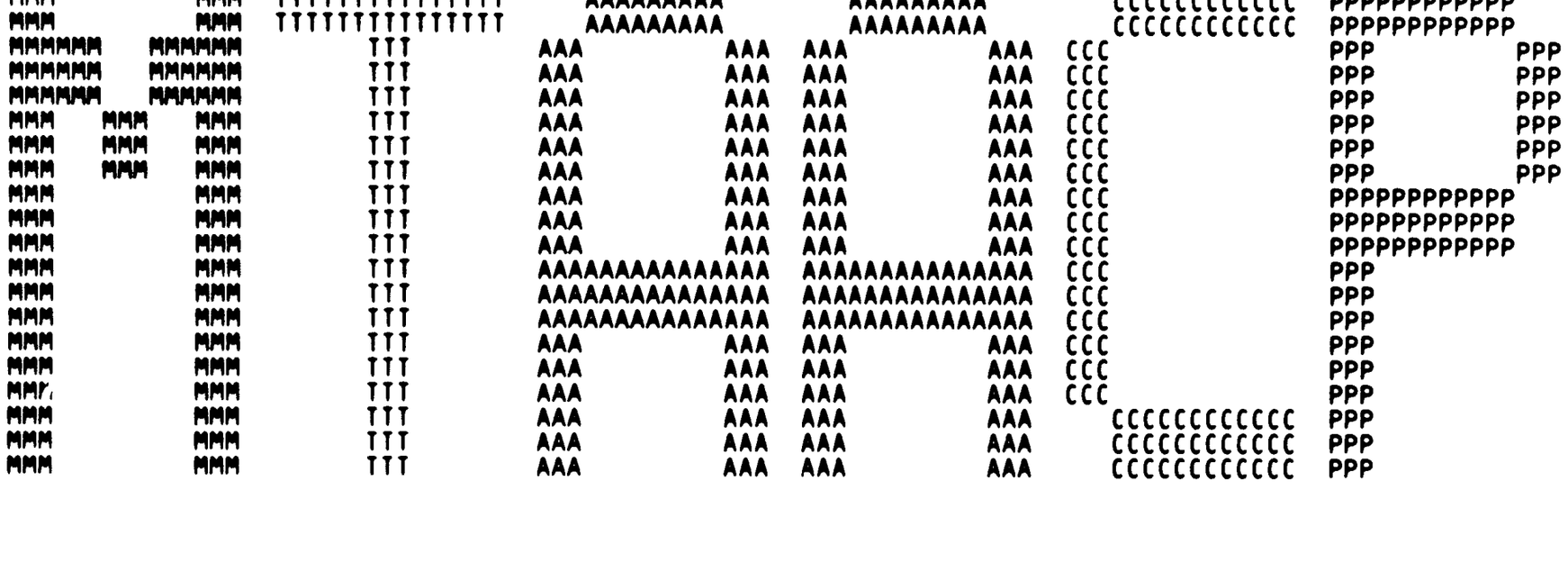
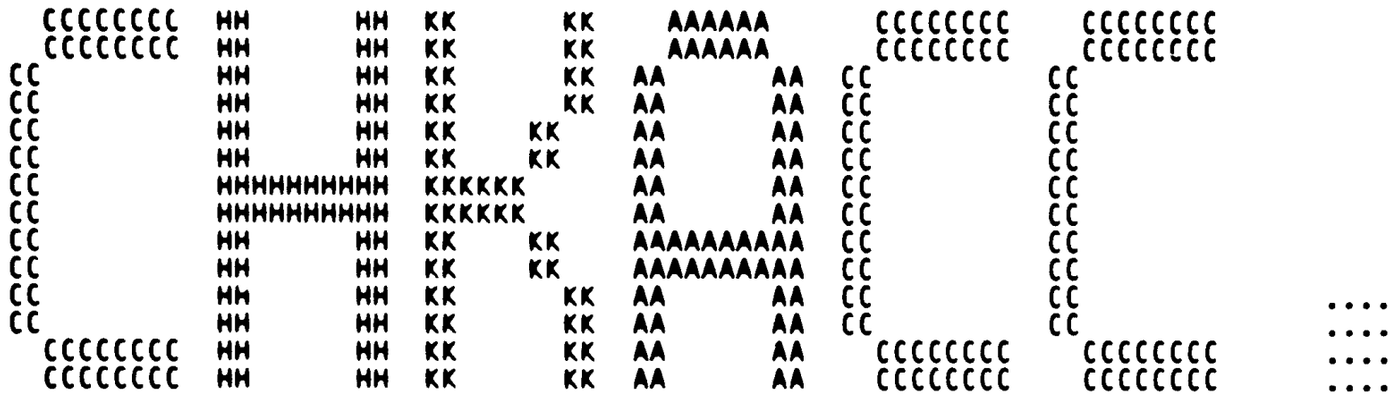
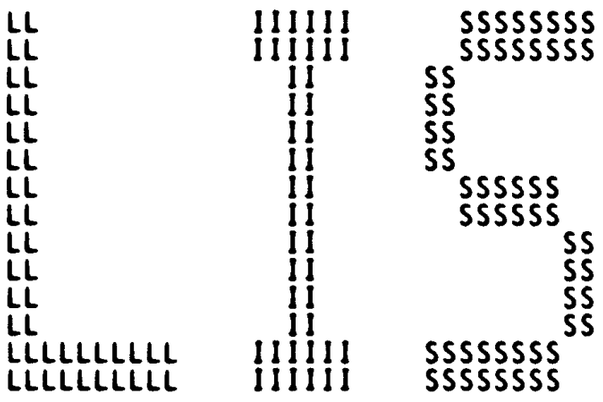

MMM MMM TTTTTTTTTTTTTTT AAAAAAAAA AAAAAAAAA CCCCCCCCCCCC PPPPPPPPPPPP
MMM MMM TTTTTTTTTTTTTTT AAAAAAAAA AAAAAAAAA CCCCCCCCCCCC PPPPPPPPPPPP
MMM MMM TTTTTTTTTTTTTTT AAAAAAAAA AAAAAAAAA CCCCCCCCCCCC PPPPPPPPPPPP
MMMMMM MMMMMM TTT AAA AAA AAA AAA CCC PPP PPP
MMMMMM MMMMMM TTT AAA AAA AAA AAA CCC PPP PPP
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**CHKACC





```
;     1          0001  0 MODULE CHKACC (LANGUAGE (BLISS32) ,
;     2          0002  0                  IDENT = 'V04-000'
;     3          0003  0                  ) =
;     4          0004  1 BEGIN
;     5          0005  1 !
;     6          0006  1 !**********************************************************************
;     7          0007  1 !*                                                                    *
;     8          0008  1 !*  COPYRIGHT (c) 1978, 1980, 1982, 1984 BY                          *
;     9          0009  1 !*  DIGITAL EQUIPMENT CORPORATION, MAYNARD, MASSACHUSETTS.           *
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;    14          0014  1 !*  INCLUSION OF THE ABOVE COPYRIGHT NOTICE. THIS SOFTWARE OR  ANY  OTHER   *
;    15          0015  1 !*  COPIES THEREOF MAY NOT BE PROVIDED OR OTHERWISE MADE AVAILABLE TO ANY   *
;    16          0016  1 !*  OTHER PERSON.  NO TITLE TO AND OWNERSHIP OF  THE  SOFTWARE IS  HEREBY   *
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;    22          0022  1 !*                                                                    *
;    23          0023  1 !*  DIGITAL ASSUMES NO RESPONSIBILITY FOR THE USE  OR  RELIABILITY OF ITS   *
;    24          0024  1 !*  SOFTWARE ON EQUIPMENT WHICH IS NOT SUPPLIED BY DIGITAL.            *
;    25          0025  1 !*                                                                    *
;    26          0026  1 !*                                                                    *
;    27          0027  1 !**********************************************************************
;    28          0028  1
;    29          0029  1 !++
;    30          0030  1 !
;    31          0031  1 ! FACILITY:  MTAACP                                                    ;
;    32          0032  1 !
;    33          0033  1 ! ABSTRACT:
;    34          0034  1 !       This routine checks that the access requested is allowed on the ;
;    35          0035  1 !       volume set.
;    36          0036  1 !
;    37          0037  1 ! ENVIRONMENT:
;    38          0038  1 !
;    39          0039  1 !       Starlet operating system, including privileged system services
;    40          0040  1 !       and internal exec routines.
;    41          0041  1 !
;    42          0042  1 !--
;    43          0043  1
;    44          0044  1 !
;    45          0045  1 !
;    46          0046  1 ! AUTHOR:  D. H. Gillespie,      CREATION DATE: 17-MAY-77  09:30
;    47          0047  1 !
;    48          0048  1 ! MODIFIED BY:
;    49          0049  1 !
;    50          0050  1 !       V03-006 LMP0246         L. Mark Pilant,         2-May-1984  10:10
;    51          0051  1 !               Correct a bug introduced by LMP0221.  The UCB and PCB addresses
;    52          0052  1 !               were swapped in the EXE$CHKxxxACCES routine calls.
;    53          0053  1 !
;    54          0054  1 !       V03-005 MMD0286         Meg Dumont,     10-Apr-1984  14:14
;    55          0055  1 !               Fix to the $MTACCESS returns where ACCESS might get
;    56          0056  1 !               over written with a success code before all the
;    57          0057  1 !               error conditions were checked. Fix to set the VCB
```

```
;    58          0058  1 !                 FIL_ACCESS bit in KERNEL mode.
;    59          0059  1 !
;    60          0060  1 !       V03-004 LMP0221         L. Mark Pilant,         28-Mar-1984  10:21
;    61          0061  1 !                 Change UCB$L_OWNUIC to ORB$L_OWNER and UCB$W_VPROT to
;    62          0062  1 !                 ORB$W_PROT.
;    63          0063  1 !
;    64          0064  1 !       V03-003 MMD0274         Meg Dumont,     23-Mar-1984  9:48
;    65          0065  1 !                 Change the processing of the accessibility character fields
;    66          0066  1 !                 in the HDR1 label to call the installation
;    67          0067  1 !                 specific accessibility routine. The return from this
;    68          0068  1 !                 routine determines the users access to the file. This
;    69          0069  1 !                 module has also been changed to support the bit
;    70          0070  1 !                 VCB$V_FIL_ACCESS which is set to determine whether
;    71          0071  1 !                 VMS protection is valid for the file.
;    72          0072  1 !
;    73          0073  1 !       V03-002 MMD0239         Meg Dumont,     21-Feb-1984  10:11
;    74          0074  1 !                 Change calls to EXE$CHKxxxACCES to kernel mode calls.
;    75          0075  1 !
;    76          0076  1 !       V03-001 MMD0150         Meg Dumont,     26-Apr-1983  8:51
;    77          0077  1 !                 Change reference to 80 to the symbol ANSI_LBLSZ. Change
;    78          0078  1 !                 reference to 240 to the symbol SCRATCH_OFFSET.
;    79          0079  1 !
;    80          0080  1 !       V02-007 DMW00032        David Micahel Walp      18-Aug-1981
;    81          0081  1 !                 Looked at MVL Override Bit when override option is used
;    82          0082  1 !
;    83          0083  1 !       V02-006 REFORMAT        Maria del C. Nasr       30-Jun-1980
;    84          0084  1 !
;    85          0085  1 !       A0005   MCN0003         Maria del C. Nasr       15-Oct-1979   9:29
;    86          0086  1 !                 Add HDR3 processing
;    87          0087  1 !
;    88          0088  1 !       A0004   MCN0001         Maria del C. Nasr       13-Sep-79   11:05
;    89          0089  1 !                 Corrected bug in "create if" function
;    90          0090  1 !
;    91          0091  1 !**
;    92          0092  1
;    93          0093  1 LIBRARY 'SYS$LIBRARY:LIB.L32';
;    94          0094  1
;    95          0095  1 REQUIRE 'SRC$:MTADEF.B32';
;    96          0479  1
;    97          0480  1 FORWARD ROUTINE
;    98          0481  1     CHECK_ACCESS        : COMMON_CALL NOVALUE,          ! check access
;    99          0482  1     CHECK_FILE_ACC      : COMMON_CALL NOVALUE,  ! check access to file
;   100          0483  1     CHECK_WRITE_ACCESS  : COMMON_CALL,          ! check users' write access
;   101          0484  1     CHECK_READ_ACCESS   : COMMON_CALL,          ! check users' write access
;   102          0485  1     SET_FILE_ACCESS     : COMMON_CALL NOVALUE,  ! Set VCB file access
;   103          0486  1     RECALC_ST_REC       : COMMON_CALL NOVALUE;  ! recalculate start record
;   104          0487  1
;   105          0488  1     LINKAGE
;   106          0489  1         CHECK_PROT      = JSB (REGISTER = 4, REGISTER = 5) :
;   107          0490  1                             NOPRESERVE (1, 2, 3);
;   108          0491  1
;   109          0492  1     EXTERNAL ROUTINE
;   110          0493  1         EXE$CHKWRTACCES : ADDRESSING_MODE (ABSOLUTE) CHECK_PROT,
;   111          0494  1         EXE$CHKRDACCES  : ADDRESSING_MODE (ABSOLUTE) CHECK_PROT,
;   112          0495  1         GET_RECORD;                                 ! get current record tape is reading
;   113          0496  1
;   114          0497  1     EXTERNAL
```

```
;  115          0498  1          CURRENT_UCB     : REF BBLOCK,          ! address of current ucb
;  116          0499  1          IO_PACKET       : REF BBLOCK,          ! address of current io request packet
;  117          0500  1          USER_STATUS     : WORD;          ! address of status to return to user
;  118          0501  1
```

```
;  120     0502  1 GLOBAL ROUTINE CHECK_ACCESS (ACCESS_TYPE) : COMMON_CALL NOVALUE =
;  121     0503  1
;  122     0504  1 !++
;  123     0505  1 !
;  124     0506  1 ! FUNCTIONAL DESCRIPTION:
;  125     0507  1 !       This routine checks that the access requested is allowed on the
;  126     0508  1 !       volume set.
;  127     0509  1 !
;  128     0510  1 ! CALLING SEQUENCE:
;  129     0511  1 !       CHECK_ACCESS(ARG1)
;  130     0512  1 !
;  131     0513  1 ! INPUT PARAMETERS:
;  132     0514  1 !       ARG1 - access requested (0=read,1=write)
;  133     0515  1 !
;  134     0516  1 ! IMPLICIT INPUTS:
;  135     0517  1 !       IO_PACKET       - address of current i/o packet
;  136     0518  1 !       CURRENT_UCB     - address of current ucb
;  137     0519  1 !
;  138     0520  1 ! OUTPUT PARAMETERS:
;  139     0521  1 !       None
;  140     0522  1 !
;  141     0523  1 ! IMPLICIT OUTPUTS:
;  142     0524  1 !       None
;  143     0525  1 !
;  144     0526  1 ! ROUTINE VALUE:
;  145     0527  1 !       None
;  146     0528  1 !
;  147     0529  1 ! SIDE EFFECTS:
;  148     0530  1 !       None
;  149     0531  1 ! USER ERROR:
;  150     0532  1 !       SS$_WRITLCK - software write lock
;  151     0533  1 !
;  152     0534  1 !--
;  153     0535  1
;  154     0536  2     BEGIN
;  155     0537  2
;  156     0538  2     EXTERNAL REGISTER
;  157     0539  2         COMMON_REG;
;  158     0540  2
;  159     0541  2     LOCAL
;  160     0542  2         STATUS;                                 ! io status
;  161     0543  2
;  162     0544  2     ! If file is software write locked and the user requests write privileges,
;  163     0545  2     ! deny privilege
;  164     0546  2
;  165     0547  2     IF .ACCESS_TYPE
;  166     0548  2         AND
;  167     0549  2         .BBLOCK[CURRENT_UCB[UCB$L_DEVCHAR], DEV$V_SWL]
;  168     0550  2     THEN
;  169     0551  2         ERR_EXIT(SS$_WRITLCK);
;  170     0552  2
;  171     0553  2     ! If the VCB$V_FIL_ACCESS is set then the user has complete
;  172     0554  2     ! access to this file, regardless of how the VMS protection is
;  173     0555  2     ! set. Else check the users read adn write access to the file.
;  174     0556  2
;  175     0557  2     IF NOT .CURRENT_VCB[VCB$V_FIL_ACCESS]
;  176     0558  2         THEN
```

```
;  177        0559  3          BEGIN
;  178        0560  3              IF .ACCESS_TYPE
;  179        0561  3              THEN
;  180        0562  4                  STATUS = KERNEL_CALL (CHECK_WRITE_ACCESS)
;  181        0563  3              ELSE
;  182        0564  3                  STATUS = KERNEL_CALL (CHECK_READ_ACCESS);
;  183        0565  3
;  184        0566  3              IF NOT .STATUS
;  185        0567  3              THEN
;  186        0568  4              BEGIN
;  187        0569  4                  USER_STATUS = .STATUS<0, 16>;
;  188        0570  4                  ERR_EXIT();
;  189        0571  3              END;
;  190        0572  2          END;
;  191        0573  2
;  192        0574  1      END;                                   ! end of routine


                                                                .TITLE  CHKACC
                                                                .IDENT  \V04-000\

                                                                .EXTRN  EXE$CHKWRTACCES
                                                                .EXTRN  EXE$CHKRDACCES, GET_RECORD
                                                                .EXTRN  CURRENT_UCB, IO_PACKET
                                                                .EXTRN  USER_STATUS, SYS$CMKRNL

                                                                .PSECT  $CODE$,NOWRT,2

                                             0000 00000         .ENTRY  CHECK_ACCESS, Save nothing          ; 0502
                       0E        04    AC    E9 00002           BLBC    ACCESS_TYPE, 1$                     ; 0547
                       50     0000G    CF    D0 00006           MOVL    CURRENT_UCB, R0                     ; 0549
        04       3B    A0              01    E1 0000B           BBC     #1, 59(R0), 1$                      ;
                              025C     8F    BF 00010           CHMU    #604                                ; 0551
        27       2D    AB              06    E0 00014 1$:       BBS     #6, 45(CURRENT_VCB), 4$             ; 0557
                       0A        04    AC    E9 00019           BLBC    ACCESS_TYPE, 2$                     ; 0560
                                       7E    D4 0001D           CLRL    -(SP)                               ; 0562
                                       5E    DD 0001F           PUSHL   SP                                  ;
                              0000V    CF    9F 00021           PUSHAB  CHECK_WRITE_ACCESS                  ;
                                       08    11 00025           BRB     3$                                  ;
                                       7E    D4 00027 2$:       CLRL    -(SP)                               ; 0564
                                       5E    DD 00029           PUSHL   SP                                  ;
                              0000V    CF    9F 0002B           PUSHAB  CHECK_READ_ACCESS                   ;
            00000000G  9F              03    FB 0002F 3$:       CALLS   #3, @#SYS$CMKRNL                    ;
                       07              50    E8 00036           BLBS    STATUS, 4$                          ; 0566
                0000G  CF              50    B0 00039           MOVW    STATUS, USER_STATUS                 ; 0569
                                       00    BF 0003E           CHMU    #0                                  ; 0570
                                             04 00040 4$:       RET                                         ; 0574

; Routine Size:  65 bytes,    Routine Base:  $CODE$ + 0000


;  193        0575  1
```

```
;  195          0576  1 ROUTINE CHECK_WRITE_ACCESS : COMMON_CALL =
;  196          0577  1
;  197          0578  1 !++
;  198          0579  1 !
;  199          0580  1 ! FUNCTIONAL DESCRIPTION:
;  200          0581  1 !       This routine calls the system routine to check users write access.
;  201          0582  1 !
;  202          0583  1 ! CALLING SEQUENCE:
;  203          0584  1 !       CHECK_WRITE_ACCESS (), called in kernel mode
;  204          0585  1 !
;  205          0586  1 ! INPUT PARAMETERS:
;  206          0587  1 !       none
;  207          0588  1 !
;  208          0589  1 ! IMPLICIT INPUTS:
;  209          0590  1 !       CURRENT_UCB - address of tapes ucb
;  210          0591  1 !       IO_PACKET - address of current io request
;  211          0592  1 !
;  212          0593  1 ! OUTPUT PARAMETERS:
;  213          0594  1 !       None
;  214          0595  1 !
;  215          0596  1 ! IMPLICIT OUTPUTS:
;  216          0597  1 !       None
;  217          0598  1 !
;  218          0599  1 ! ROUTINE VALUE:
;  219          0600  1 !       STATUS from call
;  220          0601  1 !
;  221          0602  1 ! SIDE EFFECTS:
;  222          0603  1 !
;  223          0604  1 ! USER ERROR:
;  224          0605  1 !
;  225          0606  1 !--
;  226          0607  1
;  227          0608  2     BEGIN
;  228          0609  2
;  229          0610  2     EXTERNAL REGISTER
;  230          0611  2         COMMON_REG;
;  231          0612  2
;  232          0613  2     LOCAL
;  233          0614  2         PCB             : REF BBLOCK;   ! address of user process control block
;  234          0615  2
;  235          0616  2     EXTERNAL
;  236          0617  2         SCH$GL_PCBVEC   : REF VECTOR ADDRESSING_MODE (ABSOLUTE);
;  237          0618  2                                         ! system PCB vector
;  238          0619  2
;  239          0620  2         PCB = .SCH$GL_PCBVEC[.(IO_PACKET[IRP$L_PID])<0,16>];
;  240          0621  2
;  241          0622  2         RETURN EXE$CHKWRTACCES(.PCB, .CHKACC\CURRENT_UCB);
;  242          0623  1     END;


                                                .EXTRN  SCH$GL_PCBVEC

                                07FC 00000 CHECK_WRITE_ACCESS:
                                                .WORD   Save R2,R3,R4,R5,R6,R7,R8,R9,R10        ; 0576
                    51 00000000G   9F   D0 00002        MOVL    a#SCH$GL_PCBVEC, R1             ; 0620
                    50      0000G  CF   D0 00009        MOVL    IO_PACKET, R0                   ;
```

```
                50            0C  C0 0000E        ADDL2   #12, R0                         ;
                50            60  3C 00011        MOVZWL  (R0), R0                        ;
                54          6140  D0 00014        MOVL    (R1)[R0], PCB                   ;
                55      0000G  CF  D0 00018        MOVL    CURRENT_UCB, R5                 ; 0622
                   00000000G  9F  16 0001D        JSB     @#EXE$CHKWRTACCES               ;
                              04  00023        RET                                     ; 0623

; Routine Size:  36 bytes,    Routine Base:  $CODE$ + 0041
```

```
;  244          0624  1 ROUTINE CHECK_READ_ACCESS : COMMON_CALL =
;  245          0625  1
;  246          0626  1 !++
;  247          0627  1 !
;  248          0628  1 ! FUNCTIONAL DESCRIPTION:
;  249          0629  1 !       This routine returns users' read access to the file.
;  250          0630  1 !
;  251          0631  1 ! CALLING SEQUENCE:
;  252          0632  1 !       CHECK_READ_ACCESS(), called in kernel mode
;  253          0633  1 !
;  254          0634  1 ! INPUT PARAMETERS:
;  255          0635  1 !       none
;  256          0636  1 !
;  257          0637  1 ! IMPLICIT INPUTS:
;  258          0638  1 !       CURRENT_UCB - address of tapes ucb
;  259          0639  1 !       IO_PACKET - address of current io request
;  260          0640  1 !
;  261          0641  1 ! OUTPUT PARAMETERS:
;  262          0642  1 !       None
;  263          0643  1 !
;  264          0644  1 ! IMPLICIT OUTPUTS:
;  265          0645  1 !       None
;  266          0646  1 !
;  267          0647  1 ! ROUTINE VALUE:
;  268          0648  1 !       STATUS from call
;  269          0649  1 !
;  270          0650  1 ! SIDE EFFECTS:
;  271          0651  1 !
;  272          0652  1 ! USER ERROR:
;  273          0653  1 !
;  274          0654  1 !--
;  275          0655  1
;  276          0656  2     BEGIN
;  277          0657  2
;  278          0658  2     EXTERNAL REGISTER
;  279          0659  2         COMMON_REG;
;  280          0660  2
;  281          0661  2     LOCAL
;  282          0662  2         PCB             : REF BBLOCK;   ! address of user process control block
;  283          0663  2
;  284          0664  2     EXTERNAL
;  285          0665  2         SCH$GL_PCBVEC   : REF VECTOR ADDRESSING_MODE (ABSOLUTE);
;  286          0666  2                                         ! system PCB vector
;  287          0667  2
;  288          0668  2         PCB = .SCH$GL_PCBVEC[.(IO_PACKET[IRP$L_PID])<0,16>];
;  289          0669  2
;  290          0670  2         RETURN EXE$CHKRDACCES(.PCB, .CURRENT_UCB);
;  291          0671  1     END;


                                07FC 00000 CHECK_READ_ACCESS:
                                                .WORD   Save R2,R3,R4,R5,R6,R7,R8,R9,R10        ; 0624
                    51 00000000G   9F   D0 00002        MOVL    @#SCH$GL_PCBVEC, R1             ; 0668
                    50      0000G  CF   D0 00009        MOVL    IO_PACKET, R0                   ;
```

```
                50            0C  C0 0000E        ADDL2   #12, R0                                ;
                50            60  3C 00011        MOVZWL  (R0), R0                                ;
                54          6140  D0 00014        MOVL    (R1)[R0], PCB                           ;
                55     0000G  CF  D0 00018        MOVL    CURRENT_UCB, R5                         ; 0670
           00000000G   9F  16 0001D        JSB     @#EXE$CHKRDACCES                        ;
                               04 00023        RET                                             ; 0671

; Routine Size:  36 bytes,    Routine Base:  $CODE$ + 0065

;  292          0672  1
;  293          0673  1
```

```
;  295     0674  1 GLOBAL ROUTINE CHECK_FILE_ACC (ACCESS_CALL) : COMMON_CALL NOVALUE =
;  296     0675  1
;  297     0676  1 !++
;  298     0677  1 !
;  299     0678  1 ! FUNCTIONAL DESCRIPTION:
;  300     0679  1 !       This routine checks access to the file.  If accessibility code is
;  301     0680  1 !       not blank and not overridden then access is denied.  If writing to the file the file
;  302     0681  1 !       must be expired.
;  303     0682  1 !
;  304     0683  1 ! CALLING SEQUENCE:
;  305     0684  1 !       CHECK_FILE_ACC(ARG1)
;  306     0685  1 !
;  307     0686  1 ! INPUT PARAMETERS:
;  308     0687  1 !       0 - If being called from MTA_CREATE
;  309     0688  1 !       1 - If called from MTA_ACCESS
;  310     0689  1 !
;  311     0690  1 ! IMPLICIT INPUTS:
;  312     0691  1 !       LOCAL_FIB - copy of user's file information block
;  313     0692  1 !       CURRENT_VCB - address of current control block
;  314     0693  1 !
;  315     0694  1 ! OUTPUT PARAMETERS:
;  316     0695  1 !       None
;  317     0696  1 !
;  318     0697  1 ! IMPLICIT OUTPUTS:
;  319     0698  1 !       None
;  320     0699  1 !
;  321     0700  1 ! ROUTINE VALUE:
;  322     0701  1 !       None
;  323     0702  1 !
;  324     0703  1 ! SIDE EFFECTS:
;  325     0704  1 !       if append, tape is positioned to end of data
;  326     0705  1 !
;  327     0706  1 ! USER ERROR:
;  328     0707  1 !       SS$_FILACCERR - file access byte non-blank
;  329     0708  1 !
;  330     0709  1 !--
;  331     0710  1
;  332     0711  2     BEGIN
;  333     0712  2
;  334     0713  2     EXTERNAL REGISTER
;  335     0714  2         COMMON_REG;
;  336     0715  2
;  337     0716  2     EXTERNAL ROUTINE
;  338     0717  2         EXPIRED         : COMMON_CALL,              ! check that file has expired
;  339     0718  2         LIB$CVT_DTB     : ADDRESSING_MODE (ABSOLUTE),
;  340     0719  2                                                     ! convert decimal to binary
;  341     0720  2         SPACE_EOF       : COMMON_CALL,              ! space to trailers
;  342     0721  2         SPACE_TM        : COMMON_CALL,              ! space given number of
;  343     0722  2                                                     !   tape marks
;  344     0723  2         READ_BLOCK      : COMMON_CALL;              ! read on mag tape data block
;  345     0724  2
;  346     0725  2     LOCAL
;  347     0726  2         ACCESS,                                     ! users' access to the file
;  348     0727  2         BLOCK_COUNT,                                ! block count of file to
;  349     0728  2                                                     !  appended to
;  350     0729  2         CURRENT_RECORD,                             ! record  tape drive is reading
;  351     0730  2         FIB             : REF BBLOCK,               ! address of local fib
```

```
;  352          0731  2          LABELADDR       : REF BBLOCK,           ! address of label
;  353          0732  2          STATUS,
;  354          0733  2          TM,                                     ! number of tm's
;  355          0734  2          ORB             : REF BBLOCK,           ! ORB address
;  356          0735  2          MVL             : REF BBLOCK,
;  357          0736  2          MVL_ENTRY       : REF BBLOCKVECTOR [,MVL$K_LENGTH];
;  358          0737  2                                                  ! pointer to the MVL_ENTRY
;  359          0738  2
;  360          0739  2      EXTERNAL
;  361          0740  2          HDR1            : REF BBLOCK,           ! address of HDR1(EOF1) label
;  362          0741  2          LOCAL_FIB       : BBLOCK;               ! copy of user's fib
;  363          0742  2
;  364          0743  2      ! setup pointer to fib
;  365          0744  2
;  366          0745  2      FIB = LOCAL_FIB;
;  367          0746  2
;  368          0747  2      ! get a handle on the MVL entry
;  369          0748  2
;  370          0749  2      MVL = .CURRENT_VCB[VCB$L_MVL];
;  371          0750  2      MVL_ENTRY = (.CURRENT_VCB [ VCB$L_MVL ]) +  MVL$K_FIXLEN;
;  372          0751  2
;  373          0752  2      ! Call the accessibility system service to check the accessibility char
;  374          0753  2      ! on the HDR1 label.
;  375          0754  2      ! First keep the record that the UCB is reading. The accessibility
;  376          0755  2      ! routine can not move the tape from under us! Thus we will compare
;  377          0756  2      ! this to the field after the call and if the tape was moved we punt
;  378          0757  2      ! the operation.
;  379          0758  2
;  380          0759  2      ORB = .CURRENT_UCB[UCB$L_ORB];
;  381          0760  2      CURRENT_RECORD = KERNEL_CALL(GET_RECORD, .CURRENT_UCB);
;  382        P 0761  2      ACCESS = $MTACCESS(LBLNAM = .HDR1,
;  383        P 0762  2                         UIC = .ORB[ORB$L_OWNER],
;  384        P 0763  2                         STD_VERSION = .MVL[MVL$B_STDVER],
;  385        P 0764  2                         ACCESS_CHAR = 0,
;  386        P 0765  2                         ACCESS_SPEC = MTA$K_NOCHAR,
;  387          0766  2                         TYPE = MTA$K_INHDR1);
;  388          0767  2
;  389          0768  2      STATUS = KERNEL_CALL(GET_RECORD, .CURRENT_UCB);
;  390          0769  2      IF .CURRENT_RECORD NEQ .STATUS
;  391          0770  2           THEN ERR_EXIT(SS$_TAPEPOSLOST);
;  392          0771  2
;  393          0772  2      IF .ACCESS EQL SS$_FILACCERR
;  394          0773  2           THEN
;  395          0774  3           BEGIN
;  396          0775  4               IF NOT (      .CURRENT_VCB[VCB$V_OVRACC]
;  397          0776  4                       AND .MVL_ENTRY[ (.CURRENT_VCB[VCB$W_RVN]), MVL$V_OVERIDE ])
;  398          0777  3                   THEN ERR_EXIT(SS$_FILACCERR);
;  399          0778  3               ACCESS = SS$_NORMAL;
;  400          0779  2           END;
;  401          0780  2
;  402          0781  2      IF .ACCESS EQL SS$_NOVOLACC OR .ACCESS EQL SS$_NOFILACC
;  403          0782  2           THEN ERR_EXIT(.ACCESS);
;  404          0783  2
;  405          0784  2      IF NOT .ACCESS THEN KERNEL_CALL(SET_FILE_ACCESS);
;  406          0785  2
;  407          0786  2      ! now treat append case uniquely
;  408          0787  2
```

```
;  409          0788  3     IF ( NOT .FIB[FIB$V_UPDATE])
;  410          0789  2          AND
;  411          0790  2          .FIB[FIB$V_WRITE]
;  412          0791  2          AND
;  413          0792  3          (.ACCESS_CALL)
;  414          0793  2          THEN
;  415          0794  3          BEGIN                                   . append case
;  416          0795  3             SPACE_EOF();                         . left at absolute end of file
;  417          0796  3
;  418          0797  3             IF NOT LIB$CVT_DTB(EO1$S_BLOCKCNT, HDR1[EO1$T_BLOCKCNT], BLOCK_COUNT)
;  419          0798  3                  THEN
;  420          0799  3                      ERR_EXIT(SS$_BLOCKCNTERR);
;  421          0800  3
;  422          0801  3             ! read header of next file
;  423          0802  3
;  424          0803  3             LABELADDR = .HDR1 + SCRATCH_OFFSET;  ! read into scratch area
;  425          0804  3
;  426          0805  3             IF NOT READ_BLOCK(.LABELADDR, ANSI_LBLSZ)
;  427          0806  3                  THEN
;  428          0807  4                  BEGIN                           ! at logical end of volume set
;  429          0808  4                      SPACE_TM(-3);       ! double tape mark is logical end of tape
;  430          0809  4                      KERNEL_CALL(RECALC_ST_REC, .BLOCK_COUNT);
;  431          0810  4                      RETURN;
;  432          0811  3                  END;
;  433          0812  3
;  434          0813  3             IF .LABELADDR[HD1$L_HD1LID] NEQ 'HDR1'
;  435          0814  3                  THEN ERR_EXIT(SS$_TAPEPOSLOST);
;  436          0815  3
;  437          0816  3             ! going to overlay file
;  438          0817  3
;  439          0818  3             IF NOT EXPIRED(LABELADDR[HD1$T_EXPIREDT])
;  440          0819  3                  THEN ERR_EXIT(SS$_FILNOTEXP);
;  441          0820  3
;  442          0821  3             SPACE_TM(-2);
;  443          0822  3             KERNEL_CALL(RECALC_ST_REC, .BLOCK_COUNT);
;  444          0823  3             RETURN;
;  445          0824  3
;  446          0825  2             END;                                    ! end of append case
;  447          0826  2
;  448          0827  2     ! if about to write current file check expiration
;  449          0828  2
;  450          0829  2     IF .FIB[FIB$V_WRITE]
;  451          0830  2     THEN
;  452          0831  2
;  453          0832  2         IF NOT EXPIRED(HDR1[HD1$T_EXPIREDT])
;  454          0833  2         THEN
;  455          0834  2             ERR_EXIT(SS$_FILNOTEXP);
;  456          0835  2
;  457          0836  1     END;                                            ! end of routine


                                                    .EXTRN  EXPIRED, LIB$CVT_DTB
                                                    .EXTRN  SPACE_EOF, SPACE_TM
                                                    .EXTRN  READ_BLOCK, HDR1
                                                    .EXTRN  LOCAL_FIB, SYS$MTACCESS
```

```
                                01FC 00000          .ENTRY  CHECK_FILE_ACC, Save R2,R3,R4,R5,R6,R7,R8    ; 0674
                            58      0000G   CF   9E 00002  MOVAB   HDR1, R8                              ;
                            57  00000000G   9F   9E 00007  MOVAB   @#SYS$CMKRNL, R7                      ;
                            5E              04   C2 0000E  SUBL2   #4, SP                               ;
                            55      0000G   CF   9E 00011  MOVAB   LOCAL_FIB, FIB                       ; 0745
                            52        34    AB   D0 00016  MOVL    52(CURRENT_VCB), MVL                  ; 0749
                    53        34    AB        24   C1 0001A  ADDL3   #36, 52(CURRENT_VCB), MVL_ENTRY     ; 0750
                            50      0000G   CF   D0 0001F  MOVL    CURRENT_UCB, R0                       ; 0759
                            54        1C    A0   D0 00024  MOVL    28(R0), ORB                           ;
                                            50   DD 00028  PUSHL   R0                                    ; 0760
                                            01   DD 0002A  PUSHL   #1                                    ;
                                            5E   DD 0002C  PUSHL   SP                                   ;
                                    0000G   CF   9F 0002E  PUSHAB  GET_RECORD                           ;
                            67              04   FB 00032  CALLS   #4, SYS$CMKRNL                      ;
                            56              50   D0 00035  MOVL    R0, CURRENT_RECORD                    ;
                                            01   DD 00038  PUSHL   #1                                    ; 0766
                                            7E   7C 0003A  CLRQ    -(SP)                                 ;
                            7E        22    A2   9A 0003C  MOVZBL  34(MVL), -(SP)                       ;
                                            64   DD 00040  PUSHL   (ORB)                                ;
                                            68   DD 00042  PUSHL   HDR1                                 ;
                        00000000G   00              06   FB 00044  CALLS   #6, SYS$MTACCESS               ;
                            52              50   D0 0004B  MOVL    R0, ACCESS                            ;
                                    0000G   CF   DD 0004E  PUSHL   CURRENT_UCB                          ; 0768
                                            01   DD 00052  PUSHL   #1                                    ;
                                            5E   DD 00054  PUSHL   SP                                   ;
                                    0000G   CF   9F 00056  PUSHAB  GET_RECORD                           ;
                            67              04   FB 0005A  CALLS   #4, SYS$CMKRNL                      ;
                            50              56   D1 0005D  CMPL    CURRENT_RECORD, STATUS                ; 0769
                                            04   13 00060  BEQL    1$                                    ;
                                    0224    8F   BF 00062  CHMU    #548                                  ; 0770
                        0000009C    8F              52   D1 00066 1$: CMPL    ACCESS, #156               ; 0772
                                            18   12 0006D  BNEQ    4$                                    ;
                    0C        2C    AB              01   E1 0006F  BBC     #1, 44(CURRENT_VCB), 2$       ; 0775
                            50        0E    AB        3C   00074  MOVZWL  14(CURRENT_VCB), R0            ; 0776
                                      07  A340  7F   00078  PUSHAQ  7(MVL_ENTRY)[R0]                     ;
                    04              9E              02   E0 0007C  BBS     #2, @(SP)+, 3$                ;
                                    009C    8F   BF 00080 2$: CHMU    #156                              ; 0777
                            52              01   D0 00084 3$: MOVL    #1, ACCESS                        ; 0778
                        000022A4    8F              52   D1 00087 4$: CMPL    ACCESS, #8868             ; 0781
                                            09   13 0008E  BEQL    5$                                    ;
                        000022AC    8F              52   D1 00090  CMPL    ACCESS, #8876                 ;
                                            02   12 00097  BNEQ    6$                                    ;
                                            52   BF 00099 5$: CHMU    ACCESS                            ; 0782
                                    0B              52   E8 0009B 6$: BLBS    ACCESS, 7$                ; 0784
                                            7E   D4 0009E  CLRL    -(SP)                                 ;
                                            5E   DD 000A0  PUSHL   SP                                   ;
                                    0000V   CF   9F 000A2  PUSHAB  SET_FILE_ACCESS                      ;
                            67              03   FB 000A6  CALLS   #3, SYS$CMKRNL                      ;
                    70              65              06   E0 000A9 7$: BBS     #6, (FIB), 13$            ; 0788
                                    6C        01    A5   E9 000AD  BLBC    1(FIB), 13$                   ; 0790
                                    68        04    AC   E9 000B1  BLBC    ACCESS_CALL, 13$              ; 0792
                                0000G   CF          00   FB 000B5  CALLS   #0, SPACE_EOF                 ; 0795
                                            5E   DD 000BA  PUSHL   SP                                   ; 0797
                    7E              68              36   C1 000BC  ADDL3   #54, HDR1, -(SP)               ;
                                            06   DD 000C0  PUSHL   #6                                   ;
                        00000000G   9F              03   FB 000C2  CALLS   #3, @#LIB$CVT_DTB             ;
                                            04   50   E8 000C9  BLBS    R0, 8$                          ;
```

```
                                0940  8F  BF 000CC         CHMU    #2368                              ; 0799
        53            68 00000140  8F  C1 000D0 8$:       ADDL3   #320, HDR1, LABELADDR              ; 0803
                      7E        50  8F  9A 000D8           MOVZBL  #80, -(SP)                         ; 0805
                                    53  DD 000DC           PUSHL   LABELADDR                          ;
                0000G CF            02  FB 000DE           CALLS   #2, READ_BLOCK                     ;
                      05            50  E8 000E3           BLBS    R0, 9$                             ;
                      7E            03  CE 000E6           MNEGL   #3, -(SP)                          ; 0808
                                    1F  11 000E9           BRB     12$                                ;
           31524448   8F            63  D1 000EB 9$:       CMPL    (LABELADDR), #827475016            ; 0813
                                    04  13 000F2           BEQL    10$                                ;
                                0224  8F  BF 000F4         CHMU    #548                               ; 0814
                                  2F  A3  9F 000F8 10$:    PUSHAB  47(LABELADDR)                      ; 0818
                0000G CF            01  FB 000FB           CALLS   #1, EXPIRED                        ;
                      04            50  E8 00100           BLBS    R0, 11$                            ;
                                00B4  8F  BF 00103         CHMU    #180                               ; 0819
                      7E            02  CE 00107 11$:      MNEGL   #2, -(SP)                          ; 0821
                0000G CF            01  FB 0010A 12$:      CALLS   #1, SPACE_TM                       ;
                                    6E  DD 0010F           PUSHL   BLOCK_COUNT                        ; 0822
                                    01  DD 00111           PUSHL   #1                                 ;
                                    5E  DD 00113           PUSHL   SP                                 ;
                               0000V  CF  9F 00115         PUSHAB  RECALC_ST_REC                      ;
                      67            04  FB 00119           CALLS   #4, SYS$CMKRNL                     ;
                                        04 0011C           RET                                        ; 0794
                      10        01  A5  E9 0011D 13$:      BLBC    1(FIB), 14$                        ; 0829
        7E            68            2F  C1 00121           ADDL3   #47, HDR1, -(SP)                   ; 0832
                0000G CF            01  FB 00125           CALLS   #1, EXPIRED                        ;
                      04            50  E8 0012A           BLBS    R0, 14$                            ;
                                00B4  8F  BF 0012D         CHMU    #180                               ; 0834
                                        04 00131 14$:      RET                                        ; 0836

; Routine Size:  306 bytes,    Routine Base:  $CODE$ + 0089

;  458         0837  1
```

```
0838 1 ROUTINE SET_FILE_ACCESS : COMMON_CALL NOVALUE =
0839 1
0840 1 !++
0841 1 !
0842 1 ! FUNCTIONAL DESCRIPTION:
0843 1 !       This routine updates the VCB file access bit to say that the user
0844 1 !       has complete access to the file.
0845 1 !
0846 1 ! CALLING SEQUENCE:
0847 1 !       SET_FILE_ACCESS called in kernel mode
0848 1 !
0849 1 ! INPUT PARAMETERS:
0850 1 !       nore
0851 1 !
0852 1 ! IMPLICIT INPUTS:
0853 1 !       CURRENT_VCB - address of current volume control block
0854 1 !
0855 1 ! OUTPUT PARAMETERS:
0856 1 !       None
0857 1 !
0858 1 ! IMPLICIT OUTPUTS:
0859 1 !       VCB FIL_ACCESS bit is set.
0860 1 !
0861 1 ! ROUTINE VALUE:
0862 1 !       None
0863 1 !
0864 1 ! SIDE EFFECTS:
0865 1 !       None
0866 1 !
0867 1 ! USER ERRORS:
0868 1 !       None
0869 1 !
0870 1 !--
0871 1
0872 2    BEGIN
0873 2
0874 2    EXTERNAL REGISTER
0875 2        COMMON_REG;
0876 2
0877 2        CURRENT_VCB[VCB$V_FIL_ACCESS] = 1;
0878 1    END;                                  ! end of routine


                                   0000 00000 SET_FILE_ACCESS:
                                                    .WORD   Save nothing                    ; 0838
         2D   AB     40   8F   88 00002            BISB2   #64, 45(CURRENT_VCB)            ; 0877
                               04 00007            RET                                     ; 0878

; Routine Size:  8 bytes,    Routine Base:  $CODE$ + 01BB


0879 1
0880 1
```

```
1 ROUTINE RECALC_ST_REC (BLOCK_COUNT) : COMMON_CALL NOVALUE =
1
1 !++
1 !
1 ! FUNCTIONAL DESCRIPTION:
1 !       This routine updates the start record count to include those
1 !       records in the file that were previously written.
1 !
1 ! CALLING SEQUENCE:
1 !       RECALC_ST_REC(ARG1), called in kernel mode
1 !
1 ! INPUT PARAMETERS:
1 !       ARG1 - number of blocks previously written
1 !
1 ! IMPLICIT INPUTS:
1 !       CURRENT_VCB - address of current volume control block
1 !
1 ! OUTPUT PARAMETERS:
1 !       None
1 !
1 ! IMPLICIT OUTPUTS:
1 !       Start record number updated to reflect previously written records
1 !
1 ! ROUTINE VALUE:
1 !       None
1 !
1 ! SIDE EFFECTS:
1 !       None
1 !
1 ! USER ERRORS:
1 !       None
1 !
1 !--
1
2     BEGIN
2
2     EXTERNAL REGISTER
2         COMMON_REG;
2
2     CURRENT_VCB[VCB$L_ST_RECORD] = .CURRENT_VCB[VCB$L_ST_RECORD] -
2     .BLOCK_COUNT;
1     END;                                          ! end of routine



                                      0000 00000 RECALC_ST_REC:
                                                       .WORD   Save nothing                              ; 0881
               30   AB      04   AC  C2 00002          SUBL2   BLOCK_COUNT, 48(CURRENT_VCB)              ; 0921
                                     04 00007          RET                                               ; 0922

; Routine Size:  8 bytes,    Routine Base:  $CODE$ + 01C3


1 END
1
```

```
:  548          0925  0 ELUDOM



;                                   PSECT SUMMARY
;
;       Name                    Bytes                           Attributes
;
;  $CODE$                         459  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        37         0      1000          00:01.8



;                                   COMMAND QUALIFIERS

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

; Size:          459 code + 0 data bytes
; Run Time:          00:13.5
; Elapsed Time:      00:51.6
; Lines/CPU Min:      4098
; Lexemes/CPU-Min:  19364
; Memory Used:  145 pages
; Compilation Complete
```

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CALDAYNO
LIS

SYSFAC
DAT

ACPCTR
LIS

ALLOCB
LIS

SYSMSG
LIS

CHKACC
LIS

MTAACP

ACCESS
LIS

MTAAACP
MAP

ACCFL
LIS

CALCTV
LIS

BLOCK
LIS

CLOSFL
LIS

MTADEF
B32-

CHKDMO
LIS