G 16

```
FFFFFFFFFFFFFFF  DDDDDDDDDDDD      LLL
FFFFFFFFFFFFFFF  DDDDDDDDDDDD      LLL
FFFFFFFFFFFFFFF  DDDDDDDDDDDD      LLL
FFF              DDD         DDD  LLL
FFF              DDD         DDD  LLL
FFF              DDD         DDD  LLL
FFF              DDD         DDD  LLL
FFF              DDD         DDD  LLL
FFF              DDD         DDD  LLL
FFFFFFFFFFFF     DDD         DDD  LLL
FFFFFFFFFFFF     DDD         DDD  LLL
FFFFFFFFFFFF     DDD         DDD  LLL
FFF              DDD         DDD  LLL
FFF              DDD         DDD  LLL
FFF              DDD         DDD  LLL
FFF              DDD         DDD  LLL
FFF              DDD         DDD  LLL
FFF              DDD         DDD  LLL
FFF              DDDDDDDDDDDD     LLLLLLLLLLLLLLL
FFF              DDDDDDDDDDDD     LLLLLLLLLLLLLLL
FFF              DDDDDDDDDDDD     LLLLLLLLLLLLLLL
```

```
**FILE**ID**FDLGEN                                M 12




FFFFFFFFFF  DDDDDDDD    LL            GGGGGGGG  EEEEEEEEEE  NN      NN
FFFFFFFFFF  DDDDDDDD    LL            GGGGGGGG  EEEEEEEEEE  NN      NN
FF          DD      DD  LL          GG          EE          NN      NN
FF          DD      DD  LL          GG          EE          NN      NN
FF          DD      DD  LL          GG          EE          NNNN    NN
FF          DD      DD  LL          GG          EE          NNNN    NN
FFFFFFFF    DD      DD  LL          GG          EEEEEEEE    NN  NN  NN
FFFFFFFF    DD      DD  LL          GG          EEEEEEEE    NN  NN  NN
FF          DD      DD  LL          GG  GGGGGG  EE          NN    NNNN
FF          DD      DD  LL          GG  GGGGGG  EE          NN    NNNN
FF          DD      DD  LL          GG      GG  EE          NN      NN      ....
FF          DD      DD  LL          GG      GG  EE          NN      NN      ....
FF          DDDDDDDD    LLLLLLLLLL    GGGGGG    EEEEEEEEEE  NN      NN      ....
FF          DDDDDDDD    LLLLLLLLLL    GGGGGG    EEEEEEEEEE  NN      NN      ....

LL              IIIIII      SSSSSSSS
LL              IIIIII      SSSSSSSS
LL                II      SS
LL                II      SS
LL                II      SS
LL                II      SS
LL                II        SSSSSS
LL                II        SSSSSS
LL                II              SS
LL                II              SS
LL                II              SS
LL                II              SS
LLLLLLLLLL      IIIIII    SSSSSSSS
LLLLLLLLLL      IIIIII    SSSSSSSS
```

```
0001 0 %TITLE  'VAX-11 FDL Utilities'
0002 0 MODULE  FDLGEN  ( IDENT='V04-000',
0003 0                  ADDRESSING_MODE ( EXTERNAL = GENERAL ),
0004 0                  ADDRESSING_MODE ( NONEXTERNAL = GENERAL ),
0005 0                  OPTLEVEL=3
0006 0                  ) =
0007 0
0008 1 BEGIN
0009 1
0010 1 !****************************************************************************
0011 1 !*                                                                          *
0012 1 !*  COPYRIGHT (c) 1978, 1980, 1982, 1984 BY                                 *
0013 1 !*  DIGITAL EQUIPMENT CORPORATION, MAYNARD, MASSACHUSETTS.                  *
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0026 1 !*                                                                          *
0027 1 !*  DIGITAL ASSUMES NO RESPONSIBILIT'  ,R THE USE  OR  RELIABILITY OF ITS   *
0028 1 !*  SOFTWARE ON EQUIPMENT WHICH IS NO  SUPPLIED BY DIGITAL.                 *
0029 1 !*                                                                          *
0030 1 !*                                                                          *
0031 1 !****************************************************************************
```

```
1 !++
1 !
1 ! Facility:      VAX-11 FDL Utilities
1 !
1 ! Abstract:
1 !               Callable routines
1 !
1 ! Contents:
1 !               FDL$$GEN_SPEC
1 !               GEN_PRIMARY
1 !               CHECK_XAB
1 !               FDL$$CHECK_BLOCK
1 !               FDL$$FORMAT_LINE
1 !               FETCH_FIELD
1 !               FDL$$OUTPUT_LINE
1 !
1 ! Environment:
1 !
1 !               VAX/VMS Operating System
1 !
1 !--
1
1 !
1 ! Author:       Ken F Henderson Jr      Creation Date           2 Dec 1982
1 !
1 !
1 ! Modified by:
1 !
1 !               V03-016 DAS0001         David Solomon           06 Jul 1984
1 !                       Don't generate DATA_FILL or INDEX_FILL secondary's
1 !                       for the key primary if $XABALL's don't exist.
1 !
1 !               V03-015 RRB0015         Rowland R. Bradley      29 Feb 1984
1 !                       Comment out or remove references
1 !                       ACLs and Erase_on_Delete
1 !
1 !               V03-013 KFH0012         Ken Henderson            8 Oct 1983
1 !                       Fix generation of bits that have
1 !                       inverted sense when set:
1 !                       Data Key Comp, Data Rec Comp,
1 !                       Index Comp, and Block Span
1 !
1 !               V03-012 KFH0011         Ken Henderson           26 Sep 1983
1 !                       Fix generation of format=fixed.
1 !
1 !               V03-011 KFH0010         Ken Henderson           23 Aug 1983
1 !                       Fixed calls to GET_VM and FREE_VM.
1 !
1 !               V03-010 KFH0009         Ken Henderson           29 Jul 1983
1 !                       Fixed CHECK_XAB and FETCH_FIELD
1 !                       Check status of calls to LIB$ and SYS$
1 !                       Changed RU JNL bits
1 !                       Added DEFERRED_WRITE, ERASE_ON_DELETE
1 !
1 !               V03-009 KFH0008         Ken Henderson           31 Jan 1983
1 !                       Enabled XAB$C_IN8 and XAB$C_BN8
1 !
```

```
:   90      0089  1 !                 V03-008 KFH0007         Ken Henderson          28 Jan 1983
:   91      0090  1 !                         Only stuff FDL$AB_AREA_BKZ if not
:   92      0091  1 !                         deallocating blocks
:   93      0092  1 !
:   94      0093  1 !                 V03-007 KFH0006         Ken Henderson          21 Jan 1983
:   95      0094  1 !                         Fixed deallocation of file name
:   96      0095  1 !                         in FDL$$CHECK_BLOCKS
:   97      0096  1 !
:   98      0097  1 !                 V03-006 KFH0005         Ken Henderson          6 Jan 1983
:   99      0098  1 !                         Fixed deallocation of key names
:  100      0099  1 !                         in CHECK_XAB
:  101      0100  1 !
:  102      0101  1 !                 V03-005 KFH0004         Ken Henderson          5 Jan 1983
:  103      0102  1 !                         Added alloc/dealloc of FDL$AB_AREA_BZK
:  104      0103  1 !                         to FDL$$CHECK_BLOCKS
:  105      0104  1 !
:  106      0105  1 !                 V03-004 KFH0003         Ken Henderson          4 Jan 1983
:  107      0106  1 !                         Fixed CHECK_XAB deallocation of
:  108      0107  1 !                         KEYXABs and FDL$$CHECK_BLOCKS
:  109      0108  1 !                         deallocation of NAM blocks
:  110      0109  1 !
:  111      0110  1 !                 V03-003 KFH0002         Ken Henderson          30 Dec 1982
:  112      0111  1 !                         Fixed broken branches
:  113      0112  1 !
:  114      0113  1 !                 V03-002 KFH0001         Ken Henderson          15 Dec 1982
:  115      0114  1 !                         Finished IDENT, SYSTEM, POSITION
:  116      0115  1 !
:  117      0116  1 !****
```

```
;   119         0117  1
;   120         0118  1 PSECT
;   121         0119  1         OWN     = _FDL$OWN       (PIC),
;   122         0120  1         GLOBAL  = _FDL$GLOBAL    (PIC),
;   123         0121  1         PLIT    = _FDL$PLIT      (SHARE,PIC),
;   124         0122  1         CODE    = _FDL$CODE      (SHARE,PIC);
;   125         0123  1
;   126         0124  1 LIBRARY 'SYS$LIBRARY:STARLET';
;   127         0125  1 REQUIRE 'SRC$:FDLUTIL';
;   128         0310  1 REQUIRE 'LIB$:FDLPARDEF';
;   129         0849  1
;   130         0850  1 EXTERNAL ROUTINE
;   131         0851  1         SYS$FAO,
;   132         0852  1         SYS$ASCTIM,
;   133         0853  1         LIB$GET_VM,
;   134         0854  1         LIB$FREE_VM,
;   135         0855  1         STR$APPEND,
;   136         0856  1         FDL$$FREE_VM,
;   137         0857  1         FDL$$READ_ERROR          : NOVALUE,
;   138         0858  1         FDL$$RMS_OPEN_ERROR      : NOVALUE;
;   139         0859  1
;   140         0860  1 FORWARD ROUTINE
;   141         0861  1         GEN_PRIMARY,
;   142         0862  1         FDL$$FORMAT_LINE,
;   143         0863  1         FDL$$OUTPUT_LINE,
;   144         0864  1         FDL$$CHECK_BLOCKS,
;   145         0865  1         FETCH_FIELD;
;   146         0866  1
;   147         0867  1
;   148         0868  1 EXTERNAL
;   149         0869  1         FDL$AB_PRI_TABLE                 :
;   150         0870  1     BLOCKVECTOR [ FDL$C_PRITAB_SIZE, FDL$C_PRIBLK_SIZE ] FIELD (PRITAB_FIELDS),
;   151         0871  1
;   152         0872  1         FDL$AB_SEC_TABLE                 :
;   153         0873  1     BLOCKVECTOR [ FDL$C_SECTAB_SIZE, FDL$C_SECBLK_SIZE ] FIELD (SECTAB_FIELDS),
;   154         0874  1
;   155         0875  1         FDL$AB_OUT_STRING        : REF DESC_BLK,
;   156         0876  1         FDL$AB_GENFAB            : REF BLOCK [ ,BYTE ],
;   157         0877  1         FDL$AB_GENRAB            : REF BLOCK [ ,BYTE ],
;   158         0878  1         FDL$AB_FDL_RAB           : BLOCK [ ,BYTE ],
;   159         0879  1         FDL$AB_CTRL              : BLOCK [ ,BYTE ],
;   160         0880  1         FDL$AB_BLOCK_BLK         : VECTOR [ 4,LONG ],
;   161         0881  1         FDL$AB_AREA_BKZ          : REF VECTOR [ ,BYTE ],
;   162         0882  1         FDL$GL_INVBLK_PTR,
;   163         0883  1         FDL$GL_STNUMPTR,
;   164         0884  1         FDL$GL_MAXLINE,
;   165         0885  1         FDL$GL_SECNUM,
;   166         0886  1         FDL$GL_PRIMARY,
;   167         0887  1         FDL$GL_PRINUM,
;   168         0888  1         FDL$GL_SECONDARY,
;   169         0889  1         FDL$AB_FDL_STRING        : DESC_BLK,
;   170         0890  1         FDL$AB_LINE              : DESC_BLK,
;   171         0891  1         FDL$AB_UPCASED           : DESC_BLK,
;   172         0892  1         FDL$AB_KEY_TABLE,
;   173         0893  1         FDL$AB_STATE_TABLE,
;   174         0894  1         FDL$AB_TPARSE_BLOCK      : BLOCK [ ,BYTE ];
;   175         0895  1
```

```
1 OWN
1               TEMP_DESC               : DESC_BLK
1                                       PRESET( [ DSC$B_CLASS ] = DSC$K_CLASS_S,
1                                               [ DSC$B_DTYPE ] = DSC$K_DTYPE_T ),
1               FAO_DESC                : DESC_BLK
1                                       PRESET( [ DSC$B_CLASS ] = DSC$K_CLASS_S,
1                                               [ DSC$B_DTYPE ] = DSC$K_DTYPE_T ),
1               TIME_BUF                : DESC_BLK
1                                       PRESET( [ DSC$B_CLASS ] = DSC$K_CLASS_S,
1                                               [ DSC$B_DTYPE ] = DSC$K_DTYPE_T ),
1               TIME_TEMP               : VECTOR [ 23,BYTE ],
1               FAO_LENGTH              : LONG,
1               FAO_PARAM               : LONG,
1               FAO_PARAM2              : LONG,
1               FAO_PARAM3              : LONG,
1               FAO_PARAM4              : LONG,
1               STRBYTES                : LONG,
1               OCHAR                   : REF VECTOR [ ,BYTE ],
1               XABPRO_PTR              : LONG,
1               XABRDT_PTR              : LONG,
1               XABDAT_PTR              : LONG,
1               XABJNL_PTR              : LONG,
1               XABALL_PTR              : REF BLOCK [ ,BYTE ],
1               XABKEY_PTR              : REF BLOCK [ ,BYTE ],
1               SAVE_POINTER            : REF BLOCK [ ,BYTE ],
1
1               PROT_VALUES             : VECTOR [ 16,LONG ] INITIAL (
1                   %ASCID 'RWED',
1                   %ASCID 'WED',
1                   %ASCID 'RED',
1                   %ASCID 'ED',
1                   %ASCID 'RWD',
1                   %ASCID 'WD',
1                   %ASCID 'RD',
1                   %ASCID 'D',
1                   %ASCID 'RWE',
1                   %ASCID 'WE',
1                   %ASCID 'RE',
1                   %ASCID 'E',
1                   %ASCID 'RW',
1                   %ASCID 'W',
1                   %ASCID 'R',
1                   %ASCID '');
1
1
1 DEFINE_ERROR_CODES;
```

```
1 %SBTTL  'FDL$$GEN_SPEC'
1 GLOBAL ROUTINE FDL$$GEN_SPEC =
1 .++
1 !
1 ! Functional Description:
1 !
1 !       This routine xxxxxxxxxxxxx
1 !
1 ! Calling Sequence:
1 !
1 !       fdl$$gen_spec(  fdl_string )
1 !
1 ! Input Parameters:
1 !
1 !       fdl_desc        - descriptor of the fdl file name string (required)
1 !       file_name       - descriptor file name to overide the name specified
1 !                         in the fdl file (optional)
1 !       default_name    - descriptor default file name to overide the default
1 !                         name specified in the fdl file (optional)
1 !
1 !       flags           - address of flags longword (optional)
1 !               FDL$V_SIGNAL            signal errors instead of returning
1 !               FDL$V_FDL_STRING        input fdl-spec is a char string
1 !               FDL$V_$CALLBACK         used by EDF
1 !
1 ! Implicit Inputs:
1 !       none
1 !
1 ! Output Parameters:
1 !
1 !       result_name     - descriptor to receive the fil^ name which was created
1 !                         (optional)
1 !       fid_block       - address of a 3 longword used block to receive the fid
1                           of the file created (optional)
1 !
1 !       stmnt-num       - address of longword to recieve statement
1 !                         number (optional)
1 !
1 ! Implicit Outputs:
1 !       none
1 !
1 ! Routine Value:
1 !
1 !       success or error code
1 !
1 ! Side Effects:
1 !       none
1 !
1 !--
1
2    BEGIN
2
2    LOCAL
2       BYTES           : LONG,
2       LINE            : REF BLOCK [ FDL$C_SECBLK_SIZE ] FIELD (SECTAB_FIELDS);
2
2    ! Waste 23 bytes to create a buffer to hold the time
```

```
!
BYTES = 23;
CH$FILL ( 0, .BYTES, TIME_TEMP );
TIME_BUF [ DSC$A_POINTER ] = TIME_TEMP;
TIME_BUF [ DSC$W_LENGTH ] = .BYTES;

! See if the RMS control blocks are kosher ( DON'T DEALLOCATE THEM )
! It also saves the addresses of any relevant XABs it finds
! It also saves the bucketsizes of any AREA XABs it finds
!
FDL$AB_CTRL [ FDL$V_DEALLOC ] = _CLEAR;
FDL$$CHECK_BLOCKS ( .FDL$AB_GENFAB, .FDL$AB_GENRAB );
FAO_LENGTH = 0;

! Generate the FDL primaries in their proper order
!
GEN_PRIMARY ( FDL$C_IDENT, 0, 0, 0 );
GEN_PRIMARY ( FDL$C_SYSTEM, FDL$C_SOURCE, FDL$C_SOURCE, 0 );
GEN_PRIMARY ( FDL$C_FILE, FDL$C_FILE_BEG, FDL$C_FILE_END, .XABPRO_PTR );
!   GEN_PRIMARY ( FDL$C_ACL, FDL$C_ACL_BEG, FDL$C_ACL_END, .XABACL_PTR );
GEN_PRIMARY ( FDL$C_DATE, FDL$C_DATE_BEG, FDL$C_DATE_END, .XABDAT_PTR );
GEN_PRIMARY ( FDL$C_JNL, FDL$C_JOURNAL_BEG, FDL$C_JOURNAL_END, .XABJNL_PTR );
GEN_PRIMARY ( FDL$C_RECORD, FDL$C_RECORD_BEG, FDL$C_RECORD_END, 0 );
GEN_PRIMARY ( FDL$C_ACCESS, FDL$C_ACCESS_BEG, FDL$C_ACCESS_END, 0 );
GEN_PRIMARY ( FDL$C_SHARING, FDL$C_SHARING_BEG, FDL$C_SHARING_END, 0 );
GEN_PRIMARY ( FDL$C_CONNECT, FDL$C_CONNECT_BEG, FDL$C_CONNECT_END, 0 );

! Cycle through all the AREAs
!
UNTIL .XABALL_PTR EQLU 0
DO
    BEGIN

    GEN_PRIMARY ( FDL$C_AREA, FDL$C_AREA_BEG, FDL$C_AREA_END, .XABALL_PTR );

    DO

        XABALL_PTR = .XABALL_PTR [ XAB$L_NXT ]

    UNTIL (
    ( .XABALL_PTR EQLU 0 )
    OR
    ( .XABALL_PTR [ XAB$B_COD ] EQLU XAB$C_ALL ));

    END;

! Cycle through all the KEYs
!
UNTIL .XABKEY_PTR EQLU 0
DO
    BEGIN

    GEN_PRIMARY ( FDL$C_KEY, FDL$C_KEY_BEG, FDL$C_KEY_END, .XABKEY_PTR );

    DO

        XABKEY_PTR = .XABKEY_PTR [ XAB$L_NXT ]
```

```
;  337         1056  3
;  338         1057  4            UNTIL (
;  339         1058  5            ( .XABKEY_PTR EQLU 0 )
;  340         1059  4            OR
;  341         1060  3            ( .XABKEY_PTR [ XAB$B_COD ] EQLU XAB$C_KEY ));
;  342         1061  3
;  343         1062  2            END;
;  344         1063  2
;  345         1064  2        RETURN SS$_NORMAL;
;  346         1065  2
;  347         1066  1        END;


                                                           .TITLE  FDLGEN VAX-11 FDL Utilities
                                                           .IDENT  \V04-000\

                                                           .PSECT  _FDL$PLIT,NOWRT,NOEXE,  SHR,  PIC,2

                         44  45  57  52  00000 P.AAB:     .ASCII  \RWED\
                               010E0004  00004 P.AAA:     .LONG   17694724
                              00000000'  00008            .ADDRESS P.AAB
                         00  44  45  57  0000C P.AAD:     .ASCII  \WED\<0>
                               010E0003  00010 P.AAC:     .LONG   17694723
                              00000000'  00014            .ADDRESS P.AAD
                         00  44  45  52  00018 P.AAF:     .ASCII  \RED\<0>
                               010E0003  0001C P.AAE:     .LONG   17694723
                              00000000'  00020            .ADDRESS P.AAF
                         00  00  44  45  00024 P.AAH:     .ASCII  \ED\<0><0>
                               010E0002  00028 P.AAG:     .LONG   17694722
                              00000000'  0002C            .ADDRESS P.AAH
                         00  44  57  52  00030 P.AAJ:     .ASCII  \RWD\<0>
                               010E0003  00034 P.AAI:     .LONG   17694723
                              00000000'  00038            .ADDRESS P.AAJ
                         00  00  44  57  0003C P.AAL:     .ASCII  \WD\<0><0>
                               010E0002  00040 P.AAK:     .LONG   17694722
                              00000000'  00044            .ADDRESS P.AAL
                         00  00  44  52  00048 P.AAN:     .ASCII  \RD\<0><0>
                               010E0002  0004C P.AAM:     .LONG   17694722
                              00000000'  00050            .ADDRESS P.AAN
                         00  00  00  44  00054 P.AAP:     .ASCII  \D\<0><0><0>
                               010E0001  00058 P.AAO:     .LONG   176 .721
                              00000000'  0005C            .ADDRESS P.AAP
                         00  45  57  52  00060 P.AAR:     .ASCII  \RWE\<0>
                               010E0003  00064 P.AAQ:     .LONG   17694723
                              00000000'  00068            .ADDRESS P.AAR
                         00  00  45  57  0006C P.AAT:     .ASCII  \WE\<0><0>
                               010E0002  00070 P.AAS:     .LONG   17694722
                              00000000'  00074            .ADDRESS P.AAT
                         00  00  45  52  00078 P.AAV:     .ASCII  \RE\<0><0>
                               010E0002  0007C P.AAU:     .LONG   17694722
                              00000000'  00080            .ADDRESS P.AAV
                         00  00  00  45  00084 P.AAX:     .ASCII  \E\<0><0><0>
                               010E0001  00088 P.AAW:     .LONG   17694721
                              00000000'  0008C            .ADDRESS P.AAX
                         00  00  57  52  00090 P.AAZ:     .ASCII  \RW\<0><0>
                               010E0002  00094 P.AAY:     .LONG   17694722
                              00000000'  00098            .ADDRESS P.AAZ
```

```
                                          00  00  00  57  0009C P.ABB:  .ASCII  \W\<0><0><0>                                  ;
                                                010E0001  000A0 P.ABA:  .LONG   17694721                                      ;
                                                00000000' 000A4         .ADDRESS P.ABB                                        ;
                                          00  00  00  52  000A8 P.ABD:  .ASCII  \R\<0><0><0>                                  ;
                                                010E0001  000AC P.ABC:  .LONG   17694721                                      ;
                                                00000000' 000B0         .ADDRESS P.ABD                                        ;
                                                          000B4 P.ABF:  .BLKB   0                                             ;
                                                010E0000  000B4 P.ABE:  .LONG   17694720                                      ;
                                                00000000' 000B8         .ADDRESS P.ABF                                        ;

                                                                        .PSECT  _FDL$OWN,NOEXE,  PIC,2

                                                      00# 00000 TEMP_DESC:
                                                                        .BYTE   0[2]                                          ;
                                                01   0E   00002         .BYTE   14, 1                                         ;
                                                          00004         .BLKB   4
                                                      00# 00008 FAO_DESC:
                                                                        .BYTE   0[2]                                          ;
                                                01   0E   0000A         .BYTE   14, 1                                         ;
                                                          0000C         .BLKB   4
                                                      00# 00010 TIME_BUF:
                                                                        .BYTE   0[2]                                          ;
                                                01   0E   00012         .BYTE   14, 1                                         ;
                                                          00014         .BLKB   4
                                                          00018 TIME_TEMP:
                                                                        .BLKB   23
                                                          0002F         .BLKB   1
                                                          00030 FAO_LENGTH:
                                                                        .BLKB   4
                                                          00034 FAO_PARAM:
                                                                        .BLKB   4
                                                          00038 FAO_PARAM2:
                                                                        .BLKB   4
                                                          0003C FAO_PARAM3:
                                                                        .BLKB   4
                                                          00040 FAO_PARAM4:
                                                                        .BLKB   4
                                                          00044 STRBYTES:
                                                                        .BLKB   4
                                                          00048 OCHAR:  .BLKB   4
                                                          0004C XABPRO_PTR:
                                                                        .BLKB   4
                                                          00050 XABRDT_PTR:
                                                                        .BLKB   4
                                                          00054 XABDAT_PTR:
                                                                        .BLKB   4
                                                          00058 XABJNL_PTR:
                                                                        .BLKB   4
                                                          0005C XABALL_PTR:
                                                                        .BLKB   4
                                                          00060 XABKEY_PTR:
                                                                        .BLKB   4
                                                          00064 SAVE_POINTER:
                                                                        .BLKB   4
00000000' 00000000' 00000000' 00000000' 00000000' 00000000' 00068 PROT_VALUES:
                                                                        .ADDRESS P.AAA, P.AAC, P.AAE, P.AAG, P.AAI, -    ;
00000000' 00000000' 00000000' 00000000' 00000000' 00000000' 00080                P.AAK, P.AAM, P.AAO, P.AAQ, P.AAS, P.AAU, - ;
```

FD
V0
;

```
               00000000' 00000000' 00000000' 00000000' 00098           P.AAW, P.AAY, P.ABA, P.ABC, P.ABE                ;

                                                            .EXTRN  SYS$FAO, SYS$ASCTIM
                                                            .EXTRN  LIB$GET_VM, LIB$FREE_VM
                                                            .EXTRN  STR$APPEND, FDL$$FREE_VM
                                                            .EXTRN  FDL$$READ_ERROR
                                                            .EXTRN  FDL$$RMS_OPEN_ERROR
                                                            .EXTRN  FDL$AB_PRI_TABLE
                                                            .EXTRN  FDL$AB_SEC_TABLE
                                                            .EXTRN  FDL$AB_OUT_STRING
                                                            .EXTRN  FDL$AB_GENFAB, FDL$AB_GENRAB
                                                            .EXTRN  FDL$AB_FDL_RAB, FDL$AB_CTRL
                                                            .EXTRN  FDL$AB_BLOCK_BLK
                                                            .EXTRN  FDL$AB_AREA_BKZ
                                                            .EXTRN  FDL$GL_INVBLK_PTR
                                                            .EXTRN  FDL$GL_STNUMPTR
                                                            .EXTRN  FDL$GL_MAXLINE, FDL$GL_SECNUM
                                                            .EXTRN  FDL$GL_PRIMARY, FDL$GL_PRINUM
                                                            .EXTRN  FDL$GL_SECONDARY
                                                            .EXTRN  FDL$AB_FDL_STRING
                                                            .EXTRN  FDL$AB_LINE, FDL$AB_UPCASED
                                                            .EXTRN  FDL$AB_KEY_TABLE
                                                            .EXTRN  FDL$AB_STATE_TABLE
                                                            .EXTRN  FDL$AB_TPARSE_BLOCK
                                                            .EXTRN  FDL$_FACILITY, FDL$_FAO_MAX
                                                            .EXTRN  FDL$_ABKW, FDL$_ABPRIKW
                                                            .EXTRN  FDL$_CREATE, FDL$_CREATED
                                                            .EXTRN  FDL$_CREATEDSTM
                                                            .EXTRN  FDL$_FDLERROR, FDL$_ILL_ARG
                                                            .EXTRN  FDL$_INSVIRMEM, FDL$_INVBLK
                                                            .EXTRN  FDL$_INVDATIM, FDL$_MULPRI
                                                            .EXTRN  FDL$_MULSEC, FDL$_NOQUAL
                                                            .EXTRN  FDL$_NULLPRI, FDL$_OPENFDL
                                                            .EXTRN  FDL$_OUTORDER, FDL$_OPENOUT
                                                            .EXTRN  FDL$_WRITEERR, FDL$_READERR
                                                            .EXTRN  FDL$_RFLOC, FDL$_TITLE
                                                            .EXTRN  FDL$_SYNTAX, FDL$_VALPRI
                                                            .EXTRN  FDL$_UNQUAKW, FDL$_UNPRIKW
                                                            .EXTRN  FDL$_UNSECKW, FDL$_WARNING

                                                            .PSECT  _FDL$CODE,NOWRT,  SHR,  PIC,2

                                             01FC 00000     .ENTRY  FDL$$GEN_SPEC, Save R2,R3,R4,R5,R6,R7,R8          ; 0943
                         58 00000000V   00    9E 00002     MOVAB   GEN_PRIMARY, R8                                     ;
                         57 00000000'   00    9E 00009     MOVAB   XABALL_PTR, R7                                      ;
                         56             17    D0 00010     MOVL    #23, BYTES                                          ; 1000
  56          00         6E             00    2C 00013     MOVC5   #0, (SP), #0, BYTES, TIME_TEMP                      ; 1001
                                  BC    A7       00018                                                                 ;
                   B8    A7       BC    A7    9E 0001A     MOVAB   TIME_TEMP, TIME_BUF+4                               ; 1002
                   B4    A7             56    B0 0001F     MOVW    BYTES, TIME_BUF                                     ; 1003
             00000000G   00             20    8A 00023     BICB2   #32, FDL$AB_CTRL+2                                  ; 1009
                         00000000G      00    DD 0002A     PUSHL   FDL$AB_GENRAB                                       ; 1010
                         00000000G      00    DD 00030     PUSHL   FDL$AB_GENFAB                                       ;
             00000000V   00             02    FB 00036     CALLS   #2, FDL$$CHECK_BLOCKS                               ;
                                  D4    A7    D4 0003D     CLRL    FAO_LENGTH                                          ; 1011
                                        7E    7C 00040     CLRQ    -(SP)                                               ; 1015
                         7E             09    7D 00042     MOVQ    #9, -(SP)                                           ;
```

```
                    68           04  FB 00045           CALLS    #4, GEN_PRIMARY                    :
                                 7E  D4 00048           CLRL     -(SP)                              : 1016
                    7E       95  8F  9A 0004A           MOVZBL   #149, -(SP)                        :
                    7E       95  8F  9A 0004E           MOVZBL   #149, -(SP)                        :
                                 0E  DD 00052           PUSHL    #14                                :
                    68           04  FB 00054           CALLS    #4, GEN_PRIMARY                    :
                             F0  A7  DD 00057           PUSHL    XABPRO_PTR                         : 1017
                    7E       6F  8F  9A 0005A           MOVZBL   #111, -(SP)                        :
                    7E       48  8F  9A 0005E           MOVZBL   #72, -(SP)                         :
                                 08  DD 00062           PUSHL    #8                                 :
                    68           04  FB 00064           CALLS    #4, GEN_PRIMARY                    :
                             F8  A7  DD 00067           PUSHL    XABDAT_PTR                         : 1019
                    7E       47  8F  9A 0006A           MOVZBL   #71, -(SP)                         :
                    7E       44  8F  9A 0006E           MOVZBL   #68, -(SP)                         :
                                 07  DD 00072           PUSHL    #7                                 :
                    68           04  FB 00074           CALLS    #4, GEN_PRIMARY                    :
                             FC  A7  DD 00077           PUSHL    XABJNL_PTR                         : 1020
                    7E       76  8F  9A 0007A           MOVZBL   #118, -(SP)                        :
                    7E       70  8F  9A 0007E           MOVZBL   #112, -(SP)                        :
                                 0A  DD 00082           PUSHL    #10                                :
                    68           04  FB 00084           CALLS    #4, GEN_PRIMARY                    :
                                 7E  D4 00087           CLRL     -(SP)                              : 1021
                    7E       8C  8F  9A 00089           MOVZBL   #140, -(SP)                        :
                    7E       88  8F  9A 0008D           MOVZBL   #136, -(SP)                        :
                                 0C  DD 00091           PUSHL    #12                                :
                    68           04  FB 00093           CALLS    #4, GEN_PRIMARY                    :
                    7E           07  7D 00096           MOVQ     #7, -(SP)                          : 1022
                                 01  DD 00099           PUSHL    #1                                 :
                                 01  DD 0009B           PUSHL    #1                                 :
                    68           04  FB 0009D           CALLS    #4, GEN_PRIMARY                    :
                                 7E  D4 000A0           CLRL     -(SP)                              : 1023
                    7E       93  8F  9A 000A2           MOVZBL   #147, -(SP)                        :
                    7E       8D  8F  9A 000A6           MOVZBL   #141, -(SP)                        :
                                 0D  DD 000AA           PUSHL    #13                                :
                    68           04  FB 000AC           CALLS    #4, GEN_PRIMARY                    :
                                 7E  D4 000AF           CLRL     -(SP)                              : 1024
                    7E       43  8F  9A 000B1           MOVZBL   #67, -(SP)                         :
                                 23  DD 000B5           PUSHL    #35                                :
                                 06  DD 000B7           PUSHL    #6                                 :
                    68           04  FB 000B9           CALLS    #4, GEN_PRIMARY                    :
                    52           67  D0 000BC           MOVL     XABALL_PTR, R2                     : 1028
                                 52  D5 000BF 1$:       TSTL     R2                                 :
                                 1E  13 000C1           BEQL     3$                                 :
                                 52  DD 000C3           PUSHL    R2                                 : 1032
                                 22  DD 000C5           PUSHL    #34                                :
                                 1B  DD 000C7           PUSHL    #27                                :
                                 05  DD 000C9           PUSHL    #5                                 :
                    68           04  FB 000CB           CALLS    #4, GEN_PRIMARY                    :
                    52           67  D0 000CE           MOVL     XABALL_PTR, R2                     : 1036
                    67       04  A2  D0 000D1 2$:       MOVL     4(R2), XABALL_PTR                  :
                    52           67  D0 000D5           MOVL     XABALL_PTR, R2                     : 1039
                                 E5  13 000D8           BEQL     1$                                 :
                    14           62  91 000DA           CMPB     (R2), #20                          : 1041
                                 F2  12 000DD           BNEQ     2$                                 :
                                 DE  11 000DF           BRB      1$                                 : 1028
                    52       04  A7  D0 000E1 3$:       MOVL     XABKEY_PTR, R2                     : 1047
                                 52  D5 000E5 4$:       TSTL     R2                                 :
```

```
                              25  13 000E7          BEQL    6$                                    ;
                              52  DD 000E9          PUSHL   R2                                    ; 1051
                  7E     87   8F  9A 000EB          MOVZBL  #135, -(SP)                           ;
                  7E     77   8F  9A 000EF          MOVZBL  #119, -(SP)                           ;
                              0B  DD 000F3          PUSHL   #11                                   ;
                  68          04  FB 000F5          CALLS   #4, GEN_PRIMARY                       ;
                  52     04   A7  D0 000F8          MOVL    XABKEY_PTR, R2                        ; 1055
             04   A7     04   A2  D0 000FC 5$:      MOVL    4(R2), XABKEY_PTR                     ;
                  52     04   A7  D0 00101          MOVL    XABKEY_PTR, R2                        ; 1058
                              DE  13 00105          BEQL    4$                                    ;
                  15          62  91 00107          CMPB    (R2), #21                             ; 1060
                              F0  12 0010A          BNEQ    5$                                    ;
                              D7  11 0010C          BRB     4$                                    ; 1047
                  50          01  D0 0010E 6$:      MOVL    #1, R0                                ; 1064
                                  04 00111          RET                                           ; 1066

; Routine Size:  274 bytes,    Routine Base:  _FDL$CODE + 0000
```

```
1 %SBTTL  'GEN_PRIMARY'
1 ROUTINE GEN_PRIMARY ( WHICH : LONG, BEG : LONG, GEB : LONG, XAB_PTR : LONG ) =
1 !++
1 !
1 ! Functional Description:
1 !
1 !       This routine xxxxxxxxxxxxx
1 !
1 ! Calling Sequence:
1 !
1 !       fdl$$gen_line(  fdl_string )
1 !
1 ! Input Parameters:
1 !
1 !       fdl_desc        - descriptor of the fdl file name string (required)
1 !       file_name       - descriptor file name to overide the name specified
1 !                         in the fdl file (optional)
1 !       default_name    - descriptor default file name to overide the default
1 !                         name specified in the fdl file (optional)
1 !
1 !       flags           - address of flags longword (optional)
1 !               FDL$V_SIGNAL            signal errors instead of returning
1 !               FDL$V_FDL_STRING        input fdl-spec is a char string
1 !               FDL$V_$CALLBACK         used by EDF
1 !
1 ! Implicit Inputs:
1 !       none
1 !
1 ! Output Parameters:
1 !
1 !       result_name     - descriptor to receive the file name which was created
1 !                         (optional)
1 !       fid_block       - address of a 3 longword used block to receive the fid
1 !                         of the file created (optional)
1 !
1 !       stmnt-num       - address of longword to recieve statement
1 !                         number (optional)
1 !
1 ! Implicit Outputs:
1 !       none
1 !
1 ! Routine Value:
1 !
1 !       success or error code
1 !
1 ! Side Effects:
1 !       none
1 !
1 !--
1
2    BEGIN
2
2    LOCAL
2       TEMP_BYTE       : BYTE,
2       BOFF            : LONG,
2       XAB             : REF BLOCK [ ,BYTE ],
2       PLINE           : REF BLOCK [ FDL$C_PRIBLK_SIZE ] FIELD (PRITAB_FIELDS),
2           LINE            : REF BLOCK [ FDL$C_SECBLK_SIZE ] FIELD (SECTAB_FIELDS);
2
2       ! Setup the xab pointer
2       !
2       FDL$AB_BLOCK_BLK [ FDL$C_XAB ] = .XAB_PTR;
2       XAB = .XAB_PTR;
2       FDL$GL_PRIMARY = .WHICH;
2
2       ! Point to the record which describe this primary attribute
2       !
2       PLINE = ( FDL$AB_PRI_TABLE + (.FDL$GL_PRIMARY * FDL$C_PRIBLK_SIZE * 4) );
2
2       ! Setup the AREA number or KEY number
2       !
2       IF .PLINE [ FDL$V_NUM_ATTACH ]
2       THEN
3           BEGIN
3
3           BOFF = .PLINE [ FDL$V_PRI_BOFF ];
3           FDL$GL_PRINUM = .XAB [ .BOFF,0,8,0 ];
3
2           END;
2
2       ! The following is a list of all the reasons why not to output this
2       ! particular primary attribute
2       !
2       ! null table entry
2       ! no date xab
2       ! no journal xab
2       ! not doing fullgen and primary = connect or sharing or access
2       !
4       IF ( NOT (
5       ( .PLINE [ FDL$V_PRI_FAO ] EQLU 0 )
4       OR
5       (( .FDL$GL_PRIMARY EQLU FDL$C_DATE ) AND ( .XABDAT_PTR EQLU 0 ))
4       OR
5       (( .FDL$GL_PRIMARY EQLU FDL$C_JNL ) AND ( .XABJNL_PTR EQLU 0 ))
4       OR
6       ((
7           ( .FDL$GL_PRIMARY EQLU FDL$C_CONNECT )
6           OR
7           ( .FDL$GL_PRIMARY EQLU FDL$C_SHARING )
6           OR
7           ( .FDL$GL_PRIMARY EQLU FDL$C_ACCESS )
5       ) AND NOT .FDL$AB_CTRL [ FDL$V_FULLGEN ] )
2       )) THEN
3           BEGIN
3
3           IF .FDL$GL_PRIMARY NEQU FDL$C_IDENT
3           THEN
3               ! Output a blank line
3               !
3               FDL$$OUTPUT_LINE ( -1 );
3
3           ! Format and output the Primary Attribute line
3           !
3           TEMP_BYTE = ..PLINE [ FDL$V_PRI_FAO ];
```

```
	FAO_DESC [ DSC$W_LENGTH ] = .TEMP_BYTE;
	FAO_DESC [ DSC$A_POINTER ] = .PLINE [ FDL$V_PRI_FAO ] + 1;

	IF .FDL$GL_PRIMARY EQLU FDL$C_IDENT
	THEN
	    BEGIN

	    RET_ON_ERROR ( SYS$ASCTIM ( 0,TIME_BUF,0,0 ));
	    TIME_BUF [ DSC$W_LENGTH ] = 20;

	    END;

	RET_ON_ERROR (
	SYS$FAO ( FAO_DESC,FAO_LENGTH,FDL$AB_LINE,.FDL$GL_PRINUM,TIME_BUF ));
	FDL$$OUTPUT_LINE ( .FAO_LENGTH );

	IF .FDL$GL_PRIMARY EQLU FDL$C_IDENT
	THEN
	    RETURN SS$_NORMAL;

	! Cycle through the secondary attributes
	!
	INCR SEC FROM .BEG TO .GEB
	DO
	    BEGIN

	    ! Skip it if this is a null table entry
	    ! (which means we don't generate it - only ANALYZE/RMS/FDL does)
	    ! Also skip it if the RMS block we need doesn't exist
	    !
	    LINE = ( FDL$AB_SEC_TABLE + (.SEC * FDL$C_SECBLK_SIZE * 4) );

	    ! FILE REVISION is a special case
	    ! We have to bring in the XABRDT if it exists
	    ! whereas FILE had used XABPRO previously
	    !
	    IF .SEC EQLU FDL$C_REVISN
	    THEN
		FDL$AB_BLOCK_BLK [ FDL$C_XAB ] = .XABRDT_PTR;

	    ! The following is a list of conditions to be satisfied
	    ! in order to put this secondary out
	    !
	    ! table entry is not null
	    ! pointer to relevant RMS control block is not 0
	    ! we're doing a fullgen, or the full-only bit is clear
	    ! if this is the ifill or dfill secondary to the key primary,
	    !   an xaball exists
	    !
	    IF (
	    ( .LINE [ FDL$V_SEC_FAO ] NEQU 0 )
	    AND
	    ( .FDL$AB_BLOCK_BLK [ .LINE [ FDL$V_BLK_TYPE ] ] NEQU 0 )
	    AND
	    (( .FDL$AB_CTRL [ FDL$V_FULLGEN ] ) OR ( NOT .LINE [ FDL$V_FULL_ONLY ] ))
	    AND
	    NOT (
;  520            1238  6                  ( .FDL$GL_PRIMARY EQLU FDL$C_KEY ) AND
;  521            1239  6                  ( ( .SEC EQLU FDL$C_IFILL ) OR ( .SEC EQLU FDL$C_DFILL ) ) AND
;  522            1240  7                  ( .XABALL_PTR EQLU 0 )
;  523            1241  5                  )
;  524            1242  4              ) THEN
;  525            1243  5                  BEGIN
;  526            1244  5
;  527            1245  5                  FDL$GL_SECONDARY = .SEC;
;  528            1246  5                  FDL$$OUTPUT_LINE ( FDL$$FORMAT_LINE () );
;  529            1247  5
;  530            1248  4                  END;
;  531            1249  4
;  532            1250  3              END;
;  533            1251  3
;  534            1252  2          END;
;  535            1253  2
;  536            1254  2      RETURN SS$_NORMAL;
;  537            1255  2
;  538            1256  1      END;



                                      01FC 00000 GEN_PRIMARY:
                                                          .WORD   Save R2,R3,R4,R5,R6,R7,R8                  ; 1068
                    58 00000000G  00   9E 00002           MOVAB   FDL$GL_PRINUM, R8                          ;
                    57 00000000C  00   9E 00009           MOVAB   FDL$AB_BLOCK_BLK+8, R7                     ;
                    56 00000000V  00   9E 00010           MOVAB   FDL$$OUTPUT_LINE, R6                       ;
                    55 00000000G  00   9E 00017           MOVAB   FDL$GL_PRIMARY, R5                         ;
                    54 00000000'  00   9E 0001E           MOVAB   TIME_BUF, R4                               ;
                    67         10 AC   D0 00025           MOVL    XAB_PTR, FDL$AB_BLOCK_BLK+8                ; 1128
                    50         10 AC   D0 00029           MOVL    XAB_PTR, XAB                               ; 1129
                    65         04 AC   D0 0002D           MOVL    WHICH, FDL$GL_PRIMARY                      ; 1130
                    51            65   D0 00031           MOVL    FDL$GL_PRIMARY, R1                         ; 1134
                    52 00000000G0041   7E 00034           MOVAQ   FDL$AB_PRI_TABLE[R1], PLINE                ;
      08        04  A2            01   E1 0003C           BBC     #1, 4(PLINE), 1$                           ; 1138
                    53         06 A2   3C 00041           MOVZWL  6(PLINE), BOFF                             ; 1142
                    68          6340   9A 00045           MOVZBL  (BOFF)[XAB], FDL$GL_PRINUM                 ; 1143
                                  62   D5 00049 1$:       TSTL    (PLINE)                                    ; 1156
                                  2B   13 0004B           BEQL    5$                                         ;
                    07            51   D1 0004D           CMPL    R1, #7                                     ; 1158
                                  05   12 00050           BNEQ    2$                                         ;
                               44 A4   D5 00052           TSTL    XABDAT_PTR                                 ;
                                  21   13 00055           BEQL    5$                                         ;
                    0A            51   D1 00057 2$:       CMPL    R1, #10                                    ; 1160
                                  05   12 0005A           BNEQ    3$                                         ;
                               48 A4   D5 0005C           TSTL    XABJNL_PTR                                 ;
                                  17   13 0005F           BEQL    5$                                         ;
                    06            51   D1 00061 3$:       CMPL    R1, #6                                     ; 1163
                                  0A   13 00064           BEQL    4$                                         ;
                    0D            51   D1 00066           CMPL    R1, #13                                    ; 1165
                                  05   13 00069           BEQL    4$                                         ;
                    01            51   D1 0006B           CMPL    R1, #1                                     ; 1167
                                  0B   12 0006E           BNEQ    6$                                         ;
      03 00000000G  00            04   E0 00070 4$:       BBS     #4, FDL$AB_CTRL+2, 6$                      ; 1168
                                0OC3   31 00078 5$:       BRW     16$                                        ;
```

```
                          09            51  D1 0007B 6$:      CMPL    R1, #9                                          ; 1172
                                        06  13 0007E          BEQL    7$                                              ;
                          7E            01  CE 00080          MNEGL   #1, -(SP)                                       ; 1176
                          66            01  FB 00083          CALLS   #1, FDL$$OUTPUT_LINE                            ;
                          50      00    B2  90 00086 7$:      MOVB    @0(PLINE), TEMP_BYTE                            ; 1180
               F8         A4            50  9B 0008A          MOVZBW  TEMP_BYTE, FAO_DESC                             ; 1181
  FC    A4                62            01  C1 0008E          ADDL3   #1, (PLINE), FAO_DESC+4                         ; 1182
                          09            65  D1 00093          CMPL    FDL$GL_PRIMARY, #9                              ; 1184
                                        13  12 00096          BNEQ    8$                                              ;
                                        7E  7C 00098          CLRQ    -(SP)                                           ; 1188
                                        54  DD 0009A          PUSHL   R4                                              ;
                                        7E  D4 0009C          CLRL    -(SP)                                           ;
             00000000G    00            04  FB 0009E          CALLS   #4, SYS$ASCTIM                                  ;
                          1A            50  E9 000A5          BLBC    STATUS, 9$                                      ;
                          64            14  B0 000A8          MOVW    #20, TIME_BUF                                   ; 1189
                                        54  DD 000AB 8$:      PUSHL   R4                                              ; 1194
                                        68  DD 000AD          PUSHL   FDL$GL_PRINUM                                   ;
                          00000000G     00  9F 000AF          PUSHAB  FDL$AB_LINE                                     ;
                                  20    A4  9F 000B5          PUSHAB  FAO_LENGTH                                      ;
                                  F8    A4  9F 000B8          PUSHAB  FAO_DESC                                        ;
             00000000G    00            05  FB 000BB          CALLS   #5, SYS$FAO                                     ;
                          7C            50  E9 000C2 9$:      BLBC    STATUS, 17$                                     ;
                                  20    A4  DD 000C5          PUSHL   FAO_LENGTH                                      ; 1195
                          66            01  FB 000C8          CALLS   #1, FDL$$OUTPUT_LINE                            ;
                          09            65  D1 000CB          CMPL    FDL$GL_PRIMARY, #9                              ; 1197
                                        6E  13 000CE          BEQL    16$                                             ;
        52         08     AC            01  C3 000D0          SUBL3   #1, BEG, SEC                                    ; 1203
                                        62  11 000D5          BRB     15$                                             ;
        50                52            0C  C5 000D7 10$:     MULL3   #12, SEC, R0                                    ; 1211
                          53 00000000G0040  9E 000DB          MOVAB   FDL$AB_SEC_TABLE[R0], LINE                      ;
             00000067     8F            52  D1 000E3          CMPL    SEC, #103                                       ; 1217
                                        04  12 000EA          BNEQ    11$                                             ;
                          67      40    A4  D0 000EC          MOVL    XABRDT_PTR, FDL$AB_BLOCK_BLK+8                  ; 1219
                                        63  D5 000F0 11$:     TSTL    (LINE)                                          ; 1231
                                        45  13 000F2          BEQL    15$                                             ;
                          50      07    A3  9A 000F4          MOVZBL  7(LINE), R0                                     ; 1233
                                  F8  A740  D5 000F8          TSTL    FDL$AB_BLOCK_BLK[R0]                            ;
                                        3B  13 000FC          BEQL    15$                                             ;
        04 00000000G      00            04  E0 000FE          BBS     #4, FDL$AB_CTRL+2, 12$                          ; 1235
                          2F      04    A3  E8 00106          BLBS    4(LINE), 15$                                    ;
                          0B            65  D1 0010A 12$:     CMPL    FDL$GL_PRIMARY, #11                             ; 1238
                                        17  12 0010D          BNEQ    14$                                             ;
             0000007F     8F            52  D1 0010F          CMPL    SEC, #127                                       ; 1239
                                        09  13 00116          BEQL    13$                                             ;
             00000079     8F            52  D1 00118          CMPL    SEC, #121                                       ;
                                        05  12 0011F          BNEQ    14$                                             ;
                                  4C    A4  D5 00121 13$:     TSTL    XABALL_PTR                                      ; 1240
                                        13  13 00124          BEQL    15$                                             ;
             00000000G    00            52  D0 00126 14$:     MOVL    SEC, FDL$GL_SECONDARY                           ; 1245
             00000000V    00            00  FB 0012D          CALLS   #0, FDL$$FORMAT_LINE                            ; 1246
                                        50  DD 00134          PUSHL   R0                                              ;
                          66            01  FB 00136          CALLS   #1, FDL$$OUTPUT_LINE                            ;
        99                52      0C    AC  F3 00139 15$:     AOBLEQ  GEB, SEC, 10$                                   ; 1203
                          50            01  D0 0013E 16$:     MOVL    #1, R0                                          ; 1254
                                        04  00141 17$:        RET                                                     ; 1256

; Routine Size:  322 bytes,    Routine Base:  _FDL$CODE + 0112
```

;

```
1 %SBTTL  'FDL$$FORMAT_LINE'
1 GLOBAL ROUTINE FDL$$FORMAT_LINE =
1 !++
1 !
1 ! Functional Description:
1 !
1 !       This routine xxxxxxxxxxxxx
1 !
1 ! Calling Sequence:
1 !
1 !       fdl$$gen_line(  fdl_string )
1 !
1 ! Input Parameters:
1 !
1 !       fdl_desc        - descriptor of the fdl file name string (required)
1 !       file_name       - descriptor file name to overide the name specified
1 !                         in the fdl file (optional)
1 !       default_name    - descriptor default file name to overide the default
1 !                         name specified in the fdl file (optional)
1 !
1 !       flags           - address of flags longword (optional)
1 !               FDL$V_SIGNAL            signal errors instead of returning
1 !               FDL$V_FDL_STRING        input fdl-spec is a char string
1 !               FDL$V_$CALLBACK         used by EDF
1 !
1 ! Implicit Inputs:
1 !       none
1 !
1 ! Output Parameters:
1 !
1 !       result_name     - descriptor to receive the file name which was created
1 !                         (optional)
1 !       fid_block       - address of a 3 longword used block to receive the fid
1 !                         of the file created (optional)
1 !
1 !       stmnt-num       - address of longword to recieve statement
1 !                         number (optional)
1 !
1 ! Implicit Outputs:
1 !       none
1 !
1 ! Routine Value:
1 !
1 !       success or error code
1 !
1 ! Side Effects:
1 !       none
1 !
1 !--
1
2   BEGIN
2
2   LOCAL
2       TEMP_BYTE       : BYTE,
2       STATUS          : LONG,
2       LINE            : REF BLOCK [ FDL$C_SECBLK_SIZE ] FIELD (SECTAB_FIELDS);
2
```

```
    2        ! Get the offset into the table
    2        ! This is done here (as well as in FDL$$GEN_SPEC) because EDF can
    2        ! call FDL$$FORMAT_LINE directly
    2        !
    2        LINE = ( FDL$AB_SEC_TABLE + (.FDL$GL_SECONDARY * FDL$C_SECBLK_SIZE * 4) );
    2
    2        ! If it's "PROLOG", skip it unless it's KEY 0
    2        !
    3        IF (
    4        ( .FDL$GL_SECONDARY EQLU FDL$C_PROL )
    3        AND
    4        ( .FDL$GL_PRINUM NEQU 0 )
    2        ) THEN
    2           RETURN 0;
    2
    2        ! Construct a descriptor: get the length from the ASCIC, then the Address
    2        !
    2        TEMP_BYTE = ..LINE [ FDL$V_SEC_FAO ];
    2        FAO_DESC [ DSC$W_LENGTH ] = .TEMP_BYTE;
    2        FAO_DESC [ DSC$A_POINTER ] = .LINE [ FDL$V_SEC_FAO ] + 1;
    2
    2        ! If it's a "SEGn_XXX" secondary, loop thru up to 8 times
    2        !
    3        IF (
    4        ( .FDL$GL_SECONDARY EQLU FDL$C_SEGLEN )
    3        OR
    4        ( .FDL$GL_SECONDARY EQLU FDL$C_SEGPOS )
    2        ) THEN
    3           BEGIN
    3
    3           INCR J FROM 0 TO 7
    3           DO
    4               BEGIN
    4
    4               LOCAL
    4                   BLK             : REF BLOCK [ ,BYTE ],
    4                   FAO_CHAR        : REF VECTOR [ ,BYTE ];
    4
    4               BLK = .FDL$AB_BLOCK_BLK [ FDL$C_XAB ];
    4               FDL$GL_SECNUM = .J;
    4
    4               ! Get the value for the line
    4               !
    4               FETCH_FIELD ( .LINE );
    4
    4               ! Put the formatted text into it
    4               !
P   4               RET_ON_ERROR (
    4               SYS$FAO ( FAO_DESC,FAO_LENGTH,FDL$AB_LINE,.FAO_PARAM ));
    4
    4               ! Stuff the "n" in the "SEGn_XXX" line
    4               !
    4               FAO_CHAR = .FDL$AB_LINE [ DSC$A_POINTER ];
    4               FAO_CHAR [ 4 ] = .FDL$GL_SECNUM + '0';
    4
    4               ! Look ahead to see if there are any more segments
    4               !
```

```
                IF (CASE (.J+1) FROM 1 TO 8 OF
                SET
                [ 1 ] : .BLK [ XAB$B_SIZ1 ];
                [ 2 ] : .BLK [ XAB$B_SIZ2 ];
                [ 3 ] : .BLK [ XAB$B_SIZ3 ];
                [ 4 ] : .BLK [ XAB$B_SIZ4 ];
                [ 5 ] : .BLK [ XAB$B_SIZ5 ];
                [ 6 ] : .BLK [ XAB$B_SIZ6 ];
                [ 7 ] : .BLK [ XAB$B_SIZ7 ];
                [ 8 ] : 0;
                TES) EQLU 0
                THEN
                    EXITLOOP
                ELSE
                    ! If there is more, "PUT" this one before looping
                    !
                    FDL$$OUTPUT_LINE ( .FAO_LENGTH );

                END;
            END
        ELSE
            BEGIN

            ! Get the value for the line
            !
            IF FETCH_FIELD ( .LINE )
            THEN
                BEGIN
                ! Put the formatted text into it
                !
                RET_ON_ERROR ( SYS$FAO (
                                FAO_DESC,
                                FAO_LENGTH,
                                FDL$AB_LINE,
                                .FAO_PARAM,
                                .FAO_PARAM2,
                                .FAO_PARAM3,
                                .FAO_PARAM4 ));

                IF .LINE [ FDL$V_DATA_TYPE ] EQLU FDL$C_STRING
                THEN
                    BEGIN
                    LOCAL STATUS;

                    IF NOT ( STATUS = LIB$FREE_VM ( STRBYTES, OCHAR ))
                    THEN
                        SIGNAL_STOP ( .STATUS );
                    END;

                END
            ELSE
                FAO_LENGTH = 0;

            END;

        RETURN .FAO_LENGTH;
```

```
;  711          1428  1      END;



                                          03FC 00000           .ENTRY   FDL$$FORMAT_LINE, Save R2,R3,R4,R5,R6,R7,-  ; 1258
                                                                        R8,R9                                        ;
                           59 00000000G  00   9E 00002         MOVAB    SYS$FAO, R9                                  ;
                           58 00000000V  00   9E 00009         MOVAB    FETCH_FIELD, R8                              ;
                           57 00000000G  00   9E 00010         MOVAB    FDL$GL_SECNUM, R7                            ;
                           56 00000000G  00   9E 00017         MOVAB    FDL$AB_LINE, R6                              ;
                           55 00000000'  00   9E 0001E         MOVAB    FAO_LENGTH, R5                               ;
                           51 00000000G  00   D0 00025         MOVL     FDL$GL_SECONDARY, R1                         ; 1318
                 50        51            0C   C5 0002C         MULL3    #12, R1, R0                                  ;
                           53 00000000G0040   9E 00030         MOVAB    FDL$AB_SEC_TABLE[R0], LINE                   ;
                   00000084   8F         51   D1 00038         CMPL     R1, #132                                     ; 1323
                                         0B   12 0003F         BNEQ     1$                                           ;
                              00000000G  00   D5 00041         TSTL     FDL$GL_PRINUM                                ; 1325
                                         03   13 00047         BEQL     1$                                           ;
                                       00DE   31 00049         BRW      18$                                          ;
                           50       00   B3   90 0004C  1$:    MOVB     @0(LINE), TEMP_BYTE                          ; 1331
                         D8   A5         50   9B 00050         MOVZBW   TEMP_BYTE, FAO_DESC                          ; 1332
              DC     A5       63         01   C1 00054         ADDL3    #1, (LINE), FAO_DESC+4                       ; 1333
                   00000085   8F         51   D1 00059         CMPL     R1, #133                                     ; 1338
                                         09   13 00060         BEQL     2$                                           ;
                   00000086   8F         51   D1 00062         CMPL     R1, #134                                     ; 1340
                                         7B   12 00069         BNEQ     14$                                          ;
                                         54   D4 0006B  2$:    CLRL     J                                            ; 1344
                           52 00000000G  00   D0 0006D  3$:    MOVL     FDL$AB_BLOCK_BLK+8, BLK                      ; 1352
                           67            54   D0 00074         MOVL     J, FDL$GL_SECNUM                             ; 1353
                                         53   DD 00077         PUSHL    LINE                                         ; 1357
                           68            01   FB 00079         CALLS    #1, FETCH_FIELD                              ;
                                    04   A5   DD 0007C         PUSHL    FAO_PARAM                                    ; 1362
                                  0060   8F   BB 0007F         PUSHR    #^M<R5,R6>                                   ;
                                    D8   A5   9F 00083         PUSHAB   FAO_DESC                                     ;
                           69            04   FB 00086         CALLS    #4, SYS$FAO                                  ;
                           74            50   E9 00089         BLBC     STATUS, 15$                                  ;
                           50       04   A6   D0 0008C         MOVL     FDL$AB_LINE+4, FAO_CHAR                      ; 1366
              04     A0    67            30   81 00090         ADDB3    #48, FDL$GL_SECNUM, 4(FAO_CHAR)              ; 1367
                     07    00            54   CF 00095         CASEL    J, #0, #7                                    ; 1371
     0022          001C  0016          0010      00099  4$:    .WORD    5$-4$,-                                      ;
     003A          0034  002E          0028      000A1                  6$-4$,-                                      ;
                                                                        7$-4$,-                                      ;
                                                                        8$-4$,-                                      ;
                                                                        9$-4$,-                                      ;
                                                                        10$-4$,-                                     ;
                                                                        11$-4$,-                                     ;
                                                                        12$-4$                                       ;
                           52       2F   A2   9A 000A9  5$:    MOVZBL   47(BLK), R2                                  ; 1373
                                         26   11 000AD         BRB      13$                                          ;
                           52       30   A2   9A 000AF  6$:    MOVZBL   48(BLK), R2                                  ; 1374
                                         20   11 000B3         BRB      13$                                          ;
                           52       31   A2   9A 000B5  7$:    MOVZBL   49(BLK), R2                                  ; 1375
                                         1A   11 000B9         BRB      13$                                          ;
                           52       32   A2   9A 000BB  8$:    MOVZBL   50(BLK), R2                                  ; 1376
                                         14   11 000BF         BRB      13$                                          ;
```

```
                        52      33    A2  9A 000C1 9$:     MOVZBL  51(BLK), R2                          ; 1377
                                      0E  11 000C5         BRB     13$                                  ;
                        52      34    A2  9A 000C7 10$:    MOVZBL  52(BLK), R2                          ; 1378
                                      08  11 000CB         BRB     13$                                  ;
                        52      35    A2  9A 000CD 11$:    MOVZBL  53(BLK), R2                          ; 1379
                                      02  11 000D1         BRB     13$                                  ;
                                      52  D4 000D3 12$:    CLRL    R2                                   ; 1371
                                      4F  13 000D5 13$:    BEQL    17$                                  ; 1381
                                      65  DD 000D7         PUSHL   FAO_LENGTH                           ; 1387
            00000000V   00            01  FB 000D9         CALLS   #1, FDL$$OUTPUT_LINE                 ;
          89            54            07  F3 000E0         AOBLEQ  #7, J, 3$                            ; 1344
                                      40  11 000E4         BRB     17$                                  ; 1337
                                      53  DD 000E6 14$:    PUSHL   LINE                                 ; 1396
                        68            01  FB 000E8         CALLS   #1, FETCH_FIELD                      ;
                        36            50  E9 000EB         BLBC    R0, 16$                              ;
                        7E      0C    A5  7D 000EE         MOVQ    FAO_PARAM3, -(SP)                    ; 1408
                        7E      04    A5  7D 000F2         MOVQ    FAO_PARAM, -(SP)                     ;
                              0060    8F  BB 000F6         PUSHR   #^M<R5,R6>                           ;
                                D8    A5  9F 000FA         PUSHAB  FAO_DESC                             ;
                        69            07  FB 000FD         CALLS   #7, SYS$FAO                          ;
                        29            50  E9 00100 15$:    BLBC    STATUS, 19$                          ;
                        07      05    A3  91 00103         CMPB    5(LINE), #7                          ; 1410
                                      1D  12 00107         BNEQ    17$                                  ;
                                18    A5  9F 00109         PUSHAB  OCHAR                                ; 1415
                                14    A5  9F 0010C         PUSHAB  STRBYTES                             ;
            00000000G   00            02  FB 0010F         CALLS   #2, LIB$FREE_VM                      ;
                        0D            50  E8 00116         BLBS    STATUS, 17$                          ;
                                      50  DD 00119         PUSHL   STATUS                               ; 1417
            00000000G   00            01  FB 0011B         CALLS   #1, LIB$STOP                         ;
                                      02  11 00122         BRB     17$                                  ; 1396
                                      65  D4 00124 16$:    CLRL    FAO_LENGTH                           ; 1422
                        50            65  D0 00126 17$:    MOVL    FAO_LENGTH, R0                       ; 1426
                                          04 00129         RET                                          ;
                                      50  D4 0012A 18$:    CLRL    R0                                   ; 1428
                                          04 0012C 19$:    RET                                          ;

; Routine Size:  301 bytes,    Routine Base:  _FDL$CODE + 0254
```

FD
VC

```
1 %SBTTL  'FDL$$OUTPUT_LINE'
1 GLOBAL ROUTINE FDL$$OUTPUT_LINE ( OUT_LEN : LONG ) =
1 !++
1 !
1 ! Functional Description:
1 !
1 !       This routine xxxxxxxxxxxxx
1 !
1 ! Calling Sequence:
1 !
1 !       fdl$$gen_line(  fdl_string )
1 !
1 ! Input Parameters:
1 !
1 !       fdl_desc        - descriptor of the fdl file name string (required)
1 !       file_name       - descriptor file name to overide the name specified
1 !                         in the fdl file (optional)
1 !       default_name    - descriptor default file name to overide the default
1 !                         name specified in the fdl file (optional)
1 !
1 !       flags           - address of flags longword (optional)
1 !               FDL$V_SIGNAL            signal errors instead of returning
1 !               FDL$V_FDL_STRING        input fdl-spec is a char string
1 !               FDL$V_$CALLBACK         used by EDF
1 !
1 ! Implicit Inputs:
1 !       none
1 !
1 ! Output Parameters:
1 !
1 !       result_name     - descriptor to receive the file name which was created
1 !                         (optional)
1 !       fid_block       - address of a 3 longword used block to receive the fid
1 !                         of the file created (optional)
1 !
1 !       stmnt-num       - address of longword to recieve statement
1 !                         number (optional)
1 !
1 ! Implicit Outputs:
1 !       none
1 !
1 ! Routine Value:
1 !
1 !       success or error code
1 !
1 ! Side Effects:
1 !       none
1 !
1 !--
1
2   BEGIN
2
2   LOCAL
2       TEMP_LEN        : WORD;
2
2   ! Don't bother with nothing
2   !
```

```
;  770        1486  2        IF .OUT_LEN EQLU 0
;  771        1487  2        THEN
;  772        1488  2            RETURN SS$_NORMAL;
;  773        1489  2
;  774        1490  2        ! But less than nothing means skip a line
;  775        1491  2        !
;  776        1492  2        IF .OUT_LEN LSS 0
;  777        1493  2        THEN
;  778        1494  2            OUT_LEN = 0;
;  779        1495  2
;  780        1496  2        IF .FDL$AB_CTRL [ FDL$V_STRING_SPEC ]
;  781        1497  2        THEN
;  782        1498  3            BEGIN
;  783        1499  3            LOCAL
;  784        1500  3                TEMP        : LONG;
;  785        1501  3
;  786        1502  3            TEMP_LEN = .FDL$AB_LINE [ DSC$W_LENGTH ];
;  787        1503  3            TEMP = .FDL$AB_LINE [ DSC$A_POINTER ] + .OUT_LEN;
;  788        1504  3            .TEMP = ';';
;  789        1505  3            OUT_LEN = .OUT_LEN + 1;
;  790        1506  3            FDL$AB_LINE [ DSC$W_LENGTH ] = .OUT_LEN;
;  791        1507  3            RET_ON_ERROR( STR$APPEND( .FDL$AB_OUT_STRING,FDL$AB_LINE ) );
;  792        1508  3            FDL$AB_LINE [ DSC$W_LENGTH ] = .TEMP_LEN;
;  793        1509  3
;  794        1510  3            END
;  795        1511  2        ELSE
;  796        1512  2            ! Put the new line to the FDL file.
;  797        1513  2            !
;  798        1514  3            BEGIN
;  799        1515  3
;  800        1516  3            FDL$AB_FDL_RAB [ RAB$W_RSZ ] = .OUT_LEN;
;  801        1517  3            RET_ON_ERROR( $PUT ( RAB=FDL$AB_FDL_RAB,ERR=FDL$$READ_ERROR ) );
;  802        1518  3
;  803        1519  2            END;
;  804        1520  2
;  805        1521  2        RETURN SS$_NORMAL;
;  806        1522  2
;  807        1523  1        END;


                                                            .EXTRN  SYS$PUT

                                    000C 00000              .ENTRY  FDL$$OUTPUT_LINE, Save R2,R3                    ; 1430
                 53 00000000G    00   9E 00002              MOVAB   FDL$AB_LINE, R3                                 ;
                           04    AC   D5 00009              TSTL    OUT_LEN                                         ; 1486
                                 55   13 0000C              BEQL    3$                                              ;
                                 03   18 0000E              BGEQ    1$                                              ; 1492
                           04    AC   D4 00010              CLRL    OUT_LEN                                         ; 1494
      2A 00000000G    00         04   E1 00013 1$:          BBC     #4, FDL$AB_CTRL+1, 2$                           ; 1496
                      52         63   B0 0001B              MOVW    FDL$AB_LINE, TEMP_LEN                           ; 1502
      50        04    A3   04    AC   C1 0001E              ADDL3   OUT_LEN, FDL$AB_LINE+4, TEMP                    ; 1503
                      60         3B   D0 00024              MOVL    #59, (TEMP)                                     ; 1504
                           04    AC   D6 00027              INCL    OUT_LEN                                         ; 1505
                      63   04    AC   B0 0002A              MOVW    OUT_LEN, FDL$AB_LINE                            ; 1506
                                 53   DD 0002E              PUSHL   R3                                              ; 1507
                    00000000G    00   DD 00030              PUSHL   FDL$AB_OUT_STRING                               ;
```

```
                        00000000G  00           02  FB 00036        CALLS   #2, STR$APPEND                      ;
                                   26           50  E9 0003D        BLBC    STATUS, 4$                          ;
                                   63           52  B0 00040        MOVW    TEMP_LEN, FDL$AB_LINE               ; 1508
                                                1E  11 00043        BRB     3$                                  ; 1496
                        00000000G  00      04   AC  B0 00045 2$:    MOVW    OUT_LEN, FDL$AB_FDL_RAB+34          ; 1516
                                  00000000G     00  9F 0004D        PUSHAB  FDL$$READ_ERROR                     ; 1517
                                  00000000G     00  9F 00053        PUSHAB  FDL$AB_FDL_RAB                      ;
                        00000000G  00           02  FB 00059        CALLS   #2, SYS$PUT                         ;
                                   03           50  E9 00060        BLBC    STATUS, 4$                          ;
                                   50           01  D0 00063 3$:    MOVL    #1, R0                              ; 1521
                                                    04 00066 4$:    RET                                         ; 1523

; Routine Size:  103 bytes,    Routine Base:  _FDL$CODE + 0381
```

```
1 %SBTTL  'CHECK_XAB'
1 ROUTINE CHECK_XAB ( XAB_POINTER : REF BLOCK [ ,BYTE ] ) =
1 !++
1 !
1 ! Functional Description:
1 !
1 !       This routine xxxxxxxxxxxxx
1 !
1 ! Calling Sequence:
1 !
1 !       fdl$$gen_line(  fdl_string )
1 !
1 ! Input Parameters:
1 !
1 !       fdl_desc        - descriptor of the fdl file name string (required)
1 !       file_name       - descriptor file name to overide the name specified
1 !                         in the fdl file (optional)
1 !       default_name    - descriptor default file name to overide the default
1 !                         name specified in the fdl file (optional)
1 !
1 !       flags           - address of flags longword (optional)
1 !               FDL$V_SIGNAL            signal errors instead of returning
1 !               FDL$V_FDL_STRING        input fdl-spec is a char string
1 !               FDL$V_$CALLBACK         used by EDF
1 !
1 ! Implicit Inputs:
1 !       none
1 !
1 ! Output Parameters:
1 !
1 !       result_name     - descriptor to receive the file name which was created
1 !                         (optional)
1 !       fid_block       - address of a 3 longword used block to receive the fid
1 !                         of the file created (optional)
1 !
1 !       stmnt-num       - address of longword to recieve statement
1 !                         number (optional)
1 !
1 ! Implicit Outputs:
1 !       none
1 !
1 ! Routine Value:
1 !
1 !       success or error code
1 !
1 ! Side Effects:
1 !       none
1 !
1 !--
1
2    BEGIN
2       LOCAL TEMP;
2
3    WHILE ( .XAB_POINTER NEQU 0 )
2    DO
3       BEGIN
3
```

```
        ! Keep the old next-link around
        !
        SAVE_POINTER = .XAB_POINTER [ XAB$L_NXT ];

        ! See if it's a useful one and save it's address if it is
        !

        IF (
        ( .XAB_POINTER [ XAB$B_BLN ] EQLU 0 )
        OR
        ( .XAB_POINTER [ XAB$B_BLN ] LSS 0 )
        OR
        ( .XAB_POINTER [ XAB$B_COD ] EQLU 0 )
        OR
        ( .XAB_POINTER [ XAB$B_COD ] LSS 0 )
        ) THEN
            BEGIN

            IF .FDL$GL_INVBLK_PTR NEQU 0
            THEN
                .FDL$GL_INVBLK_PTR = .XAB_POINTER;

            SIGNAL ( FDL$_INVBLK,1,.XAB_POINTER );

            END
        ELSE
            BEGIN

            ! Only bother if we're not deallocating
            !
            IF NOT .FDL$AB_CTRL [ FDL$V_DEALLOC ]
            THEN
                BEGIN

                ! It's not an obviously BAD XAB, is it an important one?
                !
                SELECTONE .XAB_POINTER [ XAB$B_COD ] OF

                SET

                [ XAB$C_KEY ] : IF .XABKEY_PTR EQLU 0
                                THEN
                                    XABKEY_PTR = .XAB_POINTER;

                [ XAB$C_ALL ] :
                    BEGIN

                    IF .XAB_POINTER [ XAB$B_BKZ ] NEQU 0
                    THEN
                        FDL$AB_AREA_BKZ [ .XAB_POINTER [ XAB$B_AID ] ] =
                                                .XAB_POINTER [ XAB$B_BKZ ]
                    ELSE
                        FDL$AB_AREA_BKZ [ .XAB_POINTER [ XAB$B_AID ] ] = BUCKET_DEFAULT;

                    IF .XABALL_PTR EQLU 0
                    THEN
                        XABALL_PTR = .XAB_POINTER;
```

```
:  923       1638  6
:  924       1639  5                    END;
:  925       1640  5
:  926       1641  5                 [ XAB$C_DAT ] : XABDAT_PTR = .XAB_POINTER;
:  927       1642  5                 [ XAB$C_PRO ] : XABPRO_PTR = .XAB_POINTER;
:  928       1643  5                 [ XAB$C_RDT ] : XABRDT_PTR = .XAB_POINTER;
:  929       1644  5                 [ XAB$C_JNL ] : XABJNL_PTR = .XAB_POINTER;
:  930       1645  5                 [ OTHERWISE ] : 0;
:  931       1646  5
:  932       1647  5                 TES;
:  933       1648  5
:  934       1649  5                 END
:  935       1650  4              ELSE
:  936       1651  5                 BEGIN
:  937       1652  5
:  938       1653  5                 ! Now get rid of it if we're "RELEASING"
:  939       1654  5                 !
:  940       1655  6                 IF (
:  941       1656  7                 ( .XAB_POINTER [ XAB$B_COD ] EQLU XAB$C_KEY )
:  942       1657  6                 AND
:  943       1658  7                 ( .XAB_POINTER [ XAB$L_KNM ] NEQU 0 )
:  944       1659  5                 ) THEN
:  945       1660  5                    FDL$$FREE_VM ( 32, .XAB_POINTER [ XAB$L_KNM ] );
:  946       1661  5
:  947       1662  5                 TEMP = .XAB_POINTER [ XAB$B_BLN ];
:  948       1663  5                 FDL$$FREE_VM ( .TEMP, .XAB_POINTER );
:  949       1664  5
:  950       1665  4                 END;
:  951       1666  4
:  952       1667  3              END;
:  953       1668  3
:  954       1669  3           ! Point to the next
:  955       1670  3           !
:  956       1671  3           XAB_POINTER = .SAVE_POINTER;
:  957       1672  3
:  958       1673  2           END;
:  959       1674  2
:  960       1675  2        RETURN SS$_NORMAL;
:  961       1676  2
:  962       1677  1        END;



                                       003C 00000 CHECK_XAB:
                                                         .WORD   Save R2,R3,R4,R5                      : 1525
                  55 00000000G  00  9E 00002             MOVAB   FDL$$FREE_VM, R5                      :
                  54 00000000'  00  9E 00009             MOVAB   SAVE_POINTER, R4                      :
                  52         04 AC  D0 00010  1$:        MOVL    XAB_POINTER, R2                       : 1577
                                03  12 00014             BNEQ    2$                                    :
                              00C5  31 00016             BRW     17$                                   :
                  64         04 A2  D0 00019  2$:        MOVL    4(R2), SAVE_POINTER                   : 1583
                             01 A2  95 0001D             TSTB    1(R2)                                 : 1590
                                04  13 00020             BEQL    3$                                    :
                                62  95 00022             TSTB    (R2)                                  : 1593
                                1F  12 00024             BNEQ    5$                                    :
```

```
                         50 00000000G   00   D0 00026 3$:      MOVL    FDL$GL_INVBLK_PTR, R0                        ; 1599
                                        03   13 0002D          BEQL    4$                                           ;
                         60             52   D0 0002F          MOVL    R2, (R0)                                     ; 1601
                                        52   DD 00032 4$:      PUSHL   R2                                           ; 1603
                                        01   DD 00034          PUSHL   #1                                           ;
                            00000000G   8F   DD 00036          PUSHL   #FDL$_INVBLK                                 ;
                 00000000G  00          03   FB 0003C          CALLS   #3, LIB$SIGNAL                               ;
                                        73   11 00043          BRB     13$                                          ; 1588
              6D 00000000G  00          05   E0 00045 5$:      BBS     #5, FDL$AB_CTRL+2, 14$                       ; 1611
                            15          62   91 0004D          CMPB    (R2), #21                                    ; 1621
                                        0B   12 00050          BNEQ    6$                                           ;
                                  FC    A4   D5 00052          TSTL    XABKEY_PTR                                   ;
                                        61   12 00055          BNEQ    13$                                          ;
                      FC    A4          52   D0 00057          MOVL    R2, XABKEY_PTR                               ; 1623
                                        7A   11 0005B          BRB     16$                                          ; 1621
                            14          62   91 0005D 6$:      CMPB    (R2), #20                                    ; 1625
                                        2C   12 00060          BNEQ    9$                                           ;
                         50 00000000G   00   D0 00062          MOVL    FDL$AB_AREA_BKZ, R0                          ; 1630
                         51       17    A2   9E 00069          MOVAB   23(R2), R1                                   ;
                                  16    A2   95 0006D          TSTB    22(R2)                                       ; 1628
                                        0A   13 00070          BEQL    7$                                           ;
                         51             61   9A 00072          MOVZBL  (R1), R1                                     ; 1630
                       6140       16    A2   90 00075          MOVB    22(R2), (R1)[R0]                             ; 1631
                                        07   11 0007A          BRB     8$                                           ; 1630
                         51             61   9A 0007C 7$:      MOVZBL  (R1), R1                                     ; 1633
                       6140             02   90 0007F          MOVB    #2, (R1)[R0]                                 ;
                                  F8    A4   D5 00083 8$:      TSTL    XABALL_PTR                                   ; 1635
                                        4F   12 00086          BNEQ    16$                                          ;
                      F8    A4          52   D0 00088          MOVL    R2, XABALL_PTR                               ; 1637
                                        49   11 0008C          BRB     16$                                          ; 1617
                            12          62   91 0008E 9$:      CMPB    (R2), #18                                    ; 1641
                                        06   12 00091          BNEQ    10$                                          ;
                      F0    A4          52   D0 00093          MOVL    R2, XABDAT_PTR                               ;
                                        3E   11 00097          BRB     16$                                          ;
                            13          62   91 00099 10$:     CMPB    (R2), #19                                    ; 1642
                                        06   12 0009C          BNEQ    11$                                          ;
                      E8    A4          52   D0 0009E          MOVL    R2, XABPRO_PTR                               ;
                                        33   11 000A2          BRB     16$                                          ;
                            1E          62   91 000A4 11$:     CMPB    (R2), #30                                    ; 1643
                                        06   12 000A7          BNEQ    12$                                          ;
                      EC    A4          52   D0 000A9          MOVL    R2, XABRDT_PTR                               ;
                                        28   11 000AD          BRB     16$                                          ;
                            22          62   91 000AF 12$:     CMPB    (R2), #34                                    ; 1644
                                        23   12 000B2          BNEQ    16$                                          ;
                      F4    A4          52   D0 000B4          MOVL    R2, XABJNL_PTR                               ;
                                        1D   11 000B8 13$:     BRB     16$                                          ;
                            15          62   91 000BA 14$:     CMPB    (R2), #21                                    ; 1656
                                        0D   12 000BD          BNEQ    15$                                          ;
                                  38    A2   D5 000BF          TSTL    56(R2)                                       ; 1658
                                        08   13 000C2          BEQL    15$                                          ;
                                  38    A2   DD 000C4          PUSHL   56(R2)                                       ; 1660
                                        20   DD 000C7          PUSHL   #32                                          ;
                            65          02   FB 000C9          CALLS   #2, FDL$$FREE_VM                             ;
                            53    01    A2   9A 000CC 15$:     MOVZBL  1(R2), TEMP                                  ; 1662
                                        52   DD 000D0          PUSHL   R2                                           ; 1663
                                        53   DD 000D2          PUSHL   TEMP                                         ;
                            65          02   FB 000D4          CALLS   #2, FDL$$FREE_VM                             ;
```

```
                        04   AC           64  D0 000D7 16$:    MOVL    SAVE_POINTER, XAB_POINTER                            ; 1671
                                        FF32  31 000DB         BRW     1$                                                   ; 1577
                             50           01  D0 000DE 17$:    MOVL    #1, R0                                               ; 1675
                                              04 000E1         RET                                                          ; 1677

; Routine Size:  226 bytes,    Routine Base:  _FDL$CODE + 03E8
```

```
1 %SBTTL  'FDL$$CHECK_BLOCKS'
1 GLOBAL ROUTINE FDL$$CHECK_BLOCKS ( FAB_POINTER : REF BLOCK [ ,BYTE ],
1                                    RAB_POINTER : REF BLOCK [ ,BYTE ] ) =
1 !++
1 !
1 ! Functional Description:
1 !
1 !       This routine xxxxxxxxxxxxx
1 !
1 ! Calling Sequence:
1 !
1 !       fdl$$gen_line(  fdl_string )
1 !
1 ! Input Parameters:
1 !
1 !       fdl_desc        - descriptor of the fdl file name string (required)
1 !       file_name       - descriptor file name to overide the name specified
1 !                         in the fdl file (optional)
1 !       default_name    - descriptor default file name to overide the default
1 !                         name specified in the fdl file (optional)
1 !
1 !       flags           - address of flags longword (optional)
1 !               FDL$V_SIGNAL            signal errors instead of returning
1 !               FDL$V_FDL_STRING        input fdl-spec is a char string
1 !               FDL$V_$CALLBACK         used by EDF
1 !
1 ! Implicit Inputs:
1 !       none
1 !
1 ! Output Parameters:
1 !
1 !       result_name     - descriptor to receive the file name which was created
1 !                         (optional)
1 !       fid_block       - address of a 3 longword used block to receive the fid
1 !                         of the file created (optional)
1 !
1 !       stmnt-num       - address of longword to recieve statement
1 !                         number (optional)
1 !
1 ! Implicit Outputs:
1 !       none
1 !
1 ! Routine Value:
1 !
1 !       success or error code
1 !
1 ! Side Effects:
1 !       none
1 !
1 !--
1
2   BEGIN
2
2   LOCAL
2       BYTES                   : LONG,
2       NAM_POINTER             : REF BLOCK [ ,BYTE ];
2
```

```
	! Allocate the area bucketsize array
	!
	BYTES = 256;
	IF NOT LIB$GET_VM ( BYTES, FDL$AB_AREA_BKZ )
	THEN
	    SIGNAL_STOP ( FDL$_INSVIRMEM );
	CH$FILL ( 0, .BYTES, .FDL$AB_AREA_BKZ );

	! Clear the cells that indicate where important XABs were found
	!
	XABALL_PTR = _CLEAR;
	XABDAT_PTR = _CLEAR;
	XABPRO_PTR = _CLEAR;
	XABRDT_PTR = _CLEAR;
	XABJNL_PTR = _CLEAR;
	XABKEY_PTR = _CLEAR;

	! If not defaulted, FAB_POINTER must point to a FAB
	!
	IF ( .FAB_POINTER NEQU 0 ) AND ( .FAB_POINTER [ FAB$B_BID ] NEQU FAB$C_BID )
	THEN
	    BEGIN

	    IF .FDL$GL_INVBLK_PTR NEQU 0
	    THEN
		.FDL$GL_INVBLK_PTR = .FAB_POINTER;

	    SIGNAL ( FDL$_INVBLK,1,.FAB_POINTER );

	    END;

	! If not defaulted, RAB_POINTER must point to a RAB
	!
	IF ( .RAB_POINTER NEQU 0 ) AND ( .RAB_POINTER [ RAB$B_BID ] NEQU RAB$C_BID )
	THEN
	    BEGIN

	    IF .FDL$GL_INVBLK_PTR NEQU 0
	    THEN
		.FDL$GL_INVBLK_PTR = .RAB_POINTER;

	    SIGNAL ( FDL$_INVBLK,1,.RAB_POINTER );

	    END;

	! Check the FAB attachments
	!
	IF .FAB_POINTER NEQU 0
	THEN
	    BEGIN

	    ! Deallocate the NAM if it exists
	    !
	    NAM_POINTER = .FAB_POINTER [ FAB$L_NAM ];

	    IF .NAM_POINTER NEQU 0
	    THEN
```

```
                BEGIN

                ! If it exists, it must be a NAM block
                !
                IF .NAM_POINTER [ NAM$B_BID ] EQLU NAM$C_BID
                THEN
                    BEGIN

                    IF .FDL$AB_CTRL [ FDL$V_DEALLOC ]
                    THEN
                        BEGIN

                        IF .NAM_POINTER [ NAM$L_ESA ] NEQU 0
                        THEN
                            FDL$$FREE_VM ( .NAM_POINTER [ NAM$B_ESS ],
                                            .NAM_POINTER [ NAM$L_ESA ] );

                        IF .NAM_POINTER [ NAM$L_RSA ] NEQU 0
                        THEN
                            FDL$$FREE_VM ( .NAM_POINTER [ NAM$B_RSS ],
                                            .NAM_POINTER [ NAM$L_RSA ] );

                        FDL$$FREE_VM ( .NAM_POINTER [ NAM$B_BLN ], .NAM_POINTER );

                        END
                    END
                ELSE
                    BEGIN

                    IF .FDL$GL_INVBLK_PTR NEQU 0
                    THEN
                        .FDL$GL_INVBLK_PTR = .NAM_POINTER;

                    SIGNAL ( FDL$_INVBLK,1,.NAM_POINTER );

                    END;

                END;

            ! Deallocate the filename (and default filename) if present
            !
            NAM_POINTER = .FAB_POINTER [ FAB$L_FNA ];

            IF ( .NAM_POINTER NEQU 0 ) AND ( .FDL$AB_CTRL [ FDL$V_DEALLOC ] )
            THEN
                FDL$$FREE_VM ( .FAB_POINTER [ FAB$B_FNS ], .NAM_POINTER );

            NAM_POINTER = .FAB_POINTER [ FAB$L_DNA ];

            IF ( .NAM_POINTER NEQU 0 ) AND ( .FDL$AB_CTRL [ FDL$V_DEALLOC ] )
            THEN
                FDL$$FREE_VM ( .FAB_POINTER [ FAB$B_DNS ], .NAM_POINTER );

            ! Now check and possibly deallocate any XABs
            !
            CHECK_XAB ( .FAB_POINTER [ FAB$L_XAB ] );
```

```
; 1135       1849 3          IF .FDL$AB_CTRL [ FDL$V_DEALLOC ]
; 1136       1850 3          THEN
; 1137       1851 3              FDL$$FREE_VM ( .FAB_POINTER [ FAB$B_BLN ], .FAB_POINTER );
; 1138       1852 3
; 1139       1853 2          END;
; 1140       1854 2
; 1141       1855 2      ! Check the RAB attachments
; 1142       1856 2      !
; 1143       1857 2      IF .RAB_POINTER NEQU 0
; 1144       1858 2      THEN
; 1145       1859 3          BEGIN
; 1146       1860 3
; 1147       1861 3          ! Deallocate any existing XABs
; 1148       1862 3          !
; 1149       1863 3          CHECK_XAB ( .RAB_POINTER [ RAB$L_XAB ] );
; 1150       1864 3
; 1151       1865 3          IF .FDL$AB_CTRL [ FDL$V_DEALLOC ]
; 1152       1866 3          THEN
; 1153       1867 3              FDL$$FREE_VM ( .RAB_POINTER [ RAB$B_BLN ], .RAB_POINTER );
; 1154       1868 3
; 1155       1869 2          END;
; 1156       1870 2
; 1157       1871 2          ! Done with the bucketsize array
; 1158       1872 2          !
; 1159       1873 3          BEGIN
; 1160       1874 3          LOCAL STATUS;
; 1161       1875 3
; 1162       1876 4          IF NOT ( STATUS = LIB$FREE_VM ( BYTES, FDL$AB_AREA_BKZ ))
; 1163       1877 3          THEN
; 1164       1878 3              SIGNAL_STOP ( .STATUS );
; 1165       1879 2          END;
; 1166       1880 2
; 1167       1881 2      RETURN SS$_NORMAL;
; 1168       1882 2
; 1169       1883 1      END;



                                                  0FFC 00000          .ENTRY  FDL$$CHECK_BLOCKS, Save R2,R3,R4,R5,R6,R7,-  ; 1679
                                                                              R8,R9,R10,R11                                 ;
                                  5B 00000000G  00  9E 00002          MOVAB   LIB$SIGNAL, R11                               ;
                                  5A 00000000G  8F  D0 00009          MOVL    #FDL$_INVBLK, R10                             ;
                                  59 00000000G  00  9E 00010          MOVAB   FDL$GL_INVBLK_PTR, R9                         ;
                                  58 00000000'  00  9E 00017          MOVAB   XABPRO_PTR, R8                                ;
                                  57 00000000G  00  9E 0001E          MOVAB   FDL$AB_CTRL, R7                               ;
                                  56 00000000C  00  9E 00025          MOVAB   FDL$$FREE_VM, R6                              ;
                                  7E      0100  8F  3C 0002C          MOVZWL  #256, BYTES                                   ; 1737
                                     00000000G  00  9F 00031          PUSHAB  FDL$AB_AREA_BKZ                               ; 1738
                                            04  AE  9F 00037          PUSHAB  BYTES                                         ;
                        00000000G 00                02  FB 0003A          CALLS   #2, LIB$GET_VM                                ;
                                  0D                50  E8 00041          BLBS    R0, 1$                                        ;
                                     00000000G  8F  DD 00044          PUSHL   #FDL$_INSVIRMEM                               ; 1740
                        00000000G 00                01  FB 0004A          CALLS   #1, LIB$STOP                                  ;
                                  50 00000000G  00  D0 00051 1$:      MOVL    FDL$AB_AREA_BKZ, R0                           ; 1741
            6E          00        6E                00  2C 00058          MOVC5   #0, (SP), #0, BYTES, (R0)                     ;
```

```
                         60      0005D                                                      ;
                         68   D4 0005E         CLRL     XABPRO_PTR                          ; 1747
                   04    A8   7C 00060         CLRQ     XABRDT_PTR                          ; 1748
                   0C    A8   7C 00063         CLRQ     XABJNL_PTR                          ; 1749
                   14    A8   D4 00066         CLRL     XABKEY_PTR                          ; 1750
             53    04    AC   D0 00069         MOVL     FAB_POINTER, R3                     ; 1754
                         52   D4 0006D         CLRL     R2                                  ;
                         53   D5 0006F         TSTL     R3                                  ;
                         18   13 00071         BEQL     3$                                  ;
                         52   D6 00073         INCL     R2                                  ;
             03          63   91 00075         CMPB     (R3), #3                            ;
                         11   13 00078         BEQL     3$                                  ;
             50          69   D0 0007A         MOVL     FDL$GL_INVBLK_PTR, R0               ; 1758
                         03   13 0007D         BEQL     2$                                  ;
             60          53   D0 0007F         MOVL     R3, (R0)                            ; 1760
                         53   DD 00082 2$:     PUSHL    R3                                  ; 1762
                         01   DD 00084         PUSHL    #1                                  ;
                         5A   DD 00086         PUSHL    R10                                 ;
             6B          03   FB 00088         CALLS    #3, LIB$SIGNAL                      ;
             54    08    AC   D0 0008B 3$:     MOVL     RAB_POINTER, R4                     ; 1768
                         55   D4 0008F         CLRL     R5                                  ;
                         54   D5 00091         TSTL     R4                                  ;
                         18   13 00093         BEQL     5$                                  ;
                         55   D6 00095         INCL     R5                                  ;
             01          64   91 00097         CMPB     (R4), #1                            ;
                         11   13 0009A         BEQL     5$                                  ;
             50          69   D0 0009C         MOVL     FDL$GL_INVBLK_PTR, R0               ; 1772
                         03   13 0009F         BEQL     4$                                  ;
             60          54   D0 000A1         MOVL     R4, (R0)                            ; 1774
                         54   DD 000A4 4$:     PUSHL    R4                                  ; 1776
                         01   DD 000A6         PUSHL    #1                                  ;
                         5A   DD 000A8         PUSHL    R10                                 ;
             6B          03   FB 000AA         CALLS    #3, LIB$SIGNAL                      ;
             03          52   E8 000AD 5$:     BLBS     R2, 6$                              ; 1782
                       0088   31 000B0         BRW      14$                                 ;
             52    28    A3   D0 000B3 6$:     MOVL     40(R3), NAM_POINTER                 ; 1788
                         44   13 000B7         BEQL     11$                                 ; 1790
             02          62   91 000B9         CMPB     (NAM_POINTER), #2                   ; 1796
                         2E   12 000BC         BNEQ     9$                                  ;
  3A       02    A7      05   E1 000BE         BBC      #5, FDL$AB_CTRL+2, 11$              ; 1800
                   0C    A2   D5 000C3         TSTL     12(NAM_POINTER)                     ; 1804
                         0A   13 000C6         BEQL     7$                                  ;
                   0C    A2   DD 000C8         PUSHL    12(NAM_POINTER)                     ; 1807
             7E    0A    A2   9A 000CB         MOVZBL   10(NAM_POINTER), -(SP)              ; 1806
             66          02   FB 000CF         CALLS    #2, FDL$$FREE_VM                    ;
                   04    A2   D5 000D2 7$:     TSTL     4(NAM_POINTER)                      ; 1809
                         0A   13 000D5         BEQL     8$                                  ;
                   04    A2   DD 000D7         PUSHL    4(NAM_POINTER)                      ; 1812
             7E    02    A2   9A 000DA         MOVZBL   2(NAM_POINTER), -(SP)               ; 1811
             66          02   FB 000DE         CALLS    #2, FDL$$FREE_VM                    ;
                         52   DD 000E1 8$:     PUSHL    NAM_POINTER                         ; 1814
             7E    01    A2   9A 000E3         MOVZBL   1(NAM_POINTER), -(SP)               ;
             66          02   FB 000E7         CALLS    #2, FDL$$FREE_VM                    ;
                         11   11 000EA         BRB      11$                                 ; 1798
             50          69   D0 000EC 9$:     MOVL     FDL$GL_INVBLK_PTR, R0               ; 1821
                         03   13 000EF         BEQL     10$                                 ;
             60          52   D0 000F1         MOVL     NAM_POINTER, (R0)                   ; 1823
```

```
                                        52  DD 000F4 10$:   PUSHL   NAM_POINTER                        ; 1825
                                        01  DD 000F6        PUSHL   #1                                 ;
                                        5A  DD 000F8        PUSHL   R10                                ;
                        6B              03  FB 000FA        CALLS   #3, LIB$SIGNAL                     ;
                        52        2C    A3  D0 000FD 11$:   MOVL    44(R3), NAM_POINTER                ; 1833
                                        0E  13 00101        BEQL    12$                                ; 1835
          09      02    A7              05  E1 00103        BBC     #5, FDL$AB_CTRL+2, 12$             ;
                                        52  DD 00108        PUSHL   NAM_POINTER                        ; 1837
                        7E        34    A3  9A 0010A        MOVZBL  52(R3), -(SP)                      ;
                        66              02  FB 0010E        CALLS   #2, FDL$$FREE_VM                   ;
                        52        30    A3  D0 00111 12$:   MOVL    48(R3), NAM_POINTER                ; 1839
                                        0E  13 00115        BEQL    13$                                ; 1841
          09      02    A7              05  E1 00117        BBC     #5, FDL$AB_CTRL+2, 13$             ;
                                        52  DD 0011C        PUSHL   NAM_POINTER                        ; 1843
                        7E        35    A3  9A 0011E        MOVZBL  53(R3), -(SP)                      ;
                        66              02  FB 00122        CALLS   #2, FDL$$FREE_VM                   ;
                                  24    A3  DD 00125 13$:   PUSHL   36(R3)                             ; 1847
                FDF1    CF              01  FB 00128        CALLS   #1, CHECK_XAB                      ;
          09      02    A7              05  E1 0012D        BBC     #5, FDL$AB_CTRL+2, 14$             ; 1849
                                        53  DD 00132        PUSHL   R3                                 ; 1851
                        7E        01    A3  9A 00134        MOVZBL  1(R3), -(SP)                       ;
                        66              02  FB 00138        CALLS   #2, FDL$$FREE_VM                   ;
                        16              55  E9 0013B 14$:   BLBC    R5, 15$                            ; 1857
                                  40    A4  DD 0013E        PUSHL   64(R4)                             ; 1863
                FDD8    CF              01  FB 00141        CALLS   #1, CHECK_XAB                      ;
          09      02    A7              05  E1 00146        BBC     #5, FDL$AB_CTRL+2, 15$             ; 1865
                                        54  DD 0014B        PUSHL   R4                                 ; 1867
                        7E        01    A4  9A 0014D        MOVZBL  1(R4), -(SP)                       ;
                        66              02  FB 00151        CALLS   #2, FDL$$FREE_VM                   ;
                           00000000G    00  9F 00154 15$:   PUSHAB  FDL$AB_AREA_BKZ                    ; 1876
                                  04    AE  9F 0015A        PUSHAB  BYTES                              ;
             00000000G  00              02  FB 0015D        CALLS   #2, LIB$FREE_VM                    ;
                        09              50  E8 00164        BLBS    STATUS, 16$                        ;
                                        50  DD 00167        PUSHL   STATUS                             ; 1878
             00000000G  00              01  FB 00169        CALLS   #1, LIB$STOP                       ;
                        50              01  D0 00170 16$:   MOVL    #1, R0                             ; 1881
                                            04 00173        RET                                        ; 1883

; Routine Size:  372 bytes,    Routine Base:  _FDL$CODE + 04CA
```

```
1 %SBTTL  'FETCH_FIELD'
1 ROUTINE FETCH_FIELD (
1  LINE : REF BLOCK [ FDL$C_SECBLK_SIZE,LONG ] FIELD (SECTAB_FIELDS) ) =
1 !++
1 !
1 ! Functional Description:
1 !
1 !       This routine xxxxxxxxxxxxxx
1 !
1 ! Calling Sequence:
1 !
1 !       fdl$$gen_line(  fdl_string )
1 !
1 ! Input Parameters:
1 !
1 !       fdl_desc        - descriptor of the fdl file name string (required)
1 !       file_name       - descriptor file name to overide the name specified
1 !                         in the fdl file (optional)
1 !       default_name    - descriptor default file name to overide the default
1 !                         name specified in the fdl file (optional)
1 !
1 !       flags           - address of flags longword (optional)
1 !               FDL$V_SIGNAL            signal errors instead of returning
1 !               FDL$V_FDL_STRING        input fdl-spec is a char string
1 !               FDL$V_$CALLBACK         used by EDF
1 !
1 ! Implicit Inputs:
1 !       none
1 !
1 ! Output Parameters:
1 !
1 !       result_name     - descriptor to receive the file name which was created
1 !                         (optional)
1 !       fid_block       - address of a 3 longword used block to receive the fid
1 !                         of the file created (optional)
1 !
1 !       stmnt-num       - address of longword to recieve statement
1 !                         number (optional)
1 !
1 ! Implicit Outputs:
1 !       none
1 !
1 ! Routine Value:
1 !
1 !       success or error code
1 !
1 ! Side Effects:
1 !       none
1 !
1 !--
1
2    BEGIN
2
2    LOCAL
2       TEMP_SWITCH     : BYTE,
2       TEMP_BYTE       : BYTE,
2       TEMP_WORD       : WORD,
2           TEMP_LONG         : LONG,
2           TEMP_QUAD         : VECTOR [ 2,LONG ],
2           TEMP_OCTA         : VECTOR [ 4,LONG ],
2           TEMP_STRING       : DESC_BLK,
2           TEMP_QUALIFIER    : BYTE,
2           TEMP_SPECIAL      : LONG,
2           BLK               : REF BLOCK [ ,BYTE ],
2           BOFF              : LONG,
2           POS               : LONG;
2
2  ! ********************
2  !
2  ! FOR EDF TO CALL FDL$$FORMAT_LINE DIRECTLY - FETCH_FIELD WILL
2  ! HAVE TO BE CONDITIONALIZED TO GET THE VALUES FROM
2  ! FDL$GL_NUMBER, FDL$GL_SWITCH, ETC. INSTEAD OF FROM THE
2  ! RMS CONTROL BLOCKS
2  !
2  ! ********************
2
2     ! Get the address of the BLK and the offsets within it
2     !
2     BLK = .FDL$AB_BLOCK_BLK [ .LINE [ FDL$V_BLK_TYPE ] ];
2     BOFF = .LINE [ FDL$V_SEC_BOFF ];
2     POS = .LINE [ FDL$V_SEC_POS ];
2
2     ! Save the value according to its datatype
2     !
2     CASE .LINE [ FDL$V_DATA_TYPE ] FROM FDL$C_DUMMY TO FDL$C_SPECIAL OF
2
2         SET
2
2         [ FDL$C_DUMMY ] : 0;
2
2         [ FDL$C_BYTE ] :
3             BEGIN
3
3             IF .FDL$GL_SECONDARY NEQU FDL$C_SEGLEN
3             THEN
3                 FAO_PARAM = .BLK [ .BOFF,.POS,8,0 ]
3             ELSE
4                 BEGIN
4
5                 FAO_PARAM = (CASE .FDL$GL_SECNUM FROM 0 TO 7 OF
5                 SET
5                 [ 0 ] : .BLK [ XAB$B_SIZ0 ];
5                 [ 1 ] : .BLK [ XAB$B_SIZ1 ];
5                 [ 2 ] : .BLK [ XAB$B_SIZ2 ];
5                 [ 3 ] : .BLK [ XAB$B_SIZ3 ];
5                 [ 4 ] : .BLK [ XAB$B_SIZ4 ];
5                 [ 5 ] : .BLK [ XAB$B_SIZ5 ];
5                 [ 6 ] : .BLK [ XAB$B_SIZ6 ];
5                 [ 7 ] : .BLK [ XAB$B_SIZ7 ];
4                 TES);
4
3                 END;
3
2             END;
```

```
2
2          [ FDL$C_WORD ] :
3              BEGIN
3
3              SELECTONE .FDL$GL_SECONDARY OF
3
3              SET
3
3              ! For INDEX_FILL and DATA_FILL, convert the Fill Numbers to
3              ! Fill Percents. The extra 1/2 measure is to fight roundoff error
3              !
3              [ FDL$C_DFILL ] :
3                  FAO_PARAM =
3                  (( .BLK [ XAB$W_DFL ] * 100 ) + ( .BLK [ XAB$W_DFL ] / 2 )) /
3                  ( BLOCK_SIZE * .FDL$AB_AREA_BKZ [ .BLK [ XAB$B_DAN ] ] );
3
3              [ FDL$C_IFILL ] :
3                  FAO_PARAM =
3                  (( .BLK [ XAB$W_IFL ] * 100 ) + ( .BLK [ XAB$W_IFL ] / 2 )) /
3                  ( BLOCK_SIZE * .FDL$AB_AREA_BKZ [ .BLK [ XAB$B_IAN ] ] );
3
3              ! Look at all the segments
3              !
3              [ FDL$C_SEGPOS ] :
4                  BEGIN
4
5                  FAO_PARAM = (CASE .FDL$GL_SECNUM FROM 0 TO 7 OF
5                  SET
5                  [ 0 ] : .BLK [ XAB$W_POS0 ];
5                  [ 1 ] : .BLK [ XAB$W_POS1 ];
5                  [ 2 ] : .BLK [ XAB$W_POS2 ];
5                  [ 3 ] : .BLK [ XAB$W_POS3 ];
5                  [ 4 ] : .BLK [ XAB$W_POS4 ];
5                  [ 5 ] : .BLK [ XAB$W_POS5 ];
5                  [ 6 ] : .BLK [ XAB$W_POS6 ];
5                  [ 7 ] : .BLK [ XAB$W_POS7 ];
4                  TES);
4
3                  END;
3
3              [ OTHERWISE ] : FAO_PARAM = .BLK [ .BOFF,.POS,16,0 ];
3
3              TES;
3
2              END;
2
2          [ FDL$C_LONG ] :
3              BEGIN
3
3              FAO_PARAM = .BLK [ .BOFF,.POS,32,0 ];
3
2              END;
2
2          [ FDL$C_QUAD ] :
3              BEGIN
3
3              0;
```

```
                END;

            [ FDL$C_OCTA ] :
                BEGIN

                0;

                END;

            [ FDL$C_SWITCH ] :
                BEGIN

                ! Output yes or no depending upon the bit setting
                ! 4 of the secondaries have inverted sense
                !
                IF (
                (.FDL$GL_SECONDARY EQL FDL$C_DATKC)
                OR
                (.FDL$GL_SECONDARY EQL FDL$C_DATRC)
                OR
                (.FDL$GL_SECONDARY EQL FDL$C_IDXC)
                OR
                (.FDL$GL_SECONDARY EQL FDL$C_BLKSPN)
                ) THEN
                    BEGIN
                    IF NOT .BLK [ .BOFF,.POS,1,0 ]
                    THEN
                        FAO_PARAM = UPLIT BYTE (%ASCIC 'yes')
                    ELSE
                        FAO_PARAM = UPLIT BYTE (%ASCIC 'no');
                    END
                ELSE
                    BEGIN
                    IF .BLK [ .BOFF,.POS,1,0 ]
                    THEN
                        FAO_PARAM = UPLIT BYTE (%ASCIC 'yes')
                    ELSE
                        FAO_PARAM = UPLIT BYTE (%ASCIC 'no');
                    END;
                END;

            [ FDL$C_SPECIAL ] :
                BEGIN

                LOCAL
                    TIME_ADDR       : LONG,
                    TIME_LEN        : WORD;

                SELECTONE .FDL$GL_SECONDARY OF

                SET

                [ FDL$C_BACKUP, FDL$C_CREAT, FDL$C_EXPR, FDL$C_REV ] :
                    BEGIN

                    LOCAL
```

```
; 1399          2112  4                     TIME_VEC     : REF VECTOR [ 2,LONG ];
; 1400          2113  4
; 1401          2114  4                 TIME_ADDR = .BLK + .BOFF;
; 1402          2115  4                 TIME_VEC = .TIME_ADDR;
; 1403          2116  4
; 1404          2117  4                 ! If the time is null, don't bother putting it out
; 1405          2118  4                 !
; 1406          2119  5                 IF (
; 1407          2120  6                 ( .TIME_VEC [ 0 ] EQLU 0 )
; 1408          2121  5                 AND
; 1409          2122  6                 ( .TIME_VEC [ 1 ] EQLU 0 )
; 1410          2123  4                 ) THEN
; 1411          2124  4                     RETURN 0;
; 1412          2125  4
; 1413          2126  4                 RET_ON_ERROR ( SYS$ASCTIM ( 0,TIME_BUF,.TIME_ADDR,0 ));
; 1414          2127  4                 FAO_PARAM = TIME_BUF;
; 1415          2128  4
; 1416          2129  3                 END;
; 1417          2130  3
; 1418          2131  3             [ FDL$C_PROT ] :
; 1419          2132  4                 BEGIN
; 1420          2133  4
; 1421          2134  4                 LOCAL
; 1422          2135  4                     PROTECTION   : LONG;
; 1423          2136  4
; 1424          2137  4                 PROTECTION = .BLK [ XAB$W_PRO ];
; 1425          2138  4                 FAO_PARAM = .PROT_VALUES [ .PROTECTION<0,4> ];
; 1426          2139  4                 FAO_PARAM2 = .PROT_VALUES [ .PROTECTION<4,4> ];
; 1427          2140  4                 FAO_PARAM3 = .PROT_VALUES [ .PROTECTION<8,4> ];
; 1428          2141  4                 FAO_PARAM4 = .PROT_VALUES [ .PROTECTION<12,4> ];
; 1429          2142  4
; 1430          2143  3                 END;
; 1431          2144  3
; 1432          2145  3             [ FDL$C_POSI ] :
; 1433          2146  3
; 1434          2147  4                 BEGIN
; 1435          2148  4
; 1436          2149  4                 TEMP_BYTE = 23;
; 1437          2150  4                 CH$FILL ( 0, .TEMP_BYTE, TIME_TEMP );
; 1438          2151  4                 TEMP_DESC [ DSC$A_POINTER ] = TIME_TEMP;
; 1439          2152  4                 TEMP_DESC [ DSC$W_LENGTH ] = .TEMP_BYTE;
; 1440          2153  4
; 1441          2154  5                 IF (
; 1442          2155  6                 ( .BLK [ XAB$W_RFI0 ] NEQU 0 )
; 1443          2156  5                 OR
; 1444          2157  6                 ( .BLK [ XAB$W_RFI2 ] NEQU 0 )
; 1445          2158  5                 OR
; 1446          2159  6                 ( .BLK [ XAB$W_RFI4 ] NEQU 0 )
; 1447          2160  4                 ) THEN
; 1448          2161  5                     BEGIN
; 1449          2162  5
; 1450        P 2163  5                     RET_ON_ERROR ( SYS$FAO (
; 1451        P 2164  5                             %ASCID 'file_ID (!UW,!UW,!UW)',
; 1452        P 2165  5                             TEMP_WORD,
; 1453        P 2166  5                             TEMP_DESC,
; 1454        P 2167  5                             .BLK [ XAB$W_RFI0 ],
; 1455        P 2168  5                             .BLK [ XAB$W_RFI2 ],
  5                         .BLK [ XAB$W_RFI4 ] ));
  5
  5                 TEMP_DESC [ DSC$W_LENGTH ] = .TEMP_WORD;
  5                 FAO_PARAM = TEMP_DESC;
  5
  5                 END
  4             ELSE
  5                 BEGIN
  5
  5                 SELECTONE .BLK [ XAB$B_ALN ] OF
  5
  5                 SET
  5
  5                 [ XAB$C_CYL ] :
  6                     BEGIN
  6
P 6                     RET_ON_ERROR ( SYS$FAO (
P 6                             %ASCID 'cylinder !UL',
P 6                             TEMP_WORD,
P 6                             TEMP_DESC,
  6                             .BLK [ XAB$L_LOC ] ));
  6
  6                     TEMP_DESC [ DSC$W_LENGTH ] = .TEMP_WORD;
  6                     FAO_PARAM = TEMP_DESC;
  6
  5                     END;
  5
  5                 [ XAB$C_LBN ] :
  6                     BEGIN
  6
P 6                     RET_ON_ERROR ( SYS$FAO (
P 6                             %ASCID 'logical !UL',
P 6                             TEMP_WORD,
P 6                             TEMP_DESC,
  6                             .BLK [ XAB$L_LOC ] ));
  6
  6                     TEMP_DESC [ DSC$W_LENGTH ] = .TEMP_WORD;
  6                     FAO_PARAM = TEMP_DESC;
  6
  5                     END;
  5
  5                 [ XAB$C_VBN ] :
  6                     BEGIN
  6
P 6                     RET_ON_ERROR ( SYS$FAO (
P 6                             %ASCID 'virtual !UL',
P 6                             TEMP_WORD,
P 6                             TEMP_DESC,
  6                             .BLK [ XAB$L_LOC ] ));
  6
  6                     TEMP_DESC [ DSC$W_LENGTH ] = .TEMP_WORD;
  6                     FAO_PARAM = TEMP_DESC;
  6
  5                     END;
  5
  5                 [ 0 ] :
  6                     BEGIN
```

```
6
6                   IF NOT .BLK [ XAB$V_ONC ]
6                   THEN
6                       FAO_PARAM = %ASCID '        none';
6
5                   END;
5
5               [ OTHERWISE ] : 0;
5
5               TES;
5
5               IF .BLK [ XAB$V_ONC ]
5               THEN
5                   FAO_PARAM = %ASCID '    any_cylinder';
5
4               END;
4
3           END;
3
3       [ OTHERWISE ] : FAO_PARAM = 0;
3
3       TES;
3
2       END;
2
2   [ FDL$C_STRING ] :
3       BEGIN
3
3       ! Assume it won't be found
3       !
3       TEMP_DESC [ DSC$W_LENGTH ] = 0;
3
3       SELECTONE .FDL$GL_SECONDARY OF
3
3       SET
3
3       [ FDL$C_ACE ] :
4           BEGIN
4
4           TEMP_DESC [ DSC$A_POINTER ] = UPLIT BYTE (%ASCII 'Ace' );
4           TEMP_DESC [ DSC$W_LENGTH ] = 3;
4
3           END;
3
3       [ FDL$C_DFNAM ] :
4           BEGIN
4
4           IF .BLK [ FAB$L_DNA ] NEQU 0
4           THEN
5               BEGIN
5
5               TEMP_DESC [ DSC$A_POINTER ] = .BLK [ FAB$L_DNA ];
5               TEMP_DESC [ DSC$W_LENGTH ] = .BLK [ FAB$B_DNS ];
5
4               END;
4
3           END;
```

```
3
3              [ FDL$C_NAME ] :
4                  BEGIN
4
4                  IF .BLK [ FAB$L_FNA ] NEQU 0
4                  THEN
5                      BEGIN
5
5                      TEMP_DESC [ DSC$A_POINTER ] = .BLK [ FAB$L_FNA ];
5                      TEMP_DESC [ DSC$W_LENGTH ] = .BLK [ FAB$B_FNS ];
5
4                      END;
4
3                  END;
3
3              [ FDL$C_AFTNAM ] :
4                  BEGIN
4
4                  IF .BLK [ XAB$L_AIA ] NEQU 0
4                  THEN
5                      BEGIN
5
5                      TEMP_DESC [ DSC$A_POINTER ] = .BLK [ XAB$L_AIA ];
5                      TEMP_DESC [ DSC$W_LENGTH ] = .BLK [ XAB$B_AIS ];
5
4                      END;
4
3                  END;
3
3              [ FDL$C_AUDNAM ] :
4                  BEGIN
4
4                  IF .BLK [ XAB$L_ATA ] NEQU 0
4                  THEN
5                      BEGIN
5
5                      TEMP_DESC [ DSC$A_POINTER ] = .BLK [ XAB$L_ATA ];
5                      TEMP_DESC [ DSC$W_LENGTH ] = .BLK [ XAB$B_ATS ];
5
4                      END;
4
3                  END;
3
3              [ FDL$C_BEFNAM ] :
4                  BEGIN
4
4                  IF .BLK [ XAB$L_BIA ] NEQU 0
4                  THEN
5                      BEGIN
5
5                      TEMP_DESC [ DSC$A_POINTER ] = .BLK [ XAB$L_BIA ];
5                      TEMP_DESC [ DSC$W_LENGTH ] = .BLK [ XAB$B_BIS ];
5
4                      END;
4
3                  END;
3
```

```
3          [ FDL$C_KYNAME ] :
4              BEGIN
4
4              IF .BLK [ XAB$L_KNM ] NEQU 0
4              THEN
5                  BEGIN
5
5                  TEMP_DESC [ DSC$A_POINTER ] = .BLK [ XAB$L_KNM ];
5                  TEMP_DESC [ DSC$W_LENGTH ] = 32;
5
4                  END;
4
3              END;
3
3          TES;
3
3          ! If the string length is 0, don't bother putting it out
3          !
3          IF .TEMP_DESC [ DSC$W_LENGTH ] EQLU 0
3          THEN
3              RETURN 0;
3
3          ! Add Quotes or Apostrophes to the output string
3          !
4          BEGIN
4
4              LOCAL
4                  OCHAR       : BYTE,
4                  OIDX        : WORD,
4                  ICHAR       : REF VECTOR [ ,BYTE ];
4
4              ! Get a buffer big enough to hold the result
4              !
4              STRBYTES = ( .TEMP_DESC [ DSC$W_LENGTH ] * 2 ) + 2;
4              IF NOT LIB$GET_VM ( STRBYTES, OCHAR )
4              THEN
4                  SIGNAL_STOP ( FDL$_INSVIRMEM );
4              CH$FILL ( 0, .STRBYTES, .OCHAR );
4              ICHAR = .TEMP_DESC [ DSC$A_POINTER ];
4
4              ! Clear the flags
4              !
4              FDL$AB_CTRL [ FDL$V_APOST_PRES ] = _CLEAR;
4              FDL$AB_CTRL [ FDL$V_QUOTE_PRES ] = _CLEAR;
4
4              ! Scan the buffer for quotes/apostrophes
4              !
5              INCR X FROM 0 TO (.TEMP_DESC[DSC$W_LENGTH]-1)
4              DO
5                  BEGIN
5
5                  IF .ICHAR [ .X ] EQLU ''''
5                  THEN
5                      FDL$AB_CTRL [ FDL$V_APOST_PRES ] = _SET;
5
5                  IF .ICHAR [ .X ] EQLU '"'
5                  THEN
```

```
; 1684      2397  5                     FDL$AB_CTRL [ FDL$V_QUOTE_PRES ] = _SET;
; 1685      2398  5
; 1686      2399  4                 END;
; 1687      2400  4
; 1688      2401  4             ! Add quotes to a 'vanilla' string
; 1689      2402  4             ! Add apostrophes to a string with quotes
; 1690      2403  4             ! Add quotes to a string with apostrophes
; 1691      2404  4             ! Add quotes to a string with both - and double the quotes
; 1692      2405  4             !
; 1693      2406  4             IF .FDL$AB_CTRL [ FDL$V_QUOTE_PRES ]
; 1694      2407  4             THEN
; 1695      2408  5                 BEGIN
; 1696      2409  5
; 1697      2410  5                 IF .FDL$AB_CTRL [ FDL$V_APOST_PRES ]
; 1698      2411  5                 THEN
; 1699      2412  5                     ! Quotes AND Apostrophes were found
; 1700      2413  5                     !
; 1701      2414  6                     BEGIN
; 1702      2415  6
; 1703      2416  6                     QCHAR = '"';
; 1704      2417  6                     OIDX = 0;
; 1705      2418  6                     OCHAR [ .OIDX ] = .QCHAR;
; 1706      2419  6                     OIDX = .OIDX + 1;
; 1707      2420  6
; 1708      2421  7                     INCR I FROM 0 TO (.TEMP_DESC[DSC$W_LENGTH]-1)
; 1709      2422  6                     DO
; 1710      2423  6                         IF .ICHAR [ .I ] EQLU .QCHAR
; 1711      2424  6                         THEN
; 1712      2425  7                             BEGIN
; 1713      2426  7                             OCHAR [ .OIDX ] = .QCHAR;
; 1714      2427  7                             OIDX = .OIDX + 1;
; 1715      2428  7                             OCHAR [ .OIDX ] = .QCHAR;
; 1716      2429  7                             OIDX = .OIDX + 1;
; 1717      2430  7                             END
; 1718      2431  6                         ELSE
; 1719      2432  7                             BEGIN
; 1720      2433  7                             OCHAR [ .OIDX ] = .ICHAR [ .I ];
; 1721      2434  7                             OIDX = .OIDX + 1;
; 1722      2435  6                             END;
; 1723      2436  6
; 1724      2437  6                     OCHAR [ .OIDX ] = .QCHAR;
; 1725      2438  6                     OIDX = .OIDX + 1;
; 1726      2439  6
; 1727      2440  6                     END
; 1728      2441  5                 ELSE
; 1729      2442  5                     ! Quotes were found, Apostrophes were not
; 1730      2443  5                     !
; 1731      2444  6                     BEGIN
; 1732      2445  6
; 1733      2446  6                     QCHAR = '''';
; 1734      2447  6                     OIDX = 0;
; 1735      2448  6                     OCHAR [ .OIDX ] = .QCHAR;
; 1736      2449  6                     OIDX = .OIDX + 1;
; 1737      2450  6
; 1738      2451  7                     INCR I FROM 0 TO (.TEMP_DESC[DSC$W_LENGTH]-1)
; 1739      2452  6                     DO
; 1740      2453  7                         BEGIN
```

```
7
7                       OCHAR [ .OIDX ] = .ICHAR [ .I ];
7                       OIDX = .OIDX + 1;
7
6                       END;
6
6                   CCHAR [ .OIDX ] = .QCHAR;
6                   OIDX = .OIDX + 1;
6
5                   END;
5
5               END
4           ELSE
5               BEGIN
5
5               ! If Quotes were not found, it doesn't make
5               ! any difference if Apostrophes were
5               !
5               QCHAR = '"';
5               OIDX = 0;
5               OCHAR [ .OIDX ] = .QCHAR;
5               OIDX = .OIDX + 1;
5
6               INCR I FROM 0 TO (.TEMP_DESC[DSC$W_LENGTH]-1)
5               DO
6                   BEGIN
6
6                   OCHAR [ .OIDX ] = .ICHAR [ .I ];
6                   OIDX = .OIDX + 1;
6
5                   END;
5
5               OCHAR [ .OIDX ] = .QCHAR;
5               OIDX = .OIDX + 1;
5
4               END;
4
4           ! Make the new string the result
4           !
4           TEMP_DESC [ DSC$A_POINTER ] = .OCHAR;
4           TEMP_DESC [ DSC$W_LENGTH ] = .OIDX;
4
3       END;
3
3       ! The final string that resulted
3       !
3       FAO_PARAM = TEMP_DESC;
3
2       END;
2
2   [ FDL$C_QUALIFIER ] :
3       BEGIN
3
3       SELECTONE .FDL$GL_SECONDARY OF
3
3       SET
3
```

```
3          [ FDL$C_CARCTRL ] :
3
4              BEGIN
4
4              IF .BLK [ FAB$V_CR ]
4              THEN
4                  FAO_PARAM = UPLIT BYTE (%ASCIC 'carriage_return' )
4              ELSE IF .BLK [ FAB$V_FTN ]
4              THEN
4                  FAO_PARAM = UPLIT BYTE (%ASCIC 'FORTRAN' )
4              ELSE IF .BLK [ FAB$V_PRN ]
4              THEN
4                  FAO_PARAM = UPLIT BYTE (%ASCIC 'print' )
4              ELSE
4                  FAO_PARAM = UPLIT BYTE (%ASCIC 'none' );
4
3              END;
3
3          [ FDL$C_ORG ] :
3
4              BEGIN
4
4              SELECTONE .BLK [ FAB$B_ORG ] OF
4
4              SET
4
4              [ FAB$C_IDX ] : FAO_PARAM = UPLIT BYTE (%ASCIC 'indexed' );
4              [ FAB$C_REL ] : FAO_PARAM = UPLIT BYTE (%ASCIC 'relative' );
4              [ FAB$C_SEQ ] : FAO_PARAM = UPLIT BYTE (%ASCIC 'sequential' );
4              [ OTHERWISE ] : 0;
4
4              TES;
4
3              END;
3
3          [ FDL$C_RU ] :
3
4              BEGIN
4
4              IF .BLK [ XAB$V_RU ]
4              THEN
4                  FAO_PARAM = UPLIT BYTE (%ASCIC 'if_in_recovery_unit' )
4              ELSE IF .BLK [ XAB$V_ONLY_RU ]
4              THEN
4                  FAO_PARAM = UPLIT BYTE (%ASCIC 'necessary_to_write' )
4              ELSE IF .BLK [ XAB$V_NEVER_RU ]
4              THEN
4                  FAO_PARAM = UPLIT BYTE (%ASCIC 'never_RU_journal' )
4              ELSE
4                  FAO_PARAM = UPLIT BYTE (%ASCIC 'none' );
4
3              END;
3
3          [ FDL$C_FMT ] :
3
4              BEGIN
4
```

```
4                       SELECTONE .BLK [ FAB$B_RFM ] OF
4
4                       SET
4
4                       [ FAB$C_STM ] : FAO_PARAM = UPLIT BYTE (%ASCIC 'stream' );
4                       [ FAB$C_STMCR ] : FAO_PARAM = UPLIT BYTE (%ASCIC 'stream_CR' );
4                       [ FAB$C_STMLF ] : FAO_PARAM = UPLIT BYTE (%ASCIC 'stream_LF' );
4                       [ FAB$C_UDF ] : FAO_PARAM = UPLIT BYTE (%ASCIC 'undefined' );
4                       [ FAB$C_VAR ] : FAO_PARAM = UPLIT BYTE (%ASCIC 'variable' );
4                       [ FAB$C_VFC ] : FAO_PARAM = UPLIT BYTE (%ASCIC 'VFC' );
4                       [ FAB$C_FIX ] : FAO_PARAM = UPLIT BYTE (%ASCIC 'fixed' );
4                       [ OTHERWISE ] : 0;
4
4                       TES;
4
3                       END;
3
3                   [ FDL$C_SEGTYP ] :
3
4                       BEGIN
4
4                       SELECTONE .BLK [ XAB$B_DTP ] OF
4
4                       SET
4
4                       [ XAB$C_BN2 ] : FAO_PARAM = UPLIT BYTE (%ASCIC 'bin2' );
4                       [ XAB$C_BN4 ] : FAO_PARAM = UPLIT BYTE (%ASCIC 'bin4' );
4                       [ XAB$C_BN8 ] : FAO_PARAM = UPLIT BYTE (%ASCIC 'bin8' );
4                       [ XAB$C_PAC ] : FAO_PARAM = UPLIT BYTE (%ASCIC 'decimal' );
4                       [ XAB$C_IN2 ] : FAO_PARAM = UPLIT BYTE (%ASCIC 'int2' );
4                       [ XAB$C_IN4 ] : FAO_PARAM = UPLIT BYTE (%ASCIC 'int4' );
4                       [ XAB$C_IN8 ] : FAO_PARAM = UPLIT BYTE (%ASCIC 'int8' );
4                       [ XAB$C_STG ] : FAO_PARAM = UPLIT BYTE (%ASCIC 'string' );
4                       [ OTHERWISE ] : 0;
4
4                       TES;
4
3                       END;
3
3                   [ OTHERWISE ] : 0;
3
3                   TES;
3
2                   END;
2
2               TES;
2
2           RETURN SS$_NORMAL;
2
1           END;



                                                .PSECT  _FDL$PLIT,NOWRT,NOEXE,  SHR,  PIC,2

                        73  65  79  03  000BC P.ARG:  .ASCII  <3>\yes\                          ;
                            6F  6E  02  000C0 P.ABH:  .ASCII  <2>\no\                           ;
```

```
                                    73  65  79  03  000C3 P.ABI:    .ASCII  <3>\yes\
                                        6F  6E  02  000C7 P.ABJ:    .ASCII  <2>\no\
                                                    000CA           .BLKB   2
55  21  2C  57  55  21  28  20  44  49  5F  65  6C  69  66  000CC P.ABL:    .ASCII  \file_ID (.UW,.UW,!UW)\<0><0><0>
                        00  00  00  29  57  55  21  2C  57  000DB
                                          010E0015  000E4 P.ABK:    .LONG   17694741
                                          00000000' 000E8           .ADDRESS P.ABL
            4C  55  21  20  72  65  64  6E  69  6C  79  63  000EC P.ABN:    .ASCII  \cylinder !UL\
                                          010E000C  000F8 P.ABM:    .LONG   17694732
                                          00000000' 000FC           .ADDRESS P.ABN
            00  4C  55  21  20  6C  61  63  69  67  6F  6C  00100 P.ABP:    .ASCII  \logical !UL\<0>
                                          010E000B  0010C P.ABO:    .LONG   17694731
                                          00000000' 00110           .ADDRESS P.ABP
            00  4C  55  21  20  6C  61  75  74  72  69  76  00114 P.ABR:    .ASCII  \virtual !UL\<0>
                                          010E000B  00120 P.ABQ:    .LONG   17694731
                                          00000000' 00124           .ADDRESS P.ABR
                        00  00  00  65  6E  6F  6E  09  00128 P.ABT:    .ASCII  <9>\none\<0><0><0>
                                          010E0005  00130 P.ABS:    .LONG   17694725
                                          00000000' 00134           .ADDRESS P.ABT
00  00  72  65  64  6E  69  6C  79  63  5F  79  6E  61  09  00138 P.ABV:    .ASCII  <9>\any_cylinder\<0><0><0>
                                                        00  00147
                                          010E000D  00148 P.ABU:    .LONG   17694733
                                          00000000' 0014C           .ADDRESS P.ABV
                                            65  63  41  00150 P.ABW:    .ASCII  \Ace\
72  75  74  65  72  5F  65  67  61  69  72  72  61  63  0F  00153 P.ABX:    .ASCII  <15>\carriage_return\
                                                        6E  00162
                        4E  41  52  54  52  4F  46  07  00163 P.ABY:    .ASCII  <7>\FORTRAN\
                                74  6E  69  72  70  05  0016B P.ABZ:    .ASCII  <5>\print\
                                    65  6E  6F  6E  04  00171 P.ACA:    .ASCII  <4>\none\
                        64  65  78  65  64  6E  69  07  00176 P.ACB:    .ASCII  <7>\indexed\
                    65  76  69  74  61  6C  65  72  08  0017E P.ACC:    .ASCII  <8>\relative\
            6C  61  69  74  6E  65  75  71  65  73  0A  00187 P.ACD:    .ASCII  <10>\sequential\
79  72  65  76  6F  63  65  72  5F  6E  69  5F  66  69  13  00192 P.ACE:    .ASCII  <19>\if_in_recovery_unit\
                                        74  69  6E  75  5F  001A1
77  5F  6F  74  5F  79  72  61  73  73  65  63  65  6E  12  001A6 P.ACF:    .ASCII  <18>\necessary_to_write\
                                            65  74  69  72  001B5
6E  72  75  6F  6A  5F  55  52  5F  72  65  76  65  6E  10  001B9 P.ACG:    .ASCII  <16>\never_RU_journal\
                                                    6C  61  001C8
                                    65  6E  6F  6E  04  001CA P.ACH:    .ASCII  <4>\none\
                            6D  61  65  72  74  73  06  001CF P.ACI:    .ASCII  <6>\stream\
                52  43  5F  6D  61  65  72  74  73  09  001D6 P.ACJ:    .ASCII  <9>\stream_CR\
                46  4C  5F  6D  61  65  72  74  73  09  001E0 P.ACK:    .ASCII  <9>\stream_LF\
                64  65  6E  69  66  65  64  6E  75  09  001EA P.ACL:    .ASCII  <9>\undefined\
                    65  6C  62  61  69  72  61  76  08  001F4 P.ACM:    .ASCII  <8>\variable\
                                        43  46  56  03  001FD P.ACN:    .ASCII  <3>\VFC\
                                64  65  78  69  66  05  00201 P.ACO:    .ASCII  <5>\fixed\
                                    32  6E  69  62  04  00207 P.ACP:    .ASCII  <4>\bin2\
                                    34  6E  69  62  04  0020C P.ACQ:    .ASCII  <4>\bin4\
                                    38  6E  69  62  04  00211 P.ACR:    .ASCII  <4>\bin8\
                        6C  61  6D  69  63  65  64  07  00216 P.ACS:    .ASCII  <7>\decimal\
                                    32  74  6E  69  04  0021E P.ACT:    .ASCII  <4>\int2\
                                    34  74  6E  69  04  00223 P.ACU:    .ASCII  <4>\int4\
                                    38  74  6E  69  04  00228 P.ACV:    .ASCII  <4>\int8\
                            67  6E  69  72  74  73  06  0022D P.ACW:    .ASCII  <6>\string\
                                                                    .PSECT  _FDL$CODE,NOWRT,  SHR,  PIC,2

                                             0FFC 00000 FETCH_FIELD:
                                                                    .WORD   Save R2,R3,R4,R5,R6,R7,R8,R9,R10,R11            ; 1885
                              5B 00000000G  00  9E 00002            MOVAB   FDL$AB_CTRL, R11                                ;
                              5A 00000000G  00  9E 00009            MOVAB   FDL$GL_SECONDARY, R10                           ;
                              59 00000000'  00  9E 00010            MOVAB   P.ABG, R9                                       ;
                              58 00000000'  00  9E 00017            MOVAB   FAO_PARAM, R8                                   ;
                              5E            24  C2 0001E            SUBL2   #36, SP                                         ;
                              50        04  AC  D0 00021            MOVL    LINE, R0                                        ; 1962
                              51        07  A0  9A 00025            MOVZBL  7(R0), R1                                       ;
                              56 00000000G0041  D0 00029            MOVL    FDL$AB_BLOCK_BLK[R1], BLK                       ;
                              51        08  A0  3C 00031            MOVZWL  8(R0), BOFF                                     ; 1963
                              52        0A  A0  3C 00035            MOVZWL  10(R0), POS                                     ; 1964
                09            00        05  A0  8F 00039            CASEB   5(R0), #0, #9                                   ; 1968
   012A         0071        0016          05E5     0003E 1$:        .WORD   128$-1$,-                                       ;
   02C0         0132        05E5          05E5     00046                    2$-1$,-                                         ;
                            017A          047B     0004E                    15$-1$,-                                        ;
                                                                            30$-1$,-                                        ;
                                                                            128$-1$,-                                       ;
                                                                            128$-1$,-                                       ;
                                                                            32$-1$,-                                        ;
                                                                            58$-1$,-                                        ;
                                                                            87$-1$,-                                        ;
                                                                            38$-1$                                          ;
                                            0F  11 00052            BRB     3$                                              ;
                     00000085  8F           6A  D1 00054 2$:        CMPL    FDL$GL_SECONDARY, #133                          ; 1977
                                            09  13 0005B            BEQL    4$                                              ;
     68         6146          08            52  EF 0005D            EXTZV   POS, #8, (BOFF)[BLK], FAO_PARAM                 ; 1979
                                          05BD  31 00063 3$:        BRW     128$                                            ;
                07            00 00000000G  00  CF 00066 4$:        CASEL   FDL$GL_SECNUM, #0, #7                           ; 1983
   0022         001C        0016          0010     0006E 5$:        .WORD   6$-5$,-                                         ;
   003A         0034        002E          0028     00076                    7$-5$,-                                         ;
                                                                            8$-5$,-                                         ;
                                                                            9$-5$,-                                         ;
                                                                            10$-5$,-                                        ;
                                                                            11$-5$,-                                        ;
                                                                            12$-5$,-                                        ;
                                                                            13$-5$                                          ;
                              50        2E  A6  9A 0007E 6$:        MOVZBL  46(BLK), R0                                     ; 1985
                                            28  11 00082            BRB     14$                                             ;
                              50        2F  A6  9A 00084 7$:        MOVZBL  47(BLK), R0                                     ; 1986
                                            22  11 00088            BRB     14$                                             ;
                              50        30  A6  9A 0008A 8$:        MOVZBL  48(BLK), R0                                     ; 1987
                                            1C  11 0008E            BRB     14$                                             ;
                              50        31  A6  9A 00090 9$:        MOVZBL  49(BLK), R0                                     ; 1988
                                            16  11 00094            BRB     14$                                             ;
                              50        32  A6  9A 00096 10$:       MOVZBL  50(BLK), R0                                     ; 1989
                                            10  11 0009A            BRB     14$                                             ;
                              50        33  A6  9A 0009C 11$:       MOVZBL  51(BLK), R0                                     ; 1990
                                            0A  11 000A0            BRB     14$                                             ;
                              50        34  A6  9A 000A2 12$:       MOVZBL  52(BLK), R0                                     ; 1991
                                            04  11 000A6            BRB     14$                                             ;
                              50        35  A6  9A 000A8 13$:       MOVZBL  53(BLK), R0                                     ; 1992
                                          00AC  31 000AC 14$:       BRW     28$                                             ; 1983
                              50            6A  D0 000AF 15$:       MOVL    FDL$GL_SECONDARY, R0                            ; 2002
                     00000079  8F           50  D1 000B2            CMPL    R0, #121                                        ; 2009
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                                              1B   12 000B9           BNEQ     16$                                       ;
                           53          1C     A6   3C 000BB           MOVZWL   28(BLK), R3                               ; 2011
                           53 00000064        8F   C4 000BF           MULL2    #100, R3                                  ;
                           50          1C     A6   3C 000C6           MOVZWL   28(BLK), R0                               ;
                           50                 02   C6 000CA           DIVL2    #2, R0                                    ;
                           53                 50   C0 000CD           ADDL2    R0, R3                                    ;
                           50          0A     A6   9A 000D0           MOVZBL   10(BLK), R0                               ; 2012
                                              22   11 000D4           BRB      17$                                       ;
                  0000007F 8F                 50   D1 000D6 16$:      CMPL     R0, #127                                  ; 2014
                                              2D   12 000DD           BNEQ     18$                                       ;
                           53          1A     A6   3C 000DF           MOVZWL   26(BLK), R3                               ; 2016
                           53 00000064        8F   C4 000E3           MULL2    #100, R3                                  ;
                           50          1A     A6   3C 000EA           MOVZWL   26(BLK), R0                               ;
                           50                 02   C6 000EE           DIVL2    #2, R0                                    ;
                           53                 50   C0 000F1           ADDL2    R0, R3                                    ;
                           50          08     A6   9A 000F4           MOVZBL   8(BLK), R0                                ; 2017
                           50 00000000G       00   C0 000F8 17$:      ADDL2    FDL$AB_AREA_BKZ, R0                       ;
                           50                 60   9A 000FF           MOVZBL   (R0), R0                                  ;
             50            50                 09   78 00102           ASHL     #9, R0, R0                                ;
             68            53                 50   C7 00106           DIVL3    R0, R3, FAO_PARAM                         ;
                                              62   11 0010A           BRB      31$                                       ; 2015
                  00000086 8F                 50   D1 0010C 18$:      CMPL     R0, #134                                  ; 2021
                                              4B   12 00113           BNEQ     29$                                       ;
             07            00 00000000G       00   CF 00115           CASEL    FDL$GL_SECNUM, #0, #7                     ; 2024
     0022    001C          0016             0010      0011D 19$:      .WORD    20$-19$,-                                 ;
     003A    0034          002E             0028      0C 25                    21$-19$,-                                 ;
                                                                               22$-19$,-                                 ;
                                                                               23$-19$,-                                 ;
                                                                               24$-19$,-                                 ;
                                                                               25$-19$,-                                 ;
                                                                               26$-19$,-                                 ;
                                                                               27$-19$                                   ;
                           50          1E     A6   3C 0012D 20$:      MOVZWL   30(BLK), R0                               ; 2026
                                              28   11 00131           BRB      28$                                       ;
                           50          20     A6   3C 00133 21$:      MOVZWL   32(BLK), R0                               ; 2027
                                              22   11 00137           BRB      28$                                       ;
                           50          22     A6   3C 00139 22$:      MOVZWL   34(BLK), R0                               ; 2028
                                              1C   11 0013D           BRB      28$                                       ;
                           50          24     A6   3C 0013F 23$:      MOVZWL   36(BLK), R0                               ; 2029
                                              16   11 00143           BRB      28$                                       ;
                           50          26     A6   3C 00145 24$:      MOVZWL   38(BLK), R0                               ; 2030
                                              10   11 00149           BRB      28$                                       ;
                           50          28     A6   3C 0014B 25$:      MOVZWL   40(BLK), R0                               ; 2031
                                              0A   11 0014F           BRB      28$                                       ;
                           50          2A     A6   3C 00151 26$:      MOVZWL   42(BLK), R0                               ; 2032
                                              04   11 00155           BRB      28$                                       ;
                           50          2C     A6   3C 00157 27$:      MOVZWL   44(BLK), R0                               ; 2033
                           68                 50   D0 0015B 28$:      MOVL     R0, FAO_PARAM                             ; 2024
                                              56   11 0015E           BRB      37$                                       ; 2002
     68      6146          10                 52   EF 00160 29$:      EXTZV    POS, #16, (BOFF)[BLK], FAO_PARAM          ; 2038
                                              4E   11 00166           BRB      37$                                       ; 1968
     68      6146          20                 52   EF 00168 30$:      EXTZV    POS, #32, (BOFF)[BLK], FAO_PARAM          ; 2047
                                              46   11 0016E 31$:      BRB      37$                                       ; 1968
                           50                 6A   D0 00170 32$:      MOVL     FDL$GL_SECONDARY, R0                      ; 2072
                  0000007A 8F                 50   D1 00173           CMPL     R0, #122                                  ;
                                              1B   13 0017A           BEQL     33$                                       ;
                  0000007B 8F                 50   D1 0017C           CMPL     R0, #123                                  ; 2074
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                                           12 13 00183           BEQL    33$                                    ;
                       0000007E   8F       50 D1 00185           CMPL    R0, #126                               ; 2076
                                           09 13 0018C           BEQL    33$                                    ;
                       00000088   8F       50 D1 0018E           CMPL    R0, #136                               ; 2078
                                           10 12 00195           BNEQ    35$                                    ;
                 05             6146       52 E0 00197 33$:      BBS     POS, (BOFF)[BLK], 34$                  ; 2081
                                  68       69 9E 0019C           MOVAB   P.ABG, FAO_PARAM                       ; 2083
                                           56 11 0019F           BRB     41$                                    ;
                                  68    04 A9 9E 001A1 34$:      MOVAB   P.ABH, FAO_PARAM                       ; 2085
                                           50 11 001A5           BRB     41$                                    ; 2071
                 06             6146       52 E1 001A7 35$:      BBC     POS, (BOFF)[BLK], 36$                  ; 2089
                                  68    07 A9 9E 001AC           MOVAB   P.ABI, FAO_PARAM                       ; 2091
                                           7F 11 001B0           BRB     43$                                    ;
                                  68    0B A9 9E 001B2 36$:      MOVAB   P.ABJ, FAO_PARAM                       ; 2093
                                           79 11 001B6 37$:      BRB     43$                                    ; 1968
                                  50       6A D0 001B8 38$:      MOVL    FDL$GL_SECONDARY, R0                   ; 2104
                       00000044   8F       5C D1 001BB           CMPL    R0, #68                                ; 2108
                                           35 19 001C2           BLSS    42$                                    ;
                       00000047   8F       5C D1 001C4           CMPL    R0, #71                                ;
                                           2C 14 001CB           BGTR    42$                                    ;
                                  51       56 C0 001CD           ADDL2   BLK, TIME_ADDR                         ; 2114
                                  50       51 D0 001D0           MOVL    TIME_ADDR, TIME_VEC                    ; 2115
                                           60 D5 001D3           TSTL    (TIME_VEC)                             ; 2120
                                           08 12 001D5           BNEQ    39$                                    ;
                                        04 A0 D5 001D7           TSTL    4(TIME_VEC)                            ; 2122
                                           03 12 001DA           BNEQ    39$                                    ;
                                         0448 31 001DC           BRW     129$                                   ;
                                           7E D4 001DF 39$:      CLRL    -(SP)                                  ; 2126
                                           51 DD 001E1           PUSHL   TIME_ADDR                              ;
                                        DC A8 9F 001E3           PUSHAB  TIME_BUF                               ;
                                           7E D4 001E6           CLRL    -(SP)                                  ;
                       00000000G  00       04 FB 001E8           CALLS   #4, SYS$ASCTIM                         ;
                                  01       50 E8 001EF           BLBS    STATUS, 40$                            ;
                                              04 001F2           RET                                            ;
                                  68    DC A8 9E 001F3 40$:      MOVAB   TIME_BUF, FAO_PARAM                    ; 2127
                                           38 11 001F7 41$:      BRB     43$                                    ; 2104
                       00000065   8F       50 D1 001F9 42$:      CMPL    R0, #101                               ; 2131
                                           32 12 00200           BNEQ    44$                                    ;
                                  51    08 A6 3C 00202           MOVZWL  8(BLK), PROTECTION                     ; 2137
     50          51               04       00 EF 00206           EXTZV   #0, #4, PROTECTION, R0                 ; 2138
                                  68  34 A840 D0 0020B           MOVL    PROT_VALUES[R0], FAO_PARAM             ;
     50          51               04       04 EF 00210           EXTZV   #4, #4, PROTECTION, R0                 ; 2139
                        04        A8  34 A840 D0 00215           MOVL    PROT_VALUES[R0], FAO_PARAM2            ;
     50          51               04       08 EF 0021B           EXTZV   #8, #4, PROTECTION, R0                 ; 2140
                        08        A8  34 A840 D0 00220           MOVL    PROT_VALUES[R0], FAO_PARAM3            ;
     50          51               04       0C EF 00226           EXTZV   #12, #4, PROTECTION, R0                ; 2141
                        0C        A8  34 A840 D0 0022B           MOVL    PROT_VALUES[R0], FAO_PARAM4            ;
                                         03EF 31 00231 43$:      BRW     128$                                   ; 2104
                                  21       50 D1 00234 44$:      CMPL    R0, #33                                ; 2145
                                           03 13 00237           BEQL    45$                                    ;
                                         00BD 31 00239           BRW     56$                                    ;
                                  57       17 90 0023C 45$:      MOVB    #23, TEMP_BYTE                         ; 2149
                                  50       57 9A 0023F           MOVZBL  TEMP_BYTE, R0                          ; 2150
     50          00               6E       00 2C 00242           MOVC5   #0, (SP), #0, R0, TIME_TEMP            ;
                                        E4 A8    00247                                                          ;
                        D0        A8    E4 A8 9E 00249           MOVAB   TIME_TEMP, TEMP_DESC+4                 ; 2151
                        CC        A8       57 9B 0024E           MOVZBW  TEMP_BYTE, TEMP_DESC                   ; 2152
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                                  18    A6    B5 00252          TSTW    24(BLK)                              ; 2155
                                        0A    12 00255          BNEQ    46$
                                  1A    A6    B5 00257          TSTW    26(BLK)                              ; 2157
                                        05    12 0025A          BNEQ    46$
                                  1C    A6    B5 0025C          TSTW    28(BLK)                              ; 2159
                                        26    13 0025F          BEQL    47$
                          7E      1C    A6    3C 00261 46$:     MOVZWL  28(BLK), -(SP)                       ; 2169
                          7E      1A    A6    3C 00265          MOVZWL  26(BLK), -(SP)
                          7E      18    A6    3C 00269          MOVZWL  24(BLK), -(SP)
                                  CC    A8    9F 0026D          PUSHAB  TEMP_DESC
                                  10    AE    9F 00270          PUSHAB  TEMP_WORD
                                  28    A9    9F 00273          PUSHAB  P.ABR
             00000000G    00            06    FB 00276          CALLS   #6, SYS$FAO
                          52            50    E9 0027D          BLBC    STATUS, 51$
                    CC    A8            6E    B0 00280          MOVW    TEMP_WORD, TEMP_DESC                 ; 2171
                                      022B    31 00284          BRW     86$                                  ; 2172
                          50      09    A6    9A 00287 47$:     MOVZBL  9(BLK), R0                           ; 2178
                          01            50    91 0028B          CMPB    R0, #1                               ; 2182
                                        17    12 0028E          BNEQ    49$
                                  0C    A6    DD 00290          PUSHL   12(BLK)                              ; 2189
                                  CC    A8    9F 00293          PUSHAB  TEMP_DESC
                                  08    AE    9F 00296          PUSHAB  TEMP_WORD
                                  3C    A9    9F 00299          PUSHAB  P.AB[illegible]
             00000000G    00            04    FB 0029C 48$:     CALLS   #4, SYS$FAO
                          30            50    E8 002A3          BLBS    STATUS, 52$
                                        04       002A6          RET                                          ; 2191
                          02            50    91 002A7 49$:     CMPB    R0, #2                               ; 2196
                                        0E    12 002AA          BNEQ    50$
                                  0C    A6    DD 002AC          PUSHL   12(BLK)                              ; 2203
                                  CC    A8    9F 002AF          PUSHAB  TEMP_DESC
                                  08    AE    9F 002B2          PUSHAB  TEMP_WORD
                                  50    A9    9F 002B5          PUSHAB  P.ABO
                                        E2    11 002B8          BRB     48$
                          03            50    91 002BA 50$:     CMPB    R0, #3                               ; 2210
                                        21    12 002BD          BNEQ    53$
                                  0C    A6    DD 002BF          PUSHL   12(BLK)                              ; 2217
                                  CC    A8    9F 002C2          PUSHAB  TEMP_DESC
                                  08    AE    9F 002C5          PUSHAB  TEMP_WORD
                                  64    A9    9F 002C8          PUSHAB  P.ABQ
             00000000G    00            04    FB 002CB          CALLS   #4, SYS$FAO
                          01            50    E8 002D2 51$:     BLBS    STATUS, 52$
                                        04       002D5          RET
                    CC    A8            6E    B0 002D6 52$:     MOVW    TEMP_WORD, TEMP_DESC                 ; 2219
                          68      CC    A8    9E 002DA          MOVAB   TEMP_DESC, FAO_PARAM                 ; 2220
                                        0D    11 002DE          BRB     54$                                  ; 2178
                                        50    D5 002E0 53$:     TSTL    R0                                   ; 2224
                                        09    12 002E2          BNEQ    54$
        09          08    A6            01    E0 002E4          BBS     #1, 8(BLK), 55$                      ; 2227
                          68      74    A9    9E 002E9          MOVAB   P.ABS, FAO_PARAM                     ; 2229
        09          08    A6            01    E1 002ED 54$:     BBC     #1, 8(BLK), 57$                      ; 2237
                          68    008C    C9    9E 002F2 55$:     MOVAB   P.ABU, FAO_PARAM                     ; 2239
                                        02    11 002F7          BRB     57$                                  ; 2104
                                        68    D4 002F9 56$:     CLRL    FAO_PARAM                            ; 2245
                                      0325    31 002FB 57$:     BRW     128$                                 ; 1968
                                  CC    A8    B4 002FE 58$:     CLRW    TEMP_DESC                            ; 2256
                          50            6A    D0 00301          MOVL    FDL$GL_SECONDARY, R0                 ; 2258
                          08            50    D1 00304          CMPL    R0, #8                               ; 2262
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                                   0D  12 00307          BNEQ    59$                                         ;
               D0    A8      0094  C9  9E 00309          MOVAB   P.ABW, TEMP_DESC+4                          ; 2265
               CC    A8            03  B0 0030F          MOVW    #3, TEMP_DESC                               ; 2266
                                 0083  31 00313          BRW     65$                                         ; 2258
         0000004F    8F            50  D1 00316 59$:     CMPL    R0, #79                                     ; 2270
                                   14  12 003 D          BNEQ    61$                                         ;
                              30   A6  D5 0031F          TSTL    48(BLK)                                     ; 2273
                                   03  12 00322          BNEQ    60$                                         ;
                                 0080  31 00324          BRW     67$                                         ;
               D0    A8       30   A6  DO 00327 60$:     MOVL    48(BLK), TEMP_DESC+4                        ; 2277
               CC    A8       35   A6  9B 0032C          MOVZBW  53(BLK), TEMP_DESC                          ; 2278
                                   7F  11 00331          BRB     68$                                         ; 2258
         0000005E    8F            50  D1 00333 61$:     CMPL    R0, #94                                     ; 2284
                                   11  12 0033A          BNEQ    62$                                         ;
                              2C   A6  D5 0033C          TSTL    44(BLK)                                     ; 2287
                                   71  13 0033F          BEQL    68$                                         ;
               D0    A8       2C   A6  D0 00341          MOVL    44(BLK), TEMP_DESC+4                        ; 2291
               CC    A8       34   A6  9B 00346          MOVZBW  52(BLK), TEMP_DESC                          ; 2292
                                   65  11 0034B          BRB     68$                                         ; 2258
         00000071    8F            50  D1 0034D 62$:     CMPL    R0, #113                                    ; 2298
                                   11  12 00354          BNEQ    63$                                         ;
                              18   A6  D5 00356          TSTL    24(BLK)                                     ; 2301
                                   57  13 00359          BEQL    68$                                         ;
               D0    A8       18   A6  D0 0035B          MOVL    24(BLK), TEMP_DESC+4                        ; 2305
               CC    A8       14   A6  9B 00360          MOVZBW  20(BLK), TEMP_DESC                          ; 2306
                                   4B  11 00365          BRB     68$                                         ; 2258
         00000073    8F            50  D1 00367 63$:     CMPL    R0, #115                                    ; 2312
                                   11  12 0036E          BNEQ    64$                                         ;
                              20   A6  D5 00370          TSTL    32(BLK)                                     ; 2315
                                   3D  13 00373          BEQL    68$                                         ;
               D0    A8       20   A6  D0 00375          MOVL    32(BLK), TEMP_DESC+4                        ; 2319
               CC    A8       1C   A6  9B 0037A          MOVZBW  28(BLK), TEMP_DESC                          ; 2320
                                   31  11 0037F          BRB     68$                                         ; 2258
         00000075    8F            50  D1 00381 64$:     CMPL    R0, #117                                    ; 2326
                                   11  12 00388          BNEQ    66$                                         ;
                              10   A6  D5 0038A          TSTL    16(BLK)                                     ; 2329
                                   23  13 0038D          BEQL    68$                                         ;
               D0    A8       10   A6  D0 0038F          MOVL    16(BLK), TEMP_DESC+4                        ; 2333
               CC    A8       0C   A6  9B 00394          MOVZBW  12(BLK), TEMP_DESC                          ; 2334
                                   17  11 00399 65$:     BRB     68$                                         ; 2258
         00000081    8F            50  D1 0039B 66$:     CMPL    R0, #129                                    ; 2340
                                   0E  12 003A2          BNEQ    68$                                         ;
                              38   A6  D5 003A4          TSTL    56(BLK)                                     ; 2343
                                   09  13 003A7 67$:     BEQL    68$                                         ;
               DC    A8       38   A6  D0 003A9          MOVL    56(BLK), TEMP_DESC+4                        ; 2347
               CC    A8            20  B0 003AE          MOVW    #32, TEMP_DESC                              ; 2348
                     50       CC   A8  3C 003B2 68$:     MOVZWL  TEMP_DESC, R0                               ; 2358
                                   03  12 003B6          BNEQ    69$                                         ;
                                 026C  31 003B8          BRW     129$                                        ;
      10   A8        50            01  78 003BB 69$:     ASHL    #1, R0, STRBYTES                            ; 2373
               10    A8            02  C0 003C0          ADDL2   #2, STRBYTES                                ;
                              14   A8  9F 003C4          PUSHAB  OCHAR                                       ; 2374
                              10   A8  9F 003C7          PUSHAB  STRBYTES                                    ;
         00000000G   00            02  FB 003CA          CALLS   #2, LIB$GET_VM                              ;
                     0D            50  E8 003D1          BLBS    R0, 70$                                     ;
                        00000000G  8F  DD 003D4          PUSHL   #FDL$_INSVIRMEM                             ; 2376
         00000000G   00            01  FB 003DA          CALLS   #1, LIB$STOP                                ;
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                              57      14   A8 D0 003E1 70$:   MOVL    QCHAR, R7                               ; 2377
   10   A8        00          6E           00 2C 003E5        MOVC5   #0, (SP), #0, STRBYTES, (R7)            ;
                              67              003E8                                                           ;
                              50      D0   A8 D0 003EC        MOVL    TEMP_DESC+4, ICHAR                      ; 2378
                        01    AB      C0   8F 8A 003F0        BICB2   #192, FDL$AB_CTRL+1                     ; 2383
                              55      CC   A8 3C 003F5        MOVZWL  TEMP_DESC, R5                           ; 2387
                              51           01 CE 003F9        MNEGL   #1, X                                   ; 2391
                                           16 11 003FC        BRB     73$                                     ;
                              27         6140 91 003FE 71$:   CMPB    (X)[ICHAR], #39                         ;
                                           05 12 00402        BNEQ    72$                                     ;
                        01    AB      40   8F 88 00404        BISB2   #64, FDL$AB_CTRL+1                      ; 2393
                              22         6140 91 00409 72$:   CMPB    (X)[ICHAR], #34                         ; 2395
                                           05 12 0040D        BNEQ    73$                                     ;
                        01    AB      80   8F 88 0040F        BISB2   #128, FDL$AB_CTRL+1                     ; 2397
                E6            51           55 F2 00414 73$:   AOBLSS  R5, X, 71$                              ; 2387
                                           52 B4 00418        CLRW    OIDX                                    ; 2417
                                      01   AB 95 0041A        TSTB    FDL$AB_CTRL+1                           ; 2406
                                           63 18 0041D        BGEQ    81$                                     ;
                36      01    AB           06 E1 0041F        BBC     #6, FDL$AB_CTRL+1, 78$                  ; 2410
                              51           22 90 00424        MOVB    #34, QCHAP                              ; 2416
                              53           52 3C 00427        MOVZWL  OIDX, R3                                ; 2418
                            6347           51 90 0042A        MOVB    QCHAR, (R3)[R7]                         ;
                                           52 B6 0042E        INCW    OIDX                                    ; 2419
                              54           01 CE 00430        MNEGL   #1, I                                   ; 2421
                                           1F 11 00433        BRB     77$                                     ;
                              53           52 3C 00435 74$:   MOVZWL  OIDX, R3                                ; 2426
                              51         6440 91 00438        CMPB    (I)[ICHAR], QCHAR                       ; 2423
                                           0F 12 0043C        BNEQ    75$                                     ;
                            6347           51 90 0043E        MOVB    QCHAR, (R3)[R7]                         ; 2426
                                           52 B6 00442        INCW    OIDX                                    ; 2427
                              53           52 3C 00444        MOVZWL  OIDX, R3                                ; 2428
                            6347           51 90 00447        MOVB    QCHAR, (R3)[R7]                         ;
                                           05 11 0044B        BRB     76$                                     ; 2423
                            6347         6440 90 0044D 75$:   MOVB    (I)[ICHAR], (R3)[R7]                    ; 2433
                                           52 B6 00452 76$:   INCW    OIDX                                    ; 2429
                DD            54           55 F2 00454 77$:   AOBLSS  R5, I, 74$                              ; 2423
                                           47 11 00458        BRB     84$                                     ; 2437
                              51           27 90 0045A 78$:   MOVB    #39, QCHAR                              ; 2446
                              53           52 3C 0045D        MOVZWL  OIDX, R3                                ; 2448
                            6347           51 90 00460        MOVB    QCHAR, (R3)[R7]                         ;
                                           52 B6 00464        INCW    OIDX                                    ; 2449
                              53           01 CE 00466        MNEGL   #1, I                                   ; 2451
                                           0A 11 00469        BRB     80$                                     ;
                              54           52 3C 0046B 79$:   MOVZWL  OIDX, R4                                ; 2455
                            6447         6340 90 0046E        MOVB    (I)[ICHAR], (R4)[R7]                    ;
                                           52 B6 00473        INCW    OIDX                                    ; 2456
                F2            53           55 F2 00475 80$:   AOBLSS  R5, I, 79$                              ; 2451
                              53           52 3C 00479        MOVZWL  OIDX, R3                                ; 2460
                            6347           51 90 0047C        MOVB    QCHAR, (R3)[R7]                         ;
                                           26 11 00480        BRB     85$                                     ; 2406
                              51           22 90 00482 81$:   MOVB    #34, QCHAR                              ; 2472
                              53           52 3C 00485        MOVZWL  OIDX, R3                                ; 2474
                            6347           51 90 00488        MOVB    QCHAR, (R3)[R7]                         ;
                                           52 B6 0048C        INCW    OIDX                                    ; 2475
                              53           01 CE 0048E        MNEGL   #1, I                                   ; 2477
                                           0A 11 00491        BRB     83$                                     ;
                              54           52 3C 00493 82$:   MOVZWL  OIDX, R4                                ; 2481
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                                                   G  1
FDLGEN          VAX-11 FDL Utilities               16-Sep-1984 01:41:00    VAX-11 Bliss-32 V4.0-742            Page  58
V04-000         FETCH_FIELD                        14-Sep-1984 12:31:18    DISK$VMSMASTER:[FDL.SRC]FDLGEN.B32;1    (10)

                  6447           6340  90 00496         MOVB     (I)[ICHAR], (R4)[R7]                ;
                                   52  B6 0049B         INCW     OIDX                                ; 2482
            F2      53             55  F2 0049D  83$:   AOBLSS   R5, I, 82$                          ; 2477
                    50             52  3C 004A1  84$:   MOVZWL   OIDX, R0                            ; 2486
                  6047             51  90 004A4         MOVB     QCHAR, (R0)[R7]                     ;
                                   52  B6 004A8  85$:   INCW     OIDX                                ; 2438
               D0   A8             57  D0 004AA         MOVL     R7, TEMP_DESC+4                     ; 2493
               CC   A8             52  B0 004AE         MOVW     OIDX, TEMP_DESC                     ; 2494
                    68      CC     A8  9E 004B2  86$:   MOVAB    TEMP_DESC, FAO_PARAM                ; 2500
                                 0085  31 004B6         BRW      99$                                 ; 1968
                    50             6A  D0 004B9  87$:   MOVL     FDL$GL_SECONDARY, R0                ; 2507
          00000089  8F             50  D1 004BC         CMPL     R0, #137                            ; 2511
                                   2A  12 004C3         BNEQ     93$                                 ;
      07       1E   A6             01  E1 004C5         BBC      #1, 30(BLK), 88$                    ; 2515
                    68    0097     C9  9E 004CA         MOVAB    P.ABX, FAO_PARAM                    ; 2517
                                   09  11 004CF         BRB      89$                                 ;
                    07      1E     A6  E9 004D1  88$:   BLBC     30(BLK), 90$                        ; 2518
                    68    00A7     C9  9E 004D5         MOVAB    P.ABY, FAO_PARAM                    ; 2520
                                   76  11 004DA  89$:   BRB      102$                                ;
      07       1E   A6             02  E1 004DC  90$:   BBC      #2, 30(BLK), 91$                    ; 2521
                    68    00AF     C9  9E 004E1         MOVAB    P.ABZ, FAO_PARAM                    ; 2523
                                   05  11 004E6         BRB      92$                                 ;
                    68    00B5     C9  9E 004E8  91$:   MOVAB    P.ACA, FAO_PARAM                    ; 2525
                                   7D  11 004ED  92$:   BRB      104$                                ; 2507
          00000062  8F             50  D1 004EF  93$:   CMPL     R0, #98                             ; 2529
                                   28  12 004F6         BNEQ     97$                                 ;
                    50      1D     A6  9A 004F8         MOVZBL   29(BLK), R0                         ; 2533
                    20             50  91 004FC         CMPB     R0, #32                             ; 2537
                                   08  12 004FF         BNEQ     94$                                 ;
                    68    00BA     C9  9E 00501         MOVAB    P.ACB, FAO_PARAM                    ;
                                 0089  31 00506         BRW      108$                                ;
                    10             50  91 00509  94$:   CMPB     R0, #16                             ; 2538
                                   07  12 0050C         BNEQ     95$                                 ;
                    68    00C2     C9  9E 0050E         MOVAB    P.ACC, FAO_PARAM                    ;
                                   09  11 00513         BRB      96$                                 ;
                                   50  D5 00515  95$:   TSTL     R0                                  ; 2539
                                   05  12 00517         BNEQ     96$                                 ;
                    68    00CB     C9  9E 00519         MOVAB    P.ACD, FAO_PARAM                    ;
                                   7F  11 0051E  96$:   BRB      110$                                ;
          00000076  8F             50  D1 00520  97$:   CMPL     R0, #118                            ; 2546
                                   2C  12 00527         BNEQ     103$                                ;
      07       08   A6             01  E1 00529         BBC      #1, 8(BLK), 98$                     ; 2550
                    68    00D6     C9  9E 0052E         MOVAB    P.ACE, FAO_PARAM                    ; 2552
                                   09  11 00533         BRB      99$                                 ;
                    07      08     A6  E9 00535  98$:   BLBC     8(BLK), 100$                        ; 2553
                    68    00EA     C9  9E 00539         MOVAB    P.ACF, FAO_PARAM                    ; 2555
                                   77  11 0053E  99$:   BRB      113$                                ;
      08       08   A6             05  E1 00540 100$:   BBC      #5, 8(BLK), 101$                    ; 2556
                    68    00FD     C9  9E 00545         MOVAB    P.ACG, FAO_PARAM                    ; 2558
                                 0083  31 0054A         BRW      115$                                ;
                    68    010E     C9  9E 0054D 101$:   MOVAB    P.ACH, FAO_PARAM                    ; 2560
                                 0087  31 00552 102$:   BRW      117$                                ; 2507
          0000008B  8F             50  D1 00555 103$:   CMPL     R0, #139                            ; 2564
                                   5B  12 0055C         BNEQ     114$                                ;
                    50      1F     A6  9A 0055E         MOVZBL   31(BLK), R0                         ; 2568
                    04             50  91 00562         CMPB     R0, #4                              ; 2572
                                   08  12 00565         BNEQ     105$                                ;
                    68      0115  C9   9E 00567             MOVAB   P.ACI, FAO_PARAM                    ;
                                0085   31 0056C  104$:      BRW     120$                                ;
                    06              50 91 0056F  105$:      CMPB    R0, #6                              ; 2573
                                    08 12 00572             BNEQ    106$                                ;
                    68      011A  C9   9E 00574             MOVAB   P.ACJ, FAO_PARAM                    ;
                                0084   31 00579             BRW     122$                                ;
                    05              50 91 0057C  106$:      CMPB    R0, #5                              ; 2574
                                    08 12 0057F             BNEQ    107$                                ;
                    68      0124  C9   9E 00581             MOVAB   P.ACK, FAO_PARAM                    ;
                                0083   31 00586             BRW     124$                                ;
                                    50 D5 00589  107$:      TSTL    R0                                  ; 2575
                                    08 12 0058B             BNEQ    109$                                ;
                    68      012E  C9   9E 0058D             MOVAB   P.ACL, FAO_PARAM                    ;
                                0083   31 00592  108$:      BRW     126$                                ;
                    02              50 91 00595  109$:      CMPB    R0, #2                              ; 2576
                                    07 12 00598             BNEQ    111$                                ;
                    68      0138  C9   9E 0059A             MOVAB   P.ACM, FAO_PARAM                    ;
                                    77 11 0059F  110$:      BRB     126$                                ;
                    03              50 91 005A1  111$:      CMPB    R0, #3                              ; 2577
                                    07 12 005A4             BNEQ    112$                                ;
                    68      0141  C9   9E 005A6             MOVAB   P.ACN, FAO_PARAM                    ;
                                    76 11 005AB             BRB     128$                                ;
                    01              50 91 005AD  112$:      CMPB    R0, #1                              ; 2578
                                    71 12 005B0             BNEQ    128$                                ;
                    68      0145  C9   9E 005B2             MOVAB   P.ACO, FAO_PARAM                    ;
                                    6A 11 005B7  113$:      BRB     128$                                ;
          00000087  8F              50 D1 005B9  114$:      CMPL    R0, #135                            ; 2585
                                    61 12 005C0             BNEQ    128$                                ;
                    50        13    A6 9A 005C2             MOVZBL  19(BLK), R0                         ; 2589
                    02              50 91 005C6             CMPB    R0, #2                              ; 2593
                                    07 12 005C9             BNEQ    116$                                ;
                    68      014B  C9   9E 005CB             MOVAB   P.ACP, FAO_PARAM                    ;
                                    51 11 005D0  115$:      BRB     128$                                ;
                    04              50 91 005D2  116$:      CMPB    R0, #4                              ; 2594
                                    07 12 005D5             BNEQ    118$                                ;
                    68      0150  C9   9E 005D7             MOVAB   P.ACQ, FAO_PARAM                    ;
                                    45 11 005DC  117$:      BRB     128$                                ;
                    07              50 91 005DE  118$:      CMPB    R0, #7                              ; 2595
                                    07 12 005E1             BNEQ    119$                                ;
                    68      0155  C9   9E 005E3             MOVAB   P.ACR, FAO_PARAM                    ;
                                    39 11 005E8             BRB     128$                                ;
                    05              50 91 005EA  119$:      CMPB    R0, #5                              ; 2596
                                    07 12 005ED             BNEQ    121$                                ;
                    68      015A  C9   9E 005EF             MOVAB   P.ACS, FAO_PARAM                    ;
                                    2D 11 005F4  120$:      BRB     128$                                ;
                    01              50 91 005F6  121$:      CMPB    R0, #1                              ; 2597
                                    07 12 005F9             BNEQ    123$                                ;
                    68      0162  C9   9E 005FB             MOVAB   P.ACT, FAO_PARAM                    ;
                                    21 11 00600  122$:      BRB     128$                                ;
                    03              50 91 00602  123$:      CMPB    R0, #3                              ; 2598
                                    07 12 00605             BNEQ    125$                                ;
                    68      0167  C9   9E 00607             MOVAB   P.ACU, FAO_PARAM                    ;
                                    15 11 0060C  124$:      BRB     128$                                ;
                    06              50 91 0060E  125$:      CMPB    R0, #6                              ; 2599
                                    07 12 00611             BNEQ    127$                                ;
                    68      016C  C9   9E 00613             MOVAB   P.ACV, FAO_PARAM                    ;
                                    09 11 00618  126$:      BRB     128$                                ;
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                                                                        I  1
FDLGEN          VAX-11 FDL Utilities                                16-Sep-1984 01:41:00    VAX-11 Bliss-32 V4.0-742            Page  60
V04-000         FETCH_FIELD                                         14-Sep-1984 12:31:18    DISK$VMSMASTER:[FDL.SRC]FDLGEN.B32;1    (10)

                                                  50  D5 0061A 127$:   TSTL    R0                                       ; 2600
                                                  05  12 0061C         BNEQ    128$                                     ;
                                   68      0171   C9  9E 0061E         MOVAB   P.ACW, FAO_PARAM                         ;
                                   50             01  D0 00623 128$:   MOVL    #1, R0                                   ; 2615
                                                      04 00626         RET                                              ;
                                                  50  D4 00627 129$:   CLRL    R0                                       ; 2617
                                                      04 00629         RET                                              ;

; Routine Size:  15/8 bytes,    Routine Base:  _FDL$CODE + 063E


; 1905          2618  1
; 1906          2619  0 END       ELUDOM



                                                                          .EXTRN  LIB$SIGNAL, LIB$STOP

;                                       PSECT SUMMARY
;
;       Name                          Bytes                         Attributes
;
;   _FDL$OWN                             168  NOVEC,  WRT,  RD ,NOEXE,NOSHR,  LCL,  REL,  CON,  PIC,ALIGN(2)
;   _FDL$PLIT                            564  NOVEC,NOWRT,  RD ,NOEXE,  SHR,  LCL,  REL,  CON,  PIC,ALIGN(2)
;   _FDL$CODE                           3176  NOVEC,NOWRT,  RD ,  EXE,  SHR,  LCL,  REL,  CON,  PIC,ALIGN(2)


;                                Library Statistics
;
;                                               -------- Symbols --------       Pages       Processing
;       File                                    Total    Loaded   Percent       Mapped      Time
;
;   _$255$DUA28:[SYSLIB]STARLET.L32;1            9776       110         1         581         00:00.9



;                                       COMMAND QUALIFIERS

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

; Size:          3176 code + 732 data bytes
; Run Time:         01:02.9
; Elapsed Time:     02:59.2
; Lines/CPU Min:     2499
; Lexemes/CPU-Min: 17141
; Memory Used:  527 pages
; Compilation Complete
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0176 AH-BT13A-SE
VAX/VMS V4.0

DIGITAL EQUIPMENT CORPORATION
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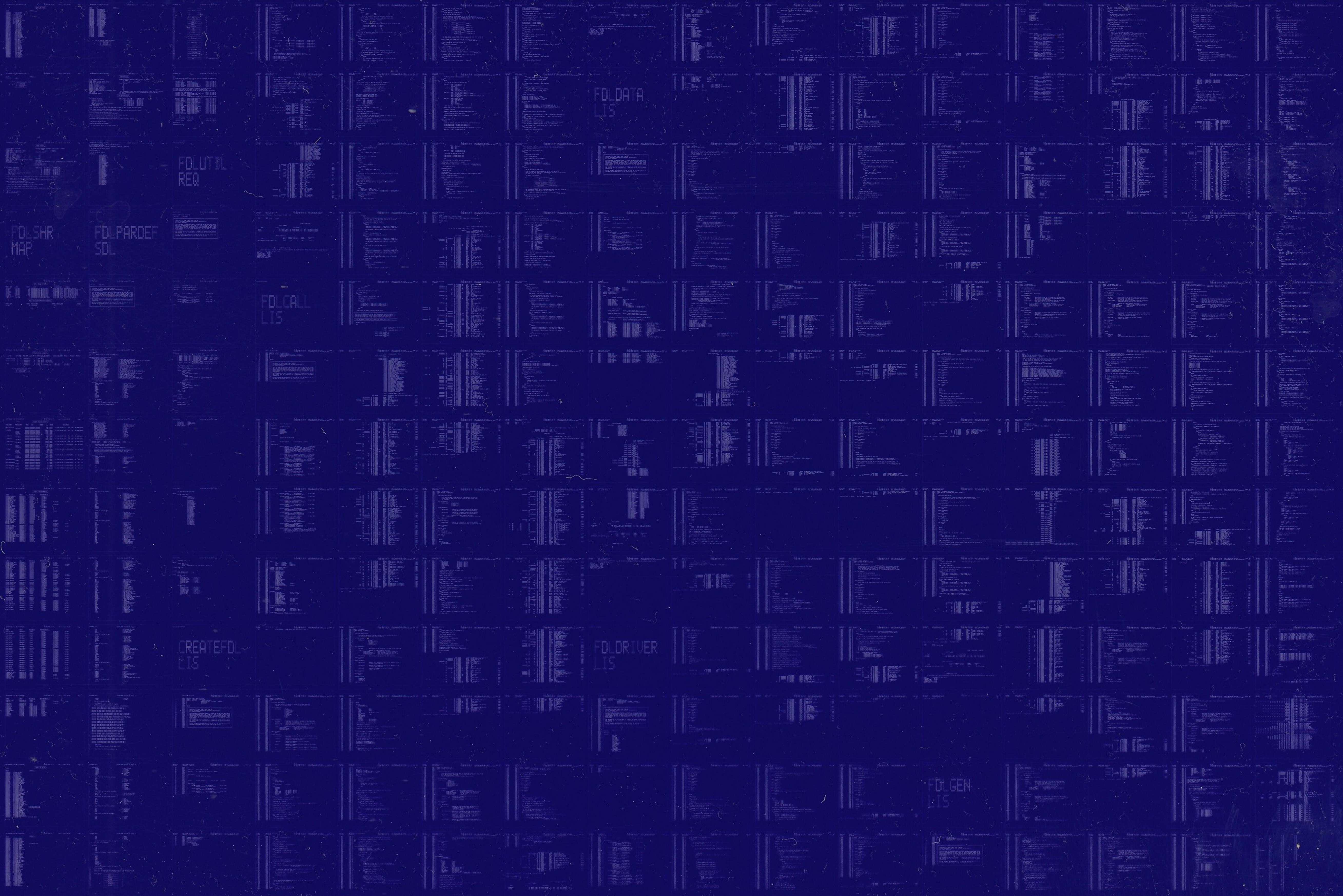
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LIS

FDLUTIL
REQ

FDLSHR
MAP

FDLPARDEF
SDL

FDLCALL
LIS

CREATEFDL
LIS

FDLDRIVER
LIS

FDLGEN
LIS

0177 AH-BT13A-SE
VAX/VMS V4.0

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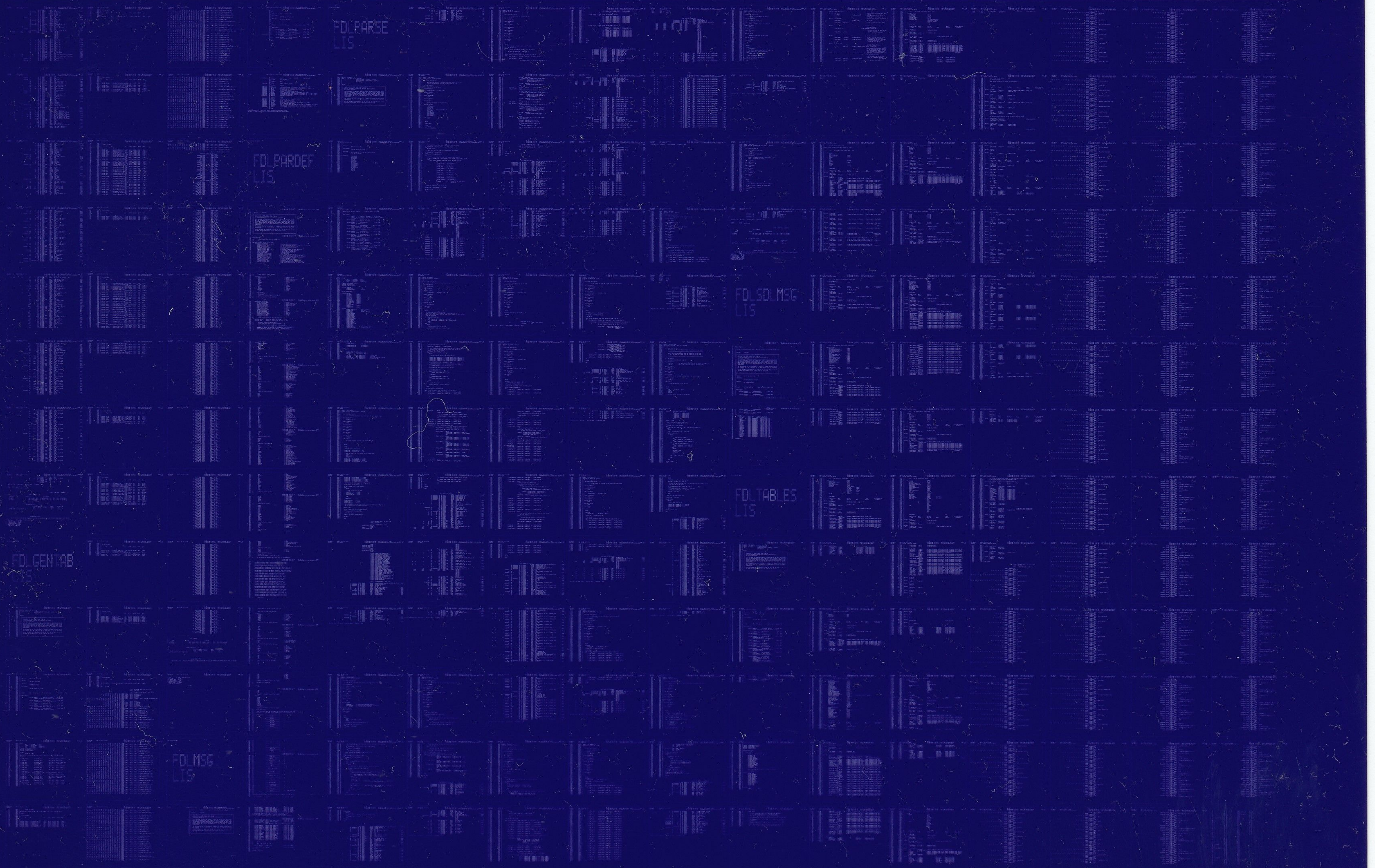
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LIS

FDLPARDEF
LIS

FDLSDLMSG
LIS

FDLTABLES
LIS

FDLGENTAB
LIS

FDLMSG
LIS