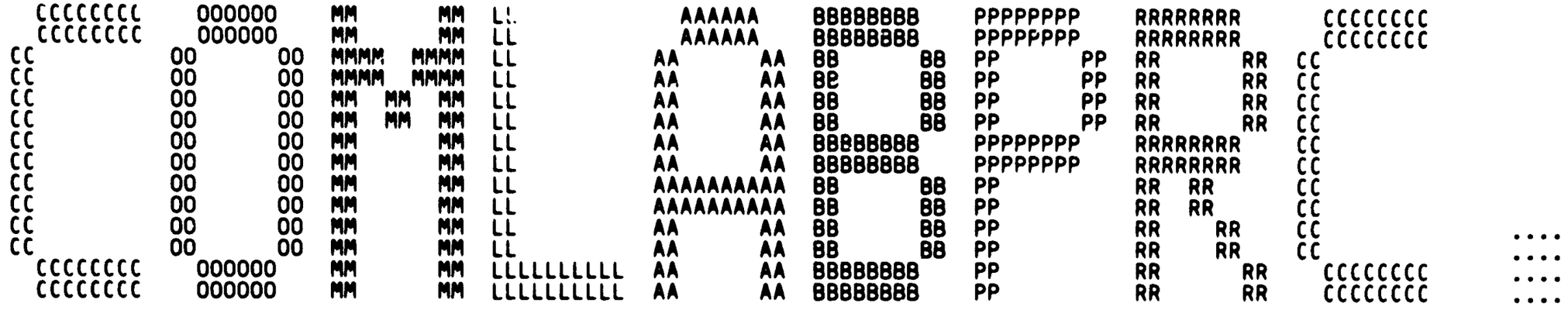
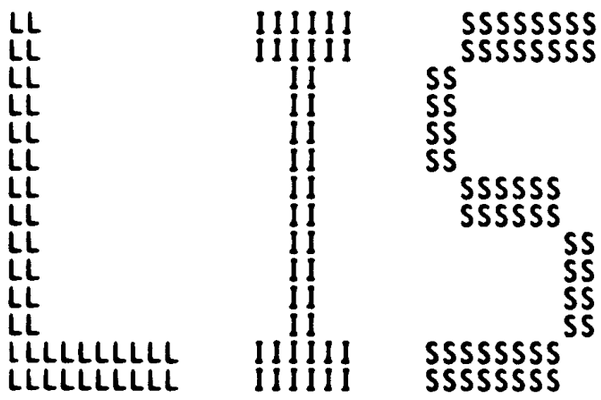

MMM MMM TTTTTTTTTTTTTTT AAAAAAAAA AAAAAAAAA CCCCCCCCCCCC PPPPPPPPPPPP
MMM MMM TTTTTTTTTTTTTTT AAAAAAAAA AAAAAAAAA CCCCCCCCCCCC PPPPPPPPPPPP
MMM MMM TTTTTTTTTTTTTTT AAAAAAAAA AAAAAAAAA CCCCCCCCCCCC PPPPPPPPPPPP
MMMMMM MMMMMM TTT AAA AAA AAA AAA CCC PPP PPP
MMMMMM MMMMMM TTT AAA AAA AAA AAA CCC PPP PPP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

FILEID**COMLABPRC N 2





```
;     1          0001  0 MODULE COMLABPROC (LANGUAGE (BLISS32) ,
;     2          0002  0                     IDENT = 'V04-000'
;     3          0003  0                     ) =
;     4          0004  1 BEGIN
;     5          0005  1 !
;     6          0006  1 !**************************************************************************
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;    25          0025  1 !*                                                                        *
;    26          0026  1 !*                                                                        *
;    27          0027  1 !**************************************************************************
;    28          0028  1
;    29          0029  1 !++
;    30          0030  1 !
;    31          0031  1 ! FACILITY: INITIALIZE, MOUNT, MTAACP
;    32          0032  1 !
;    33          0033  1 ! ABSTRACT:
;    34          0034  1 !       This module contains routines that are shared amoung the
;    35          0035  1 !       MOUNT, INIT, and MTAACP. These routines deal with the
;    36          0036  1 !       processing of the various labels that the MTAACP supports.
;    37          0037  1 !
;    38          0038  1 !
;    39          0039  1 ! ENVIRONMENT:
;    40          0040  1 !
;    41          0041  1 !       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 !
;    48          0048  1 ! AUTHOR:  Meg Dumont,                    CREATION DATE:  21-Feb-1983
;    49          0049  1 !
;    50          0050  1 ! MODIFIED BY:
;    51          0051  1 !
;    52          0052  1 !       V03-005 HH0041          Hai Huang       24-Jul-1984
;    53          0053  1 !               Remove REQUIRE 'LIBD$:[VMSLIB.OBJ]MOUNTMSG.B32'.
;    54          0054  1 !
;    55          0055  1 !       V03-004 MMD0272         Meg Dumont,     23-Mar-1984  9:41
;    56          0056  1 !               Add the common routine GET_RECORD part of support for $MTACCESS
;    57          0057  1 !
```

```
;    58          0058  1 !       V03-003 MMD0175         Meg Dumont,     26-May-1983  15:10
;    59          0059  1 !               Change VOL1 to indicate ANSI level 4 when writing system
;    60          0060  1 !               code in VOL1
;    61          0061  1 !
;    62          0062  1 !       V03-002 MMD0137         Meg Dumont,     12-Apr-1983  17:30
;    63          0063  1 !               In TAPE_OWNER_PROT, added a check for a nonVMS nonblank
;    64          0064  1 !               VOL1 OWNER IDENTIFIER field.
;    65          0065  1 !
;    66          0066  1 !       V03-001 MMD0122         Meg Dumont,     29-Mar-1983  0:46
;    67          0067  1 !               This module is does the common ANSI label processing for
;    68          0068  1 !               thE MTAACP, MOUNT and INIT.
;    69          0069  1 !
;    70          0070  1 !
;    71          0071  1 !**
;    72          0072  1
;    73          0073  1 LIBRARY 'SYS$LIBRARY:LIB.L32';
;    74          0074  1
;    75          0075  1 REQUIRE 'SRC$:MTADEF.B32';
;    76          0459  1
;    77          0460  1 REQUIRE 'LIBD$:[VMSLIB.OBJ]INITMSG.B32';
;    78          0592  1
;    79          0593  1 FORWARD ROUTINE
;    80          0594  1     GET_RECORD,                         ! routine to get record tape is reading
;    81          0595  1     CHECK_PROT,                         ! check VMS protection on tape
;    82          0596  1     FORMAT_VOLOWNER     : NOVALUE,      ! format the volume onwer field
;    83          0597  1     PROCESS_VOL2_LABEL,                 ! intepret the VOL2 label
;    84          0598  1     TAPE_OWN_PROT;                      ! determine the VMS owner and
;    85          0599  1                                         ! protection of a tape
;    86          0600  1     EXTERNAL ROUTINE
;    87          0601  1         LIB$CVT_OTB     : ADDRESSING_MODE (GENERAL);
;    88          0602  1
;    89          0603  1
```

```
;    91          0604  1 GLOBAL ROUTINE GET_RECORD(UCB) =
;    92          0605  1
;    93          0606  1 !++
;    94          0607  1 !
;    95          0608  1 ! FUNCTIONAL DESCRIPTION:
;    96          0609  1 !       This routine is called before and after the call to $MTACCESS to return
;    97          0610  1 !       the record that the tape drive is currently processing
;    98          0611  1 !
;    99          0612  1 ! CALLING SEQUENCE:
;   100          0613  1 !       KERNEL_CALL (GET_RECORD, ARG1)
;   101          0614  1 !
;   102          0615  1 ! INPUT PARAMETERS:
;   103          0616  1 !       ARG1 -  Address of tapes UCB
;   104          0617  1 !
;   105          0618  1 ! IMPLICIT INPUTS:
;   106          0619  1 !       NONE
;   107          0620  1 !
;   108          0621  1 ! OUTPUT PARAMETERS:
;   109          0622  1 !       NONE
;   110          0623  1 !
;   111          0624  1 ! IMPLICIT OUTPUTS:                                                              ;
;   112          0625  1 !
;   113          0626  1 ! ROUTINE VALUE:
;   114          0627  1 !       Current record the tape drive is processing.                            ;
;   115          0628  1 !
;   116          0629  1 ! SIDE EFFECTS:
;   117          0630  1 !       NONE
;   118          0631  1 !
;   119          0632  1 ! USER ERRORS:
;   120          0633  1 !       NONE
;   121          0634  1 !
;   122          0635  1 !--
;   123          0636  1
;   124          0637  2     BEGIN
;   125          0638  2         MAP UCB : REF BBLOCK;
;   126          0639  2         RETURN .UCB[UCB$L_RECORD];
;   127          0640  1     END;

                                                                .TITLE  COMLABPROC
                                                                .IDENT  \V04-000\

                                                                .EXTRN  LIB$CVT_OTB

                                                                .PSECT  $CODE$,NOWRT,2

                                                0000 00000      .ENTRY  GET_RECORD, Save nothing        ; 0604
                                    50      04  AC   D0 00002  MOVL    UCB, R0                         ; 0639
                                    50  00B0    C0   D0 00006  MOVL    176(R0), R0                     ;
                                                04   0000B     RET                                     ; 0640

; Routine Size:  12 bytes,    Routine Base:  $CODE$ + 0000

;   128          0641  1
;   129          0642  1 GLOBAL ROUTINE TAPE_OWN_PROT ( VOLUIC, VOLUME_PROT : REF BITVECTOR[%BPVAL],
;   130          0643  1                                PROCESS_UIC, VOL1 ) =
```

```
;  131          0644  1
;  132          0645  1 !++
;  133          0646  1 !
;  134          0647  1 ! FUNCTIONAL DESCRIPTION:
;  135          0648  1 !       This routine determines the tape owner and protection of the volume.
;  136          0649  1 !       It uses the OWNER IDENTIFIER field of the VOL1 label. If this
;  137          0650  1 !       field contians a value that VMS does not interpret then, the
;  138          0651  1 !       user is required to have privlegdes to mount the tape. Unless
;  139          0652  1 !       that user is the VMS owner of the tape determined from the VOL2
;  140          0653  1 !       label.
;  141          0654  1 !
;  142          0655  1 ! CALLING SEQUENCE:
;  143          0656  1 !       TAPE_OWN_PROT ( ARG1, ARG2, ARG3, ARG4 )
;  144          0657  1 !
;  145          0658  1 ! INPUT PARAMETERS:
;  146          0659  1 !       ARG1 -  Address of area to store the volume uic
;  147          0660  1 !       ARG2 -  Address of area to store the volume protection
;  148          0661  1 !       ARG3 -  Process UIC
;  149          0662  1 !       ARG4 -  Address of ANSI VOL1 label
;  150          0663  1 !
;  151          0664  1 ! IMPLICIT INPUTS:
;  152          0665  1 !       NONE
;  153          0666  1 !
;  154          0667  1 ! OUTPUT PARAMETERS:
;  155          0668  1 !       NONE
;  156          0669  1 !
;  157          0670  1 ! IMPLICIT OUTPUTS:
;  158          0671  1 !       VOLUME_UIC - owning uic of tape
;  159          0672  1 !       VOLUME_PROT -  tape protection
;  160          0673  1 !
;  161          0674  1 ! ROUTINE VALUE:
;  162          0675  1 !       TRUE - Field was blank or was specied in VMS format
;  163          0676  1 !       FALSE - Field was not VMS format, but was pre ANSI Label Standard
;  164          0677  1 !               version 4 and the tape was created on another DEC operating
;  165          0678  1 !               system that is it has D% information.
;  166          0679  1 !
;  167          0680  1 ! SIDE EFFECTS:
;  168          0681  1 !       NONE
;  169          0682  1 !
;  170          0683  1 ! USER ERRORS:
;  171          0684  1 !       NONE
;  172          0685  1 !
;  173          0686  1 !--
;  174          0687  1
;  175          0688  2     BEGIN
;  176          0689  2
;  177          0690  2     BIND
;  178          0691  2         VOLUME_UIC = .VOLUIC;               ! Address of volume uic
;  179          0692  2
;  180          0693  2     MAP
;  181          0694  2         VOL1     : REF BBLOCK;              ! Address of VOL1 label
;  182          0695  2
;  183          0696  2     LOCAL
;  184          0697  2         CONV_BUF         : VECTOR [6, BYTE], ! buffer used for converting UIC
;  185          0698  2         VALUE,                               ! used to hold parital UIC's
;  186          0699  2         P;                                   ! ptr into VOL1 tape owner field
;  187          0700  2
```

```
;  188          0701  2      ! bit numbers for different protections
;  189          0702  2      !
;  190          0703  2      LITERAL
;  191          0704  2          WORLD_WRITE = 13,
;  192          0705  2          WORLD_READ  = 12,
;  193          0706  2          GROUP_WRITE = 9,
;  194          0707  2          GROUP_READ  = 8;
;  195          0708  2
;  196          0709  2      ! If the LABEL STANDARD VERSION of the VOL1 label (CP 80) is a 4 then
;  197          0710  2      ! do not process the VOL1 OWNER IDENTIFIER field.
;  198          0711  2
;  199          0712  2      IF .VOL1[VL1$B_LBLSTDVER] EQL '4'
;  200          0713  2          THEN RETURN TRUE;
;  201          0714  2
;  202          0715  2      ! if ANSI tape produced by VAX system, decode tape owner field
;  203          0716  2
;  204          0717  2      IF .(VOL1[VL1$T_VOLOWNER])<0, 24> EQL 'D%C'
;  205          0718  2        THEN
;  206          0719  3          BEGIN
;  207          0720  3
;  208          0721  3          ! set up the pointer to begining of tape owner field
;  209          0722  3
;  210          0723  3          P = VOL1[VL1$T_VOLOWNER] + 3;
;  211          0724  3
;  212          0725  3          ! test for encoding
;  213          0726  3
;  214          0727  3          IF .(.P)<0, 8> NEQ ' '
;  215          0728  3          THEN
;  216          0729  4              BEGIN
;  217          0730  4
;  218          0731  4              ! move the UIC group field from the VOL1 label to the buffer
;  219          0732  4
;  220          0733  4              CH$MOVE(5, .P, CONV_BUF);
;  221          0734  4
;  222          0735  4              ! remove overlay encoding
;  223          0736  4
;  224          0737  4              IF .(.P)<0, 8> GEQ 'A'
;  225          0738  4              THEN CONV_BUF<0, 8> = .(.P)<0, 8> - ('A' - '0');
;  226          0739  4
;  227          0740  4              ! convert to ASCII to binary exit with failure not a VMS tape
;  228          0741  4
;  229          0742  4              IF NOT LIB$CVT_OTB(5, CONV_BUF, VALUE) THEN RETURN FALSE;
;  230          0743  4
;  231          0744  4              ! fill in the UIC group field
;  232          0745  4
;  233          0746  4              VOLUME_UIC<16, 16> = .VALUE<0, 16>;
;  234          0747  3              END;
;  235          0748  3
;  236          0749  3          ! point to UIC member field
;  237          0750  3
;  238          0751  3          P = .P + 5;
;  239          0752  3
;  240          0753  3          ! test for encoding
;  241          0754  3
;  242          0755  3          IF .(.P)<0, 8> NEQ ' '
;  243          0756  3          THEN
;  244          0757  4              BEGIN
```

```
;  245          0758  4
;  246          0759  4          ! move member number into convert buffer
;  247          0760  4
;  248          0761  4          CH$MOVE(5, .P, CONV_BUF);
;  249          0762  4
;  250          0763  4          ! remove overlay encoding
;  251          0764  4
;  252          0765  4          IF .(.P)<0, 8> GEQ 'A'
;  253          0766  4          THEN CONV_BUF<0, 8> = .(.P)<0, 8> - ('A' - '0');
;  254          0767  4
;  255          0768  4          ! convert to ASCII to binary exit when failure not a VAX tape
;  256          0769  4
;  257          0770  4          IF NOT LIB$CVT_OTB(5, CONV_BUF, VALUE)
;  258          0771  4          THEN
;  259          0772  5              BEGIN
;  260          0773  5
;  261          0774  5              ! patch up UIC before returning
;  262          0775  5
;  263          0776  5              VOLUME_UIC = .PROCESS_UIC;
;  264          0777  5              RETURN FALSE;
;  265          0778  4              END;
;  266          0779  4
;  267          0780  4          ! fill in the UIC member field
;  268          0781  4
;  269          0782  4          VOLUME_UIC <0, 16> = .VALUE<0, 16>;
;  270          0783  3          END;
;  271          0784  3
;  272          0785  3      ! Now tape_prot must be decoded if both group and member are blank then
;  273          0786  3      ! all privileges granted
;  274          0787  3      !
;  275          0788  3      ! pointer to group uic
;  276          0789  3
;  277          0790  3      P = .P - 5;
;  278          0791  3
;  279          0792  3      ! if field is not blank, then there is a protection mask
;  280          0793  3
;  281          0794  3      IF NOT CH$FAIL(CH$FIND_NOT_CH(10, .P, ' '))
;  282          0795  3      THEN
;  283          0796  4          BEGIN
;  284          0797  4
;  285          0798  4          ! any mask means no world write
;  286          0799  4
;  287          0800  4          VOLUME_PROT[WORLD_WRITE] = 1;
;  288          0801  4
;  289          0802  4          ! if the 1st char is a digit then no world access
;  290          0803  4
;  291          0804  4          IF .(.P)<0, 8> LSS 'A'
;  292          0805  4          THEN VOLUME_PROT[WORLD_READ] = 1;
;  293          0806  4
;  294          0807  4          ! pointer to member field
;  295          0808  4
;  296          0809  4          P = .P + 5;
;  297          0810  4
;  298          0811  4          ! test for group rights.  all spaces means both read and write
;  299          0812  4
;  300          0813  4          IF NOT CH$FAIL(CH$FIND_NOT_CH(5, .P, ' '))
;  301          0814  4          THEN
```

```
;  302          0815  5                BEGIN
;  303          0816  5
;  304          0817  5                ! write protection against group if non-blank
;  305          0818  5
;  306          0819  5                VOLUME_PROT[GROUP_WRITE] = 1;
;  307          0820  5
;  308          0821  5                ! if the 1st char is a digit then no group access
;  309          0822  5
;  310          0823  5                IF .(.P)<0, 8> LSS 'A'
;  311          0824  5                THEN VOLUME_PROT[GROUP_READ] = 1;
;  312          0825  5
;  313          0826  4                END;
;  314          0827  4
;  315          0828  3            END;
;  316          0829  3
;  317          0830  3        END
;  318          0831  3
;  319          0832  3        ! If there is no VMS protection but was pre ANSI Label Standard
;  320          0833  3        ! version 4 and the tape was created on another DEC operating
;  321          0834  3        ! system that is it has D% information. Then require priviledges
;  322          0835  3        ! to mount the tape.
;  323          0836  3
;  324          0837  2        ELSE
;  325          0838  3        BEGIN
;  326          0839  3            IF .(VOL1[VL1$T_VOLOWNER])<0,16> NEQ 'D%'
;  327          0840  3                THEN RETURN TRUE
;  328          0841  3                ELSE RETURN FALSE;
;  329          0842  2        END;
;  330          0843  2
;  331          0844  2    RETURN TRUE;
;  332          0845  1    END;                                    ! end of routine TAPE_OWN_PRO


                                    00FC 00000          .ENTRY  TAPE_OWN_PROT, Save R2,R3,R4,R5,R6,R7       ; 0642
                            57 00000000G  00  9E 00002  MOVAB   LIB$CVT_OTB, R7                             ;
                               5E         0C  C2 00009  SUBL2   #12, SP                                     ;
                               50     10  AC  D0 0000C  MOVL    VOL1, R0                                    ; 0712
                               34     4F  A0  91 00010  CMPB    79(R0), #52                                 ;
                                          78  13 00014  BEQL    9$                                          ;
00432544    8F     25    A0             18  00  ED 00016  CMPZV   #0, #24, 37(R0), #4400452                 ; 0717
                                          03  13 00020  BEQL    1$                                          ;
                                    00A0  31 00022  BRW     12$                                         ;
                               56     28  A0  9E 00025  1$:   MOVAB   40(R0), P                           ; 0723
                               20         66  91 00029  CMPB    (P), #32                                    ; 0727
                                          23  13 0002C  BEQL    3$                                          ;
                        04     AE     66      05  28 0002E  MOVC3   #5, (P), CONV_BUF                       ; 0733
                                  41   8F      66  91 00033  CMPB    (P), #65                                ; 0737
                                          05  1F 00037  BLSSU   2$                                          ;
                        04     AE     66      11  83 00039  SUBB3   #17, (P), CONV_BUF                      ; 0738
                                          5E  DD 0003E  2$:   PUSHL   SP                                      ; 0742
                               08     AE  9F 00040  PUSHAB  CONV_BUF                                        ;
                                          05  DD 00043  PUSHL   #5                                           ;
                               67         03  FB 00045  CALLS   #3, LIB$CVT_OTB                            ;
                               30         50  E9 00048  BLBC    R0, 5$                                      ;
```

```
 04   BC          10        10      6E  F0 0004B        INSV    VALUE, #16, #16, @VOLUIC           ; 0746
                            56      05  C0 00051 3$:    ADDL2   #5, P                              ; 0751
                            20      66  91 00054        CMPB    (P), #32                           ; 0755
                                    28  13 00057        BEQL    7$
            04    AE        66      05  28 00059        MOVC3   #5, (P), CONV_BUF                  ; 0761
                     41     8F      66  91 0005E        CMPB    (P), #65                           ; 0765
                                    05  1F 00062        BLSSU   4$
            04    AE        66      11  83 00064        SUBB3   #17, (P), CONV_BUF                 ; 0766
                                    5E  DD 00069 4$:    PUSHL   SP                                 ; 0770
                               08   AE  9F 0006B        PUSHAB  CONV_BUF
                                    05  DD 0006E        PUSHL   #5
                            67      03  FB 00070        CALLS   #3, LIB$CVT_OTB
                            07      50  E8 00073        BLBS    R0, 6$
                     04     BC   0C AC  D0 00076        MOVL    PROCESS_UIC, @VOLUIC               ; 0776
                                    54  11 0007B 5$:    BRB     14$                                ; 0777
                     04     BC      6E  B0 0007D 6$:    MOVW    VALUE, @VOLUIC                     ; 0782
                            56      04  C2 00081 7$:    SUBL2   #4, P                              ; 0790
                  76        0A      20  3B 00084        SKPC    #32, #10, -(P)                     ; 0794
                                    02  12 00088        BNEQ    8$
                                    51  D4 0008A        CLRL    R1
                                    51  D5 0008C 8$:    TSTL    R1
                                    3D  13 0008E 9$:    BEQL    13$
                     08     BC 2000 8F  A8 00090        BISW2   #8192, @VOLUME_PROT                ; 0800
                     41     8F      66  91 00096        CMPB    (P), #65                           ; 0804
                                    06  1E 0009A        BGEQU   10$
                     08     BC 1000 8F  A8 0009C        BISW2   #4096, @VOLUME_PROT                ; 0805
                            56      05  C0 000A2 10$:   ADDL2   #5, P                              ; 0809
                  66        05      20  3B 000A5        SKPC    #32, #5, (P)                       ; 0813
                                    02  12 000A9        BNEQ    11$
                                    51  D4 000AB        CLRL    R1
                                    51  D5 000AD 11$:   TSTL    R1
                                    1C  13 000AF        BEQL    13$
                     08     BC 0200 8F  A8 000B1        BISW2   #512, @VOLUME_PROT                 ; 0819
                     41     8F      66  91 000B7        CMPB    (P), #65                           ; 0823
                                    10  1E 000BB        BGEQU   13$
                     08     BC 0100 8F  A8 000BD        BISW2   #256, @VOLUME_PROT                 ; 0824
                                    08  11 000C3        BRB     13$                                ; 0717
                   2544     8F   25 A0  B1 000C5 12$:   CMPW    37(R0), #9540                      ; 0839
                                    04  13 000CB        BEQL    14$
                            50      01  D0 000CD 13$:   MOVL    #1, R0                             ; 0844
                                        04 000D0        RET
                                    50  D4 000D1 14$:   CLRL    R0                                 ; 0845
                                        04 000D3        RET

; Routine Size:  212 bytes,    Routine Base:  $CODE$ + 000C

;  333         0846  1
```

```
;  335          0847  1 GLOBAL ROUTINE PROCESS_VOL2_LABEL ( VOLUIC, VOLUME_PROT : REF BITVECTOR[%BPVAL],
;  336          0848  1                                     PROCESS_UIC, VOL2 ) =
;  337          0849  1
;  338          0850  1 !++
;  339          0851  1 !
;  340          0852  1 ! FUNCTIONAL DESCRIPTION:
;  341          0853  1 !       This routine determines the tape_owner and protection of the volume.
;  342          0854  1 !       It uses the VOL2 label to intepret the VMS specified/formatted
;  343          0855  1 !       prctection of this volume. This protection used to exist in the
;  344          0856  1 !       OWNER IDENTIFIER field of the VOL1 label. We have moved it into
;  345          0857  1 !       this label because of changes which will be adopted in the
;  346          0858  1 !       upcoming (version 4) ANSI MAGNETIC TAPE STANDARD
;  347          0859  1 !
;  348          0860  1 ! CALLING SEQUENCE:
;  349          0861  1 !       PROCESS_VOL2_LABEL ( ARG1, ARG2, ARG3, ARG4 )
;  350          0862  1 !
;  351          0863  1 ! INPUT PARAMETERS:
;  352          0864  1 !       ARG1 -  Address of area to store the volume uic
;  353          0865  1 !       ARG2 -  Address of area to store the volume protection
;  354          0866  1 !       ARG3 -  Process UIC
;  355          0867  1 !       ARG4 -  Address of ANSI VOL1 label
;  356          0868  1 !
;  357          0869  1 ! IMPLICIT INPUTS:
;  358          0870  1 !       NONE
;  359          0871  1 !
;  360          0872  1 ! OUTPUT PAPAMETERS:
;  361          0873  1 !       NONE
;  362          0874  1 !
;  363          0875  1 ! IMPLICIT OUTPUTS:
;  364          0876  1 !       VOLUME_UIC - owning uic of tape
;  365          0877  1 !       VOLUME_PROT -  tape protection
;  366          0878  1 !
;  367          0879  1 ! ROUTINE VALUE:
;  368          0880  1 !       TRUE - field was blank or was specied in VMS format
;  369          0881  1 !       FALSE - field was non-blank and not VMS format
;  370          0882  1 !
;  371          0883  1 ! SIDE EFFECTS:
;  372          0884  1 !       NONE
;  373          0885  1 !
;  374          0886  1 ! USER ERRORS:
;  375          0887  1 !       NONE
;  376          0888  1 !
;  377          0889  1 !--
;  378          0890  1
;  379          0891  2     BEGIN
;  380          0892  2
;  381          0893  2     BIND
;  382          0894  2         VOLUME_UIC = .VOLUIC;               ! Address of volume uic
;  383          0895  2
;  384          0896  2     MAP
;  385          0897  2         VOL2    : REF BBLOCK;               ! Address of VOL2 label
;  386          0898  2
;  387          0899  2     LOCAL
;  388          0900  2         CONV_BUF        : VECTOR [6, BYTE], ! buffer used for converting UIC
;  389          0901  2         VALUE,                              ! used to hold parital UIC's
;  390          0902  2         P;                                  ! ptr into VOL2 owner field
;  391          0903  2
```

```
;  392          0904  2      ! bit numbers for different protections
;  393          0905  2      !
;  394          0906  2      LITERAL
;  395          0907  2          WORLD_WRITE = 13,
;  396          0908  2          WORLD_READ  = 12,
;  397          0909  2          GROUP_WRITE = 9,
;  398          0910  2          GPOUP_READ  = 8;
;  399          0911  2
;  400          0912  2      ! if ANSI tape produced by VAX system, decode tape owner field
;  401          0913  2
;  402          0914  2      IF .(VOL2[VL2$T_VOLOWNER])<0, 24> EQL 'D%C'
;  403          0915  2        THEN
;  404          0916  3          BEGIN
;  405          0917  3
;  406          0918  3          ! set up the pointer to begining of tape owner field
;  407          0919  3
;  408          0920  3          P = VOL2[VL2$T_VOLOWNER] + 3;
;  409          0921  3
;  410          0922  3          ! test for encoding
;  411          0923  3
;  412          0924  3          IF .(.P)<0, 8> NEQ ' '
;  413          0925  3          THEN
;  414          0926  4              BEGIN
;  415          0927  4
;  416          0928  4              ! move the UIC group field from the VOL2 label to the buffer
;  417          0929  4
;  418          0930  4              CH$MOVE(6, .P, CONV_BUF);
;  419          0931  4
;  420          0932  4              ! remove overlay encoding
;  421          0933  4
;  422          0934  4              IF .(.P)<0, 8> GEQ 'A'
;  423          0935  4              THEN CONV_BUF<0, 8> = .(.P)<0, 8> - ('A' - '0');
;  424          0936  4
;  425          0937  4              ! convert to ASCII to binary exit with failure not a VMS tape
;  426          0938  4
;  427          0939  4              IF NOT LIB$CVT_OTB(6, CONV_BUF, VALUE) THEN RETURN FALSE;
;  428          0940  4
;  429          0941  4              ! fill in the UIC group field
;  430          0942  4
;  431          0943  4              VOLUME_UIC<16, 16> = .VALUE<0, 16>;
;  432          0944  3              END;
;  433          0945  3
;  434          0946  3          ! point to UIC member field
;  435          0947  3
;  436          0948  3          P = .P + 6;
;  437          0949  3
;  438          0950  3          ! test for encoding
;  439          0951  3
;  440          0952  3          IF .(.P)<0, 8> NEQ ' '
;  441          0953  3          THEN
;  442          0954  4              BEGIN
;  443          0955  4
;  444          0956  4              ! move member number into convert buffer
;  445          0957  4
;  446          0958  4              CH$MOVE(6, .P, CONV_BUF);
;  447          0959  4
;  448          0960  4              ! remove overlay encoding
```

```
;  449          0961  4
;  450          0962  4          IF .(.P)<0, 8> GEQ 'A'
;  451          0963  4          THEN CONV_BUF<0, 8> = .(.P)<0, 8> - ('A' - '0');
;  452          0964  4
;  453          0965  4          ! convert to ASCII to binary exit when failure not a VAX tape
;  454          0966  4
;  455          0967  4          IF NOT LIB$CVT_OTB(6, CONV_BUF, VALUE)
;  456          0968  4          THEN
;  457          0969  5              BEGIN
;  458          0970  5
;  459          0971  5              ! patch up UIC before returning
;  460          0972  5
;  461          0973  5              VOLUME_UIC = .PROCESS_UIC;
;  462          0974  5              RETURN FALSE;
;  463          0975  4              END;
;  464          0976  4
;  465          0977  4          ! fill in the UIC member field
;  466          0978  4
;  467          0979  4          VOLUME_UIC <0, 16> = .VALUE<0, 16>;
;  468          0980  3          END;
;  469          0981  3
;  470          0982  3      ! Now tape_prot must be decoded if both group and member are blank then
;  471          0983  3      ! all privileges granted
;  472          0984  3      !
;  473          0985  3      ! pointer to group uic
;  474          0986  3
;  475          0987  3      P = .P - 6;
;  476          0988  3
;  477          0989  3      ! if field is not blank, then there is a protection mask
;  478          0990  3
;  479          0991  3      IF NOT CH$FAIL(CH$FIND_NOT_CH(12, .P, ' '))
;  480          0992  3      THEN
;  481          0993  4          BEGIN
;  482          0994  4
;  483          0995  4          ! any mask means no world write
;  484          0996  4
;  485          0997  4          VOLUME_PROT[WORLD_WRITE] = 1;
;  486          0998  4
;  487          0999  4          ! if the 1st char is a digit then no world access
;  488          1000  4
;  489          1001  4          IF .(.P)<0, 8> LSS 'A'
;  490          1002  4          THEN VOLUME_PROT[WORLD_READ] = 1;
;  491          1003  4
;  492          1004  4          ! pointer to member field
;  493          1005  4
;  494          1006  4          P = .P + 6;
;  495          1007  4
;  496          1008  4          ! test for group rights.  all spaces means both read and write
;  497          1009  4
;  498          1010  4          IF NOT CH$FAIL(CH$FIND_NOT_CH(6, .P, ' '))
;  499          1011  4          THEN
;  500          1012  5              BEGIN
;  501          1013  5
;  502          1014  5              ! write protection against group if non-blank
;  503          1015  5
;  504          1016  5              VOLUME_PROT[GROUP_WRITE] = 1;
;  505          1017  5
```

```
;  506          1018  5                ! if the 1st char is a digit then no group access
;  507          1019  5
;  508          1020  5                IF .(.P)<0, 8> LSS 'A'
;  509          1021  5                THEN VOLUME_PROT[GROUP_READ] = 1;
;  510          1022  5
;  511          1023  4                END;
;  512          1024  4
;  513          1025  3            END;
;  514          1026  3
;  515          1027  2        END;
;  516          1028  2
;  517          1029  2    RETURN TRUE;
;  518          1030  1    END;                                    ! end of routine TAPE_OWN_PRO


                                                00FC 00000          .ENTRY  PROCESS_VOL2_LABEL, Save R2,R3,R4,R5,R6,R7 ; 0847
                                    57 00000000G  00  9E 00002      MOVAB   LIB$CVT_OTB, R7                            ;
                                    5E            0C  C2 00009      SUBL2   #12, SP                                    ;
                                    56       10   AC  D0 0000C      MOVL    VOL2, R6                                   ; 0914
00432544  8F       04   A6          18            00  ED 00010      CMPZV   #0, #24, 4(R6), #4400452                   ;
                                                   03  13 0001A      BEQL    1$                                         ;
                                                009D   31 0001C      BRW     10$                                        ;
                                    56             07  C0 0001F 1$:  ADDL2   #7, P                                     ; 0920
                                    20             66  91 00022      CMPB    (P), #32                                   ; 0924
                                                   23  13 00025      BEQL    3$                                         ;
                                         04   AE    66             06  28 00027      MOVC3   #6, (P), CONV_BUF          ; 0930
                                              41   8F             66  91 0002C      CMPB    (P), #65                   ; 0934
                                                   05  1F 00030      BLSSU   2$                                         ;
                                         04   AE    66             11  83 00032      SUBB3   #17, (P), CONV_BUF         ; 0935
                                                   5E  DD 00037 2$:  PUSHL   SP                                        ; 0939
                                              08   AE             9F  00039      PUSHAB  CONV_BUF                   ;
                                                   06  DD 0003C      PUSHL   #6                                         ;
                                    67             03  FB 0003E      CALLS   #3, LIB$CVT_OTB                            ;
                                    7C             50  E9 00041      BLBC    R0, 11$                                    ;
04   BC             10             10             6E  F0 00044      INSV    VALUE, #16, #16, @VOLUIC                   ; 0943
                                    56             06  C0 0004A 3$:  ADDL2   #6, P                                     ; 0948
                                    20             66  91 0004D      CMPB    (P), #32                                   ; 0952
                                                   28  13 00050      BEQL    6$                                         ;
                                         04   AE    66             06  28 00052      MOVC3   #6, (P), CONV_BUF          ; 0958
                                              41   8F             66  91 00057      CMPB    (P), #65                   ; 0962
                                                   05  1F 0005B      BLSSU   4$                                         ;
                                         04   AE    66             11  83 0005D      SUBB3   #17, (P), CONV_BUF         ; 0963
                                                   5E  DD 00062 4$:  PUSHL   SP                                        ; 0967
                                              08   AE             9F  00064      PUSHAB  CONV_BUF                   ;
                                                   06  DD 00067      PUSHL   #6                                         ;
                                    67             03  FB 00069      CALLS   #3, LIB$CVT_OTB                            ;
                                    07             50  E8 0006C      BLBS    R0, 5$                                     ;
                                              04   BC        0C     AC  D0 0006F      MOVL    PROCESS_UIC, @VOLUIC       ; 0973
                                                   4A  11 00074      BRB     11$                                        ; 0974
                                              04   BC             6E  B0 00076 5$:  MOVW    VALUE, @VOLUIC             ; 0979
                                    56             05  C2 0007A 6$:  SUBL2   #5, P                                     ; 0987
                                         76        0C             20  3B 0007D      SKPC    #32, #12, -(P)             ; 0991
                                                   02  12 00081      BNEQ    7$                                         ;
                                                   51  D4 00083      CLRL    R1                                         ;
```

```
                                                 51  D5 00085 7$:    TSTL    R1                                      ;
                                                 33  13 00087        BEQL    10$                                     ;
                        08  BC      2000        8F  A8 00089        BISW2   #8192, @VOLUME_PROT                    ; 0997
                        41  8F                  66  91 0008F        CMPB    (P), #65                                ; 1001
                                                 06  1E 00093        BGEQU   8$                                      ;
                        08  BC      1000        8F  A8 00095        BISW2   #4096, @VOLUME_PROT                    ; 1002
                            56                  06  C0 0009B 8$:    ADDL2   #6, P                                   ; 1006
                66          06                  20  3B 0009E        SKPC    #32, #6, (P)                            ; 1010
                                                02  12 000A2        BNEQ    9$                                      ;
                                                51  D4 000A4        CLRL    R1                                      ;
                                                51  D5 000A6 9$:    TSTL    R1                                      ;
                                                12  13 000A8        BEQL    10$                                     ;
                        08  BC      0200        8F  A8 000AA        BISW2   #512, @VOLUME_PROT                     ; 1016
                        41  8F                  66  91 000B0        CMPB    (P), #65                                ; 1020
                                                06  1E 000B4        BGEQU   10$                                     ;
                        08  BC      0100        8F  A8 000B6        BISW2   #256, @VOLUME_PROT                     ; 1021
                            50                  01  D0 000BC 10$:    MOVL    #1, R0                                  ; 1029
                                                    04 000BF        RET                                             ;
                                                50  D4 000C0 11$:    CLRL    R0                                      ; 1030
                                                    04 000C2        RET                                             ;

; Routine Size:  195 bytes,    Routine Base:  $CODE$ + 00E0
```

```
;  520          1031  1 GLOBAL ROUTINE CHECK_PROT(VOL_PROT,VOL_UIC, PROCUIC,WRT_RING) =
;  521          1032  1
;  522          1033  1 !++
;  523          1034  1 !
;  524          1035  1 ! FUNCTIONAL DESCRIPTION:
;  525          1036  1 !       this routine check VMS volume protection
;  526          1037  1 !
;  527          1038  1 ! CALLING SEQUENCE:
;  528          1039  1 !       CHECK_PROT(ARG1,ARG2,ARG3,ARG4)
;  529          1040  1 !
;  530          1041  1 ! INPUT PARAMETERS:
;  531          1042  1 !       ARG1 - volume protection
;  532          1043  1 !       ARG2 - volume owner UIC
;  533          1044  1 !       ARG3 - Process UIC
;  534          1045  1 !       ARG4 - Write ring status
;  535          1046  1 !
;  536          1047  1 ! IMPLICIT INPUTS:
;  537          1048  1 !       NONE
;  538          1049  1 !
;  539          1050  1 ! OUTPUT PARAMETERS:
;  540          1051  1 !       NONE
;  541          1052  1 !
;  542          1053  1 ! IMPLICIT OUTPUTS:
;  543          1054  1 !       NONE
;  544          1055  1 !
;  545          1056  1 ! ROUTINE VALUE:
;  546          1057  1 !       TRUE  - if passes protection
;  547          1058  1 !       FALSE - if does not pass protection
;  548          1059  1 !
;  549          1060  1 ! SIDE EFFECTS:
;  550          1061  1 !       NONE
;  551          1062  1 !
;  552          1063  1 ! USER ERRORS:
;  553          1064  1 !       NONE
;  554          1065  1 !
;  555          1066  1 !--
;  556          1067  1
;  557          1068  2     BEGIN
;  558          1069  2
;  559          1070  2     LOCAL
;  560          1071  2         PROCESS_UIC     : VECTOR [ 2, WORD ],   ! the process UIC
;  561          1072  2         WRITE_RING      : BITVECTOR [ 1 ];      ! is this a write mount
;  562          1073  2
;  563          1074  2     MAP
;  564          1075  2         VOL_PROT        : REF BITVECTOR,
;  565          1076  2         VOL_UIC         : REF VECTOR [ 2, WORD ],
;  566          1077  2         WRT_RING        : BITVECTOR [ 1 ];      ! is this a write mount
;  567          1078  2
;  568          1079  2     EXTERNAL
;  569          1080  2         EXE$GL_SYSUIC   : REF BBLOCK ADDRESSING_MODE ( ABSOLUTE );
;  570          1081  2
;  571          1082  2     LITERAL
;  572          1083  2         NOT_GROUP_READ  = 8,  ! the group read disable bit
;  573          1084  2         NOT_GROUP_WRITE = 9,  ! the group write disable bit
;  574          1085  2         NOT_WORLD_READ  = 12, ! the world read disable bit
;  575          1086  2         NOT_WORLD_WRITE = 13; ! the world write disable bit
;  576          1087  2
```

```
;  577          1088  2     ! get the process UIC
;  578          1089  2
;  579          1090  2     PROCESS_UIC <0,32> = .PROCUIC;
;  580          1091  2
;  581          1092  2     ! get the write protectio of teh tape
;  582          1093  2
;  583          1094  2     WRITE_RING [0] = NOT .WRT_RING [0];
;  584          1095  2
;  585          1096  2     !  check if the user has write access to the tape
;  586          1097  2
;  587          1098  2     IF ( .PROCESS_UIC [ 1 ] LEQ .EXE$GL_SYSUIC ) OR    ! the user's UIC has a
;  588          1099  2                                                        ! system group number
;  589          1100  2
;  590          1101  2        ( NOT .VOL_PROT [ NOT_WORLD_WRITE ] ) OR        ! the tape is world write
;  591          1102  2
;  592          1103  3        (( NOT .VOL_PROT [ NOT_WORLD_READ] ) AND        ! tape is world read and
;  593          1104  2         ( NOT .WRITE_RING [ 0 ]       )) OR           !  read only mount
;  594          1105  2
;  595          1106  3        (( .PROCESS_UIC [ 1 ] EQL .VOL_UIC [ 1 ] ) AND ! (tape's and user's
;  596          1107  4         (( NOT .VOL_PROT [ NOT_GROUP_WRITE ] ) OR     ! group match) and
;  597          1108  5          (( NOT .VOL_PROT [ NOT_GROUP_READ ] ) AND    ! ((tape is group write)
;  598          1109  4           ( NOT .WRITE_RING [ 0 ]             ))OR    ! or (tape is group read
;  599          1110  4                                                       !  and read only mount)
;  600          1111  3             ( .PROCESS_UIC [ 0 ] EQL .VOL_UIC [ 0 ] ))) ! or (member UIC match))
;  601          1112  3
;  602          1113  2        THEN RETURN TRUE;
;  603          1114  2
;  604          1115  3     IF (( .VOL_PROT [ NOT_WORLD_WRITE] ) AND           ! user does not have write
;  605          1116  2         ( NOT .VOL_PROT [ NOT_WORLD_READ])) OR         ! acess but does have read
;  606          1117  2
;  607          1118  3        (( .VOL_PROT [ NOT_GROUP_WRITE]) AND            ! or the same for group
;  608          1119  3         ( NOT .VOL_PROT [ NOT_GROUP_READ]))            ! they have read access
;  609          1120  3
;  610          1121  2          THEN                                          ! Then allow mount but
;  611          1122  3             BEGIN                                      ! set the tape write lock
;  612          1123  3             WRT_RING [ 0 ] = 0;
;  613          1124  3             RETURN TRUE;
;  614          1125  2             END;
;  615          1126  2
;  616          1127  2     !  user does not have needed priviledges return error
;  617          1128  2     !
;  618          1129  2     RETURN FALSE;
;  619          1130  2
;  620          1131  1     END;                                  ! end of Routine CHECK_PROT


                                                                .EXTRN  EXE$GL_SYSUIC

                                                    0000 00000  .ENTRY  CHECK_PROT, Save nothing                    ; 1031
                                                 0C AC   DD 00002  PUSHL  PROCUIC                                  ; 1090
                    50        10   AC         01    00   EF 00005  EXTZV  #0, #1, WRT_RING, R0                     ; 1094
                                         50         50   92 0000B  MCOMB  R0, R0                                   ;
                    51              01         00    50   F0 0000E  INSV   R0, #0, #1, WRITE_RING                  ;
00000000G           9F        02   AE         10    00   ED 00013  CMPZV  #0, #16, PROCESS_UIC+2, @#EXE$GL_SYSUIC  ; 1098
                                                    42   15 0001D  BLEQ   6$                                       ;
                              3D        04   BC         0D   E1 0001F  BBC    #13, @VOL_PROT, 6$                   ; 1101
```

```
                03      04  BC              0C  E0 00024          BBS     #12, @VOL_PROT, 1$              ; 1103
                                35          51  E9 00029          BLBC    WRITE_RING, 6$                  ; 1104
                                50      08  AC  D0 0002C 1$:      MOVL    VOL_UIC, R0                     ; 1106
                        02      A0      02  AE  B1 00030          CMPW    PROCESS_UIC+2, 2(R0)            ;
                                            12  12 00035          BNEQ    3$                              ;
                25      04  BC              09  E1 00037          BBC     #9, @VOL_PROT, 6$               ; 1107
                03      04  BC              08  E0 0003C          BBS     #8, @VOL_PROT, 2$               ; 1108
                                1D          51  E9 00041          BLBC    WRITE_RING, 6$                  ; 1109
                                60          6E  B1 00044 2$:      CMPW    PROCESS_UIC, (R0)               ; 1111
                                            18  13 00047          BEQL    6$                              ;
                05      04  BC              0D  E1 00049 3$:      BBC     #13, @VOL_PROT, 4$              ; 1115
                0A      04  BC              0C  E1 0004E          BBC     #12, @VOL_PROT, 5$              ; 1116
                0D      04  BC              09  E1 00053 4$:      BBC     #9, @VOL_PROT, 7$               ; 1118
                08      04  BC              08  E0 00058          BBS     #8, @VOL_PROT, 7$               ; 1119
                        10  AC              01  8A 0005D 5$:      BICB2   #1, WRT_RING                    ; 1123
                                50          01  D0 00061 6$:      MOVL    #1, R0                          ; 1124
                                                04 00064          RET                                     ;
                                            50  D4 00065 7$:      CLRL    R0                              ; 1129
                                                04 00067          RET                                     ; 1131

; Routine Size:  104 bytes,    Routine Base:  $CODE$ + 01A3

;  621          1132  1
```

```
;  623          1133  1 GLOBAL ROUTINE FORMAT_VOLOWNER(VOL_LABEL,OWNER,PROTECTION) : NOVALUE  =
;  624          1134  1
;  625          1135  1 !++
;  626          1136  1 !
;  627          1137  1 ! FUNCTIONAL DESCRIPTION:
;  628          1138  1 !       This routine formats the volume owner field in the VOL2 label
;  629          1139  1 !
;  630          1140  1 ! CALLING SEQUENCE:
;  631          1141  1 !       FORMAT_VOLOWNER(ARG1,ARG2,ARG3)
;  632          1142  1 !
;  633          1143  1 ! INPUT PARAMETERS:
;  634          1144  1 !       ARG1 - address of VOL2 label
;  635          1145  1 !       ARG2 - owner of tape
;  636          1146  1 !       ARG3 - tape protection
;  637          1147  1 !
;  638          1148  1 ! IMPLICIT INPUTS:
;  639          1149  1 !       D%C preinitialized
;  640          1150  1 !
;  641          1151  1 ! OUTPUT PARAMETERS:
;  642          1152  1 !       none
;  643          1153  1 !
;  644          1154  1 ! IMPLICIT OUTPUTS:
;  645          1155  1 !       none
;  646          1156  1 !
;  647          1157  1 ! ROUTINE VALUE.
;  648          1158  1 !       none
;  649          1159  1 !
;  650          1160  1 ! SIDE EFFECTS:
;  651          1161  1 !       none
;  652          1162  1 !
;  653          1163  1 ! USER ERRORS:
;  654          1164  1 !       none
;  655          1165  1 !
;  656          1166  1 !--
;  657          1167  1
;  658          1168  2 BEGIN
;  659          1169  2
;  660          1170  2 MAP
;  661          1171  2         VOL_LABEL       : REF BBLOCK,   ! address of VOL1 label
;  662          1172  2         PROTECTION      : BITVECTOR;    ! protection to be encoded on tape
;  663          1173  2
;  664          1174  2 LOCAL
;  665          1175  2         DESCR           : VECTOR [2],   ! descriptor
;  666          1176  2         P;                              ! pointer
;  667          1177  2
;  668          1178  2 LITERAL
;  669          1179  2         WORLD_WRITE = 13,
;  670          1180  2         WORLD_READ = 12,
;  671          1181  2         GROUP_WRITE = 9,
;  672          1182  2         GROUP_READ = 8;
;  673          1183  2
;  674          1184  2
;  675          1185  2 ! first convert binary owner to ASCII
;  676          1186  2 !
;  677          1187  2 DESCR[0] = 12;
;  678          1188  2 DESCR[1] = VOL_LABEL[VL2$T_VOLOWNER] + 3;
;  679        P 1189  2 $FAO(
```

```
;  680        P 1190  2          DESCRIPTOR('!6OW!6OW'), 0,
;  681        P 1191  2          DESCR[0],
;  682          1192  2          .OWNER<16,16>,.OWNER<0,16>);
;  683          1193  2
;  684          1194  2 ! now format protection
;  685          1195  2 !
;  686          1196  2 IF NOT .PROTECTION[GROUP_READ] OR NOT .PROTECTION[WORLD_READ] THEN
;  687          1197  3     BEGIN
;  688          1198  3     P = VOL_LABEL[VL2$T_VOLOWNER] + 9;
;  689          1199  3     (.P)<0,8> = .(.P)<0,8> + ('A' - '0');
;  690          1200  2     END;
;  691          1201  2
;  692          1202  2 ! now if group can also write, blank fill member field
;  693          1203  2 !
;  694          1204  2 IF NOT .PROTECTION[GROUP_WRITE] THEN CH$FILL(' ',6,VOL_LABEL[VL2$T_VOLOWNER] + 9);
;  695          1205  2
;  696          1206  2 IF NOT .PROTECTION[WORLD_READ] THEN
;  697          1207  3     BEGIN
;  698          1208  3     P = VOL_LABEL[VL2$T_VOLOWNER] + 3;
;  699          1209  3     (.P)<0,8> = .(.P)<0,8> + ('A' - '0');
;  700          1210  2     END;
;  701          1211  2
;  702          1212  2 IF NOT .PROTECTION[WORLD_WRITE] THEN CH$FILL(' ',12,VOL_LABEL[VL2$T_VOLOWNER] + 3);
;  703          1213  1 END;                                   !end of routine FORMAT_VOLOWNER


                        57  4F  36  21  57  4F  36  21  0020B P.AAB:  .ASCII  \!6OW!6OW\                          ;
                                                        00213        .BLKB   1
                                                00000008  00214 P.AAA:  .LONG   8                                  ;
                                                00000000' 00218        .ADDRESS P.AAB                             ;

                                                                       .EXTRN  SYS$FAO

                                                    00FC  00000        .ENTRY  FORMAT_VOLOWNER, Save R2,R3,R4,R5,R6,R7 ; 1133
                                5E                    04  C2  00002    SUBL2   #4, SP                              ;
                                                      0C  DD  00005    PUSHL   #12                                 ; 1187
                                57              04    AC  D0  00007    MOVL    VOL_LABEL, R7                       ; 1188
                             04 AE              07    A7  9E  0000B    MOVAB   7(R7), DESCR+4                      ;
                                7E              08    AC  3C  00010    MOVZWL  OWNER, -(SP)                        ; 1192
                                7E              0A    AC  3C  00014    MOVZWL  OWNER+2, -(SP)                      ;
                                                08    AE  9F  00018    PUSHAB  DESCR                               ;
                                                      7E  D4  0001B    CLRL    -(SP)                               ;
                                                D8    AF  9F  0001D    PUSHAB  P.AAA                               ;
                    00000000G                   00        05  FB  00020    CALLS   #5, SYS$FAO                         ;
                                                05    0D  AC  E9  00027    BLBC    PROTECTION+1, 1$                    ; 1196
                          07        0D          AC              04  E0  0002B    BBS     #4, PROTECTION+1, 2$        ;
                                                56    0D  A7  9E  00030 1$:  MOVAB   13(R7), P                   ; 1198
                                                66        11  80  00034    ADDB2   #17, (P)                    ; 1199
                          07        0D          AC              01  E0  00037 2$:  BBS     #1, PROTECTION+1, 3$        ; 1204
                06        20                    6E              00  2C  0003C    MOVC5   #0, (SP), #32, #6, 13(R7)   ;
                                                            0D  A7      00041
                          07        0D          AC              04  E0  00043 3$:  BBS     #4, PROTECTION+1, 4$        ; 1206
                                                56    07  A7  9E  00048    MOVAB   7(R7), P                    ; 1208
                                                66        11  80  0004C    ADDB2   #17, (P)                    ; 1209
                          07        0D          AC              05  E0  0004F 4$:  BBS     #5, PROTECTION+1, 5$        ; 1212
                0C        20                    6E              00  2C  00054    MOVC5   #0, (SP), #32, #12, 7(R7)   ;
```

```
                                 07   A7     00059
                                      04 0005B 5$:     RET                                                    ; 1213

; Routine Size:  92 bytes,    Routine Base:  $CODE$ + 021C

;  704          1214  1
;  705          1215  1 END
;  706          1216  0 ELUDOM




;                                   PSECT SUMMARY
;
;       Name                    Bytes                           Attributes
;
;  $CODE$                        632  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        13         0      1000          00:01.9




;                                       COMMAND QUALIFIERS

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

; Size:          615 code + 17 data bytes
; Run Time:        00:18.2
; Elapsed Time:    00:58.1
; Lines/CPU Min:    4017
; Lexemes/CPU-Min: 26593
; Memory Used:  128 pages
; Compilation Complete
```

FREEPG
LIS

DEACCS
LIS

FIND
LIS

DATECN
LIS

FRMOD1
LIS

CREATE
LIS

GETREQ
LIS

EXPIRE
LIS

CNTRL
LIS

FRMHDR
LIS

HEADER
LIS

COMLABPRC
LIS

ENDVOL
LIS

GETFIB
LIS