                                       ; 1354
                                           7E  7C 0016A          CLRQ    -(SP)
                                      7E       50  8F  9A 0016C  MOVZBL  #80, -(SP)
                                      9C   A5  9F 00170          PUSHAB  ANSI_LABEL
                                           7E  7C 00173          CLRQ    -(SP)
                                      EC   A5  9F 00175          PUSHAB  IO_STATUS
                                           21  DD 00178          PUSHL   #33
                                      0000G    CF  DD 0017A      PUSHL   CHANNEL
                                           7E  D4 0017E          CLRL    -(SP)
                                      68       0C  FB 00180      CALLS   #12, SYS$QIOW
                                      54       50  D0 00183      MOVL    R0, STATUS
                                      07       54  E9 00186      BLBC    STATUS, 17$                                 ; 1355
                                      54   EC  A5  3C 00189      MOVZWL  IO_STATUS, STATUS
                                      0A       54  E8 0018D      BLBS    STATUS, 18$                                 ; 1356
                00000838   8F              54  D1 00190 17$:     CMPL    STATUS, #2104                               ; 1357
                                           01  13 00197          BEQL    18$
                                           04  00199          RET
                                      20       52  E9 0019A 18$:     BLBC    VMS_TAPE, 19$                           ; 1362
                324C4F56   8F        9C   A5  D1 0019D          CMPL    ANSI_LABEL, #843861846
                                           16  12 001A5          BNEQ    19$
                                      9C   A5  9F 001A7          PUSHAB  ANSI_LABEL                                  ; 1365
                                           69  DD 001AA          PUSHL   PROCESS_UIC
                                      F8   A5  9F 001AC          PUSHAB  VOLUME_PROT
                                      FC   A5  9F 001AF          PUSHAB  VOLUME_UIC
                      0000G    CF          04  FB 001B2          CALLS   #4, PROCESS_VOL2_LABEL
                                      03       65  E8 001B7      BLBS    ACCESS, 19$                                 ; 1367
```

```
                                F8  A5  D4 001BA          CLRL    VOLUME_PROT
                 31524448   8F  9C  A5  D1 001BD 19$:     CMPL    ANSI_LABEL, #827475016          ;1369
                                A1  12 001C5              BNEQ    16$
                                C3  A5  9F 001C7          PUSHAB  ANSI_LABEL+47                   ;1375
                                10  AE  9F 001CA          PUSHAB  REGDATE
                     0000G      CF      02  FB 001CD      CALLS   #2, CONVDATE_J2R
                                2F      50  E9 001D2      BLBC    R0, 20$
                       18       AE      0C  D0 001D5      MOVL    #12, DESCR                      ;1378
                       1C       AE  0C  AE  9E 001D9      MOVAB   REGDATE, DESCR+4                ;1379
                       17       AE      20  90 001DE      MOVB    #32, REGDATE+11                 ;1380
                                20  AE  9F 001E2          PUSHAB  DATE                            ;1381
                                1C  AE  9F 001E5          PUSHAB  DESCR
                00000000G       00      02  FB 001E8      CALLS   #2, SYS$BINTIM
                                        5E  DD 001EF      PUSHL   SP                              ;1382
                00000000G       00      01  FB 001F1      CALLS   #1, SYS$GETTIM
                                        5E  DD 001F8      PUSHL   SP                              ;1383
                                24  AE  9F 001FA          PUSHAB  DATE
                     0000G      CF      02  FB 001FD      CALLS   #2, CALDAYNO
                                        05  11 00202      BRB     21$                             ;1375
                                        6E  D4 00204 20$:  CLRL    TODAY                           ;1385
                                20  AE  D4 00206          CLRL    DATE
                                    6E  20  AE  D1 00209 21$:  CMPL    DATE, TODAY                 ;1387
                                        0D  1B 0020D      BLEQU   22$
                07      0000G      CF      03  E0 0020F      BBS     #3, INIT_OPTIONS+3, 22$
                                    7E  B4  8F  9A 00215      MOVZBL  #180, -(SP)                     ;1388
                                    66      01  FB 00219      CALLS   #1, LIB$STOP
                                        0C  A5  DD 0021C 22$:  PUSHL   UCB                         ;1397
                                        01  DD 0021F      PUSHL   #1
                                  4400      8F  BB 00221      PUSHR   #^M<R10,SP>
                                    67      04  FB 00225      CALLS   #4, SYS$CMKRNL
                                     04     A5      50  D0 00228      MOVL    R0, CURRENT_RECORD
                                        01  DD 0022C      PUSHL   #1                              ;1404
                                        7E  7C 0022E      CLRQ    -(SP)
                                      08    A5  DD 00230      PUSHL   LABEL_VER
                                        69  DD 00233      PUSHL   PROCESS_UIC
                                      9C    A5  9F 00235      PUSHAB  ANSI_LABEL
                                    6B      06  FB 00238      CALLS   #6, SYS$MTACCESS
                                    65      50  D0 0023B      MOVL    R0, ACCESS
                                        0C  A5  DD 0023E      PUSHL   UCB                         ;1406
                                        01  DD 00241      PUSHL   #1
                                  4400      8F  BB 00243      PUSHR   #^M<R10,SP>
                                    67      04  FB 00247      CALLS   #4, SYS$CMKRNL
                                    54      50  D0 0024A      MOVL    R0, STATUS
                                    54  04  A5  D1 0024D      CMPL    CURRENT_RECORD, STATUS          ;1407
                                        08  13 00251      BEQL    23$
                                    7E  0224  8F  3C 00253      MOVZWL  #548, -(SP)                 ;1408
                                    66      01  FB 00258      CALLS   #1, LIB$STOP
                                    50      65  D0 0025B 23$:  MOVL    ACCESS, R0                  ;1418
                    000022A4        8F      50  D1 0025E      CMPL    R0, #8868
                                        09  13 00265      BEQL    24$
                    000022AC        8F      50  D1 00267      CMPL    R0, #8876                   ;1419
                                        05  12 0026E      BNEQ    25$
                                        50  DD 00270 24$:  PUSHL   R0                             ;1420
                                    66      01  FB 00272      CALLS   #1, LIB$STOP
                    0000009C        8F      65  D1 00275 25$:  CMPL    ACCESS, #156                ;1422
                                        18  12 0027C      BNEQ    28$
                05      0000G      CF      06  E0 0027E      BBS     #6, INIT_OPTIONS+3, 26$         ;1425
```

```
                                        65  DD 00284          PUSHL   ACCESS                                          ; 1426
                                    66  01  FB 00286          CALLS   #1, LIB$STOP                                    ;
                    05      F4      B5  15  E0 00289 26$:     BBS     #21, @PRIVILEGE_MASK, 27$                       ; 1427
                                        65  DD 0028E          PUSHL   ACCESS                                          ; 1428
                                    66  01  FB 00290          CALLS   #1, LIB$STOP                                    ;
                                    65  01  D0 00293 27$:     MOVL    #1, ACCESS                                      ; 1429
                                        04 00296 28$:         RET                                                     ; 1434

; Routine Size:  663 bytes,    Routine Base:  $CODE$ + 04E7
```

```
;  1019          1435  1 ROUTINE CHECK_PROT(VOL_PROT,VOL_UIC)  =
;  1020          1436  1
;  1021          1437  1 !++
;  1022          1438  1 !
;  1023          1439  1 ! FUNCTIONAL DESCRIPTION:
;  1024          1440  1 !       this routine check volume protection
;  1025          1441  1 !
;  1026          1442  1 ! CALLING SEQUENCE:
;  1027          1443  1 !       CHECK_PROT(ARG1,ARG2)
;  1028          1444  1 !
;  1029          1445  1 ! INPUT PARAMETERS:
;  1030          1446  1 !       ARG1 - volume protection
;  1031          1447  1 !       ARG2 - volume owner UIC
;  1032          1448  1 !
;  1033          1449  1 ! IMPLICIT INPUTS:
;  1034          1450  1 !       PROCESS_UIC     - UIC of the current process
;  1035          1451  1 !       PRIVILEGE_MASK  - mask of privileges that the user has
;  1036          1452  1 !       INIT_OPTIONS    - init options bitvector
;  1037          1453  1 !
;  1038          1454  1 ! OUTPUT PARAMETERS:
;  1039          1455  1 !       none
;  1040          1456  1 !
;  1041          1457  1 ! IMPLICIT OUTPUTS:
;  1042          1458  1 !       none
;  1043          1459  1 !
;  1044          1460  1 ! ROUTINE VALUE:
;  1045          1461  1 !       SS$NORMAL - if users has the needed priviledges
;  1046          1462  1 !       SS$NOPRIV - if users does not have the needed priviledges
;  1047          1463  1 !
;  1048          1464  1 ! SIDE EFFECTS:
;  1049          1465  1 !       none
;  1050          1466  1 !
;  1051          1467  1 ! USER ERRORS:
;  1052          1468  1 !       none
;  1053          1469  1 !
;  1054          1470  1 !--
;  1055          1471  1
;  1056          1472  2 BEGIN
;  1057          1473  2
;  1058          1474  2 MAP
;  1059          1475  2         PROCESS_UIC     : VECTOR [ 2, WORD ],  ! the process UIC
;  1060          1476  2         VOL_PROT        : BITVECTOR,
;  1061          1477  2         VOL_UIC         : VECTOR [ 2, WORD ];
;  1062          1478  2
;  1063          1479  2 EXTERNAL
;  1064          1480  2         EXE$GL_SYSUIC   : REF BBLOCK ADDRESSING_MODE ( ABSOLUTE );
;  1065          1481  2
;  1066          1482  2 LITERAL
;  1067          1483  2         NOT_GROUP_WRITE = 9,  ! the group write disable bit
;  1068          1484  2         NOT_WORLD_WRITE = 13; ! the world write disable bit
;  1069          1485  2
;  1070          1486  2
;  1071          1487  2 !  check if the user has write access to the tape
;  1072          1488  2 !
;  1073          1489  2 IF ( .PRIVILEGE_MASK [ PRV$V_BYPASS ] ) OR        ! user has bypass priviledge
;  1074          1490  2
;  1075          1491  2    ( .PRIVILEGE_MASK [ PRV$V_SYSPRV ] ) OR        ! user has sysprv priviledge
```

```
;  1076          1492  2
;  1077          1493  2      ( .PRIVILEGE_MASK [ PRV$V_VOLPRO ] ) OR         ! user has volpro priviledge
;  1078          1494  2
;  1079          1495  2      ( NOT .VOL_PROT [ NOT_WORLD_WRITE ] ) OR        ! the tape is world write
;  1080          1496  2
;  1081          1497  2      ( .PROCESS_UIC [ 1 ] LEQ .EXE$GL_SYSUIC ) OR    ! the user's UIC has a
;  1082          1498  2                                                       ! system group number
;  1083          1499  2
;  1084          1500  3      (( .PROCESS_UIC [ 1 ] EQL .VOL_UIC [ 1 ] ) AND  ! (the user's and tape's
;  1085          1501  4       (( .PROCESS_UIC [ 0 ] EQL .VOL_UIC [ 0 ] ) OR  !  UIC matches) OR (tape's
;  1086          1502  3        ( NOT .VOL_PROT [ NOT_GROUP_WRITE ] )))       !  and user's group match
;  1087          1503  3                                                       !  and tape is group write)
;  1088          1504  2      THEN RETURN SS$_NORMAL;
;  1089          1505  2
;  1090          1506  2  !  user does not needed priviledges return error
;  1091          1507  2  !
;  1092          1508  2  RETURN SS$_NOPRIV;
;  1093          1509  2
;  1094          1510  1  END;


                                                        .EXTRN  EXE$GL_SYSUIC

                                        0000 00000 CHECK_PROT:
                                                        .WORD   Save nothing                                    ; 1435
                        50      0000'   CF  D0 00002           MOVL    PRIVILEGE_MASK, R0                      ; 1489
                    2F          60          1D  E0 00007        BBS     #29, (R0), 1$                           ;
                    2B          60          1C  E0 0000B        BBS     #28, (R0), 1$                           ; 1491
                    27          60          15  E0 0000F        BBS     #21, (R0), 1$                           ; 1493
                    22      05  AC          05  E1 00013        BBC     #5, VOL_PROT+1, 1$                      ; 1495
00000000G   9F      0000G   CF              10      00 ED 00018 CMPZV   #0, #16, PROCESS_UIC+2, @#EXE$GL_SYSUIC ; 1497
                                            15      15 00023    BLEQ    1$                                      ;
                        0A  AC      0000G   CF      B1 00025    CMPW    PROCESS_UIC+2, VOL_UIC+2                ; 1500
                                            11      12 0002B    BNEQ    2$                                      ;
                        08  AC      0000G   CF      B1 0002D    CMPW    PROCESS_UIC, VOL_UIC                    ; 1501
                                            05      13 00033    BEQL    1$                                      ;
                    04      05  AC          01      E0 00035    BBS     #1, VOL_PROT+1, 2$                      ; 1502
                                50          01      D0 0003A 1$:MOVL    #1, R0                                  ; 1504
                                            04      0003D       RET                                             ;
                                50          24      D0 0003E 2$:MOVL    #36, R0                                 ; 1508
                                            04      00041       RET                                             ; 1510

; Routine Size:  66 bytes,    Routine Base:  $CODE$ + 077E

;  1095          1511  1
```

```
;  1097          1512  1 ROUTINE FORMAT_VOL1_VOL2 =
;  1098          1513  1
;  1099          1514  1 !++
;  1100          1515  1 !
;  1101          1516  1 ! FUNCTIONAL DESCRIPTION:
;  1102          1517  1 !       This routine formats the volume label one and two, if the user has
;  1103          1518  1 !       specified a protection, of an ANSI labeled tape.
;  1104          1519  1 !
;  1105          1520  1 ! CALLING SEQUENCE:
;  1106          1521  1 !       FORMAT_VOL1_VOL2 ()
;  1107          1522  1 !
;  1108          1523  1 ! INPUT PARAMETERS:
;  1109          1524  1 !       none
;  1110          1525  1 !
;  1111          1526  1 ! IMPLICIT INPUTS:
;  1112          1527  1 !       none
;  1113          1528  1 !
;  1114          1529  1 ! OUTPUT PARAMETERS:
;  1115          1530  1 !       none
;  1116          1531  1 !
;  1117          1532  1 ! IMPLICIT OUTPUTS:
;  1118          1533  1 !       none
;  1119          1534  1 !
;  1120          1535  1 ! ROUTINE VALUE:
;  1121          1536  1 !       Value of VOLUME_PROT
;  1122          1537  1 !
;  1123          1538  1 ! SIDE EFFECTS:
;  1124          1539  1 !       The correct infomation gets stuffed into the VOL1 skeleton
;  1125          1540  1 !
;  1126          1541  1 ! USER ERRORS:
;  1127          1542  1 !       none
;  1128          1543  1 !
;  1129          1544  1 !--
;  1130          1545  1
;  1131          1546  2 BEGIN
;  1132          1547  2
;  1133          1548  2 LOCAL
;  1134          1549  2         SPEC,
;  1135          1550  2         STATUS,
;  1136          1551  2         VOLUME_PROT,    ! protection for tape
;  1137          1552  2         VOLUME_UIC;     ! owner of tape
;  1138          1553  2
;  1139          1554  2 BIND
;  1140          1555  2         ! UPLIT was used instead of CH$TRANSTABLE here, the code
;  1141          1556  2         !  produced is the same (ie the constant string generated).
;  1142          1557  2         !  UPLIT was used because CH$TRANSTABLE generates a warning error
;  1143          1558  2         !  because more then a single character at a time is specified
;  1144          1559  2         !  in the %ASCII. ( BLISS KLUDGE )
;  1145          1560  2         !
;  1146          1561  2         ! The table will upcase a..z and return '@' for any non ANSI
;  1147          1562  2         !  'a' characters.
;  1148          1563  2
;  1149          1564  2         TRANSLATION_TABLE = UPLIT BYTE (
;  1150          1565  2                 %ASCII '@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@',
;  1151          1566  2                 %ASCII ' !"@@%&''()*+,-./0123456789:;<=>?',
;  1152          1567  2                 %ASCII '@ABCDEFGHIJKLMNOPQRSTUVWXYZ@@@@@',
;  1153          1568  2                 %ASCII '@ABCDEFGHIJKLMNOPQRSTUVWXYZ@@@@@',
```

```
;1154        1569  2                %ASCII 'aaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaa',
;1155        1570  2                %ASCII 'aaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaa',
;1156        1571  2                %ASCII 'aaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaa',
;1157        1572  2                %ASCII 'aaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaa');
;1158        1573  2
;1159        1574  2    !
;1160        1575  2    ! place the label in the new volume
;1161        1576  2    !
;1162        1577  2
;1163        1578  2    ! check length of label for volume
;1164        1579  2
;1165        1580  2    IF .LABEL_STRING [DSC$W_LENGTH] GTRU VL1$S_VOLLBL
;1166        1581  2    THEN
;1167        1582  2        ERR_EXIT(SS$_MTLBLLONG);
;1168        1583  2
;1169        1584  2    ! translate the label into upper case and put in 'a' for any non-ANSI
;1170        1585  2    !  a characters found, padded with space in case label from command is
;1171        1586  2    !  less than six characters long
;1172        1587  2
;1173        1588  2    CH$TRANSLATE ( TRANSLATION_TABLE,
;1174        1589  2                   .LABEL_STRING [DSC$W_LENGTH],
;1175        1590  2                   .LABEL_STRING [DSC$A_POINTER],
;1176        1591  2                   ' ',
;1177        1592  2                   VL1$S_VOLLBL,
;1178        1593  2                   VOL1[VL1$T_VOLLBL] );
;1179        1594  2
;1180        1595  2    ! check for non-ANSI 'a' characters
;1181        1596  2
;1182        1597  2    IF NOT CH$FAIL( CH$FIND_CH ( VL1$S_VOLLBL, VOL1[VL1$T_VOLLBL], 'a'))
;1183        1598  2            THEN ERR_EXIT ( INIT$_BADVOLLBL );
;1184        1599  2
;1185        1600  2    ! If the interchange switch is set do not put any VMS specific information on
;1186        1601  2    ! to the tape.
;1187        1602  2
;1188        1603  2    IF NOT .INIT_OPTIONS[OPT_INTERCHG]
;1189        1604  2      THEN
;1190        1605  3      BEGIN
;1191        1606  3
;1192        1607  3            ! determine owner and protection of new volume
;1193        1608  3
;1194        1609  3            IF .INIT_OPTIONS[OPT_PROTECTION]        ! did user specify protection
;1195        1610  3            THEN VOLUME_PROT = .PROTECTION          ! protection input by user
;1196        1611  3            ELSE VOLUME_PROT = 0;                   ! no protection is default
;1197        1612  3
;1198        1613  3            IF .INIT_OPTIONS[OPT_OWNER_UIC]         ! did user specify owner UIC
;1199        1614  3            THEN VOLUME_UIC = .OWNER_UIC            ! user input owner
;1200        1615  3            ELSE VOLUME_UIC = .PROCESS_UIC;         ! use the user's process UIC
;1201        1616  3
;1202        1617  3            ! place the values in the label
;1203        1618  3
;1204        1619  3            FORMAT_VOLOWNER(VOL2,.VOLUME_UIC,.VOLUME_PROT);
;1205        1620  3            IF .VOLUME_PROT NEQ 0
;1206        1621  3               THEN
;1207        1622  4               BEGIN
;1208        1623  4                    CH$MOVE(10,STARID,VOL1[VL1$T_SYSCODE]);
;1209        1624  4                    VOL1[VL1$B_LBLSTDVER] = '4';
;1210        1625  4                    LABEL_VER = 4;
```

```
;1211          1626  3            END;
;1212          1627  2         END;
;1213          1628  2
;1214          1629  2 ! put in the user specified VOL1 owner identifier
;1215          1630  2
;1216          1631  2 IF .INIT_OPTIONS[OPT_VOL_OWNER]
;1217          1632  2    THEN CH$MOVE(VL1$S_OWNER_IDENT,VOL_OWNER,VOL1[VL1$T_OWNER_IDENT]);
;1218          1633  2
;1219          1634  2 IF .INIT_OPTIONS[OPT_LABEL_QUAL]
;1220          1635  2    THEN SPEC = MTA$K_CHARVALID
;1221          1636  2    ELSE SPEC = MTA$K_NOCHAR;
;1222          1637  2
;1223          1638  2 ! Call the accessibility system service to get the accessibilty char for
;1224          1639  2 ! the VOL1 label.
;1225          1640  2 ! First keep the record that the UCB is reading. The accessibility
;1226          1641  2 ! routine can not move the tape from under us! Thus we will compare
;1227          1642  2 ! this to the field after the call and if the tape was moved we punt
;1228          1643  2 ! the operation.
;1229          1644  2
;1230          1645  2 CURRENT_RECORD = KERNEL_CALL(GET_RECORD,.UCB);
;1231          1646  2
;1232        P 1647  2 CHAR = $MTACCESS(LBLNAM = 0,
;1233        P 1648  2                  UIC = .PROCESS_UIC,
;1234        P 1649  2                  STD_VERSION = .LABEL_VER,
;1235        P 1650  2                  ACCESS_CHAR = .VOL_ACC,
;1236        P 1651  2                  ACCESS_SPEC = .SPEC,
;1237          1652  2                  TYPE = MTA$K_OUTVOL1);
;1238          1653  2
;1239          1654  2 STATUS = KERNEL_CALL(GET_RECORD,.UCB);
;1240          1655  2 IF .CURRENT_RECORD NEQ .STATUS
;1241          1656  2    THEN ERR_EXIT(SS$_TAPEPOSLOST);
;1242          1657  2 VOL1[VL1$B_VOLACCESS] = .CHAR[0];
;1243          1658  2
;1244          1659  2 ! Return the value of VOLUME_PROT to determine if a VMS protection was
;1245          1660  2 ! specified
;1246          1661  2
;1247          1662  2 RETURN .VOLUME_PROT;
;1248          1663  2
;1249          1664  1 END;                                    ! end of routine FORMAT_VOL1_VOL2


                                                        .PSECT  $PLIT$,NOWRT,NOEXE,2

40 40 40 40 40 40 40 40 40 40 40 40 40 40 40 00014 P.AAC:   .ASCII  \@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@\
40 40 40 40 40 40 40 40 40 40 40 40 40 40 40 00023
                                           40 40 00032
2E 2D 2C 2B 2A 29 28 27 26 25 40 40 22 21 20 00034          .ASCII  \ !"@@%&'()*+,-./0123456789:;<=>?\
3D 3C 3B 3A 39 38 37 36 35 34 33 32 31 30 2F 00043
                                           3F 3E 00052
4E 4D 4C 4B 4A 49 48 47 46 45 44 43 42 41 40 00054          .ASCII  \@ABCDEFGHIJKLMNOPQRSTUVWXYZ@@@@_\
40 40 40 5A 59 58 57 56 55 54 53 52 51 50 4F 00063
                                           5F 40 00072
4E 4D 4C 4B 4A 49 48 47 46 45 44 43 42 41 40 00074          .ASCII  \@ABCDEFGHIJKLMNOPQRSTUVWXYZ@@@@@\
40 40 40 5A 59 58 57 56 55 54 53 52 51 50 4F 00083
                                           40 40 00092
40 40 40 40 40 40 40 40 40 40 40 40 40 40 40 00094          .ASCII  \@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@\
```

```
40 40 40 40 40 40 40 40 40 40 40 40 40 40 40 000A3
                                  40 40 000B2
40 40 40 40 40 40 40 40 40 40 40 40 40 40 40 000B4          .ASCII  \aaaaaaaaaaaaaaaaaaaaaaaaaaaaaa\
40 40 40 40 40 40 40 40 40 40 40 40 40 40 40 000C3
                                  40 40 000D2
40 40 40 40 40 40 40 40 40 40 40 40 40 40 40 000D4          .ASCII  \aaaaaaaaaaaaaaaaaaaaaaaaaaaaaa\
40 40 40 40 40 40 40 40 40 40 40 40 40 40 40 000E3
                                  40 40 000F2
40 40 40 40 40 40 40 40 40 40 40 40 40 40 40 000F4          .ASCII  \aaaaaaaaaaaaaaaaaaaaaaaaaaaaaa\
40 40 40 40 40 40 40 40 40 40 40 40 40 40 40 00103
                                  40 40 00112

                                                    TRANSLATION_TABLE=  P.AAC


                                                            .PSECT  $CODE$,NOWRT,2

                                                03FC 00000 FORMAT_VOL1_VOL2:
                                                           .WORD   Save R2,R3,R4,R5,R6,R7,R8,R9          ; 1512
                                    59 00000000G   9F   9E 00002    MOVAB   @#SYS$CMKRNL, R9
                                    58 00000000G   00   9E 00009    MOVAB   LIB$STOP, R8
                                    57      0000'  CF   9E 00010    MOVAB   VOL1+4, R7
                                    06      0000G  CF   B1 00015    CMPW    LABEL_STRING, #6              ; 1580
                                                   08   1B 0001A    BLEQU   1$
                                    7E      0304   8F   3C 0001C    MOVZWL  #772, -(SP)                   ; 1582
                                    68             01   FB 00021    CALLS   #1, LIB$STOP
    0000'  CF          20    0000G  DF      0000G CF   2E 00024 1$: MOVTC   LABEL_STRING, @LABEL_STRING+4, #32, -  ; 1593
                                    67             06      0002F           TRANSLATION_TABLE, #6, VOL1+4
                       67           06        40   8F   3A 00031    LOCC    #64, #6, VOL1+4               ; 1597
                                                   02   12 00036    BNEQ    2$
                                                   51   D4 00038    CLRL    R1
                                                   51   D5 0003A 2$: TSTL    R1
                                                   09   13 0003C    BEQL    3$
                                         007580FC  8F   DD 0003E    PUSHL   #7700732                      ; 1598
                                    68             01   FB 00044    CALLS   #1, LIB$STOP
       40       0000G  CF                        01   E0 00047 3$: BBS     #1, INIT_OPTIONS+5, 8$        ; 1603
       07       0000G  CF                        02   E1 0004D    BBC     #2, INIT_OPTIONS+1, 4$        ; 1609
                       56      0000G  CF         D0   00053      MOVL    PROTECTION, VOLUME_PROT       ; 1610
                                                   02   11 00058    BRB     5$
                                                   56   D4 0005A 4$: CLRL    VOLUME_PROT                   ; 1611
       07       0000G  CF                        05   E1 0005C 5$: BBC     #5, INIT_OPTIONS+1, 6$        ; 1613
                       50      0000G  CF         D0   00062      MOVL    OWNER_UIC, VOLUME_UIC         ; 1614
                                                   05   11 00067    BRB     7$
                       50      0000G  CF         D0   00069 6$: MOVL    PROCESS_UIC, VOLUME_UIC       ; 1615
                               0041   8F         BB   0006E 7$: PUSHR   #^M<R0,R6>                    ; 1619
                                 4C   A7         9F   00072      PUSHAB  VOL2
              0000G  CF                          03   FB 00075    CALLS   #3, FORMAT_VOLOWNER
                                                   56   D5 0007A    TSTL    VOLUME_PROT                   ; 1620
                                                   0F   13 0007C    BEQL    8$
  14   A7     0000'  CF                          0A   28 0007E    MOVC3   #10, STARID, VOL1+24          ; 1623
               4B   A7                           34   90 00085    MOVB    #52, VOL1+79                  ; 1624
               F0   A7                           04   D0 00089    MOVL    #4, LABEL_VER                 ; 1625
                                    0000G  CF     95   0008D 8$: TSTB    INIT_OPTIONS+4                ; 1631
                                                   07   18 00091    BGEQ    9$
  21   A7     0000G  CF                          0E   28 00093    MOVC3   #14, VOL_OWNER, VOL1+37       ; 1632
       05     0000G  CF                          06   E1 0009A 9$: BBC     #6, INIT_OPTIONS+4, 10$       ; 1634
                       52                         01   D0 000A0    MOVL    #1, SPEC                      ; 1635
```

```
                                    02  11 000A3          BRB     11$                                                     ;
                                    52  D4 000A5 10$:     CLRL    SPEC                                                    ; 1636
                                F4  A7  DD 000A7 11$:     PUSHL   UCB                                                     ; 1645
                                    01  DD 000AA          PUSHL   #1                                                      ;
                                    5E  DD 000AC          PUSHL   SP                                                      ;
                              0000G CF  9F 000AE          PUSHAB  GET_RECORD                                              ;
                            69      04  FB 000B2          CALLS   #4, SYS$CMKRNL                                          ;
                         EC A7      50  D0 000B5          MOVL    R0, CURRENT_RECORD                                      ;
                                    02  DD 000B9          PUSHL   #2                                                      ; 1652
                                    52  DD 000BB          PUSHL   SPEC                                                    ;
                            7E  0000G CF  9A 000BD          MOVZBL  VOL_ACC, -(SP)                                          ;
                                  F0  A7  DD 000C2          PUSHL   LABEL_VER                                               ;
                              0000G CF  DD 000C5          PUSHL   PROCESS_UIC                                             ;
                                    7E  D4 000C9          CLRL    -(SP)                                                   ;
                        00000000G   00  FB 000CB          CALLS   #6, SYS$MTACCESS                                        ;
                         F8 A7      50  D0 000D2          MOVL    R0, CHAR                                                ;
                                F4  A7  DD 000D6          PUSHL   UCB                                                     ; 1654
                                    01  DD 000D9          PUSHL   #1                                                      ;
                                    5E  DD 000DB          PUSHL   SP                                                      ;
                              0000G CF  9F 000DD          PUSHAB  GET_RECORD                                              ;
                            69      04  FB 000E1          CALLS   #4, SYS$CMKRNL                                          ;
                            50  EC  A7  D1 000E4          CMPL    CURRENT_RECORD, STATUS                                  ; 1655
                                    08  13 000E8          BEQL    12$                                                     ;
                            7E  0224    8F 3C 000EA          MOVZWL  #548, -(SP)                                             ; 1656
                            68          01 FB 000EF          CALLS   #1, LIB$STOP                                            ;
                         06 A7      F8  A7 90 000F2 12$:     MOVB    CHAR, VOL1+10                                           ; 1657
                            50          56 D0 000F7          MOVL    VOLUME_PROT, R0                                         ; 1662
                                        04 000FA             RET                                                             ; 1664

; Routine Size:  251 bytes,    Routine Base:  $CODE$ + 07C0

; 1250          1665  1
; 1251          1666  1 END
; 1252          1667  0 ELUDOM


                                                                .EXTRN  LIB$SIGNAL, LIB$STOP

;                                  PSECT SUMMARY
;
;       Name                    Bytes                           Attributes
;
;  $PLIT$                        276  NOVEC,NOWRT,  RD ,NOEXE,NOSHR,  LCL,  REL,  CON,NOPIC,ALIGN(2)
;  $OWN$                         440  NOVEC,  WRT,  RD ,NOEXE,NOSHR,  LCL,  REL,  CON,NOPIC,ALIGN(2)
;  $CODE$                       2235  NOVEC,NOWRT,  RD ,  EXE,NOSHR,  LCL,  REL,  CON,NOPIC,ALIGN(2)


;                               Library Statistics
;
;                                        -------- Symbols --------      Pages       Processing
;       File                             Total    Loaded   Percent      Mapped      Time
;
```

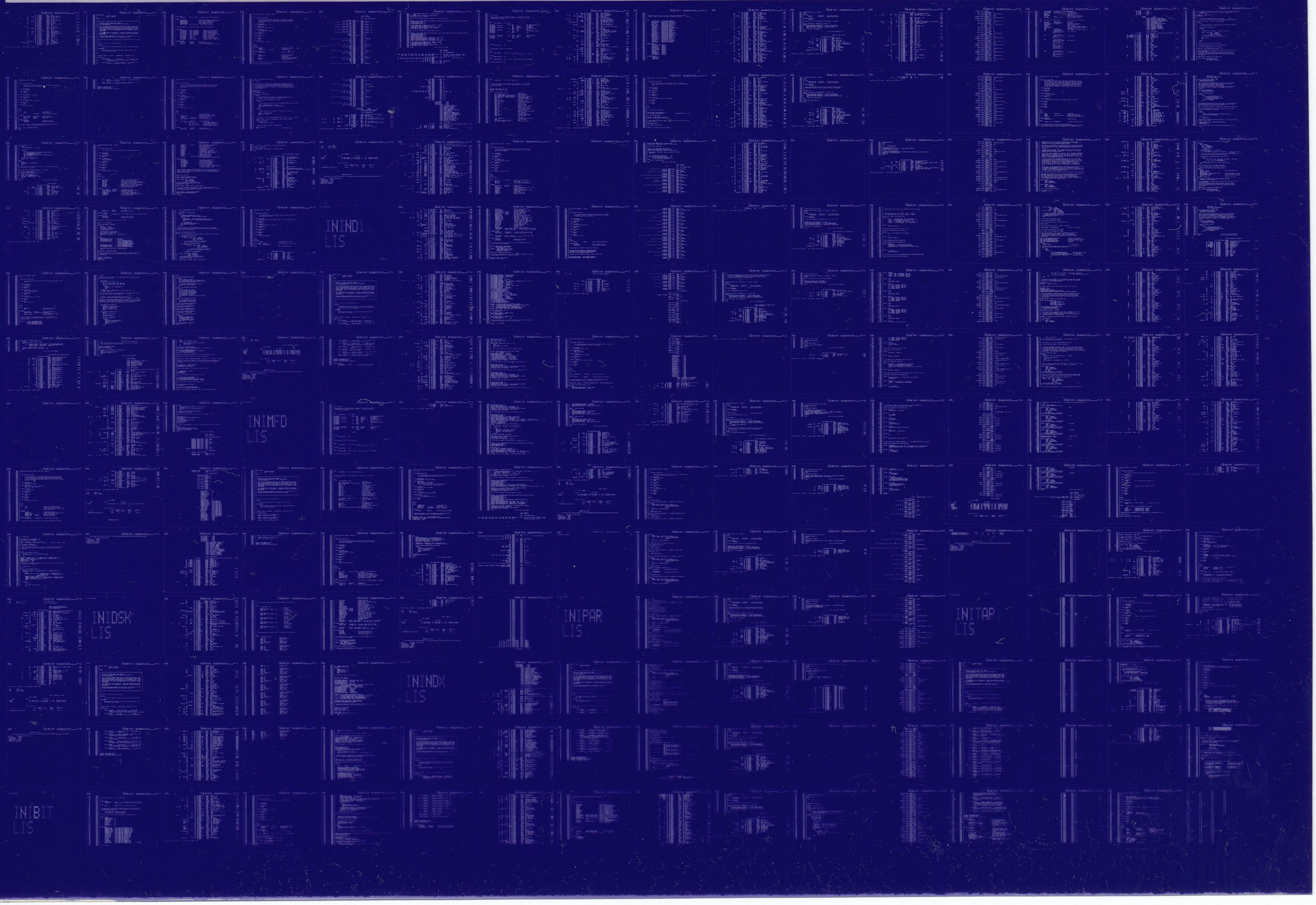
```
;  _$255$DUA28:[SYSLIB]LIB.L32;1          18619        70          0       1000          00:01.9



;                                       COMMAND QUALIFIERS

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

; Size:         2235 code + 716 data bytes
; Run Time:        00:48.8
; Elapsed Time:    01:37.4
; Lines/CPU Min:    2049
; Lexemes/CPU-Min: 29610
; Memory Used:  365 pages
; Compilation Complete
```



INPSMB
MAP

INSDEF
SDL

INPSMBMSG
LIS

RSXLBLDF
SDL

INSCREATE
LIS

INITIO
LIS

INSTAL

INSTALL
MAP

INSCMD
CLD

INPSMBCLD
CLD

INSPREFIX
REQ

INPSMB
LIS

INSOLDCMD
CLD

INIWOL
LIS

RDHOME
LIS

INPSMB

INPSMBCLD
LIS

INSCMD
LIS