G 6

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LLL                 IIIIIIIII     BBBBBBBBBBBB     RRRRRRRRRRRR        AAAAAAAAA     RRRRRRRRRRRR
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LLL                 IIIIIIIII     BBBBBBBBBBBB     RRRRRRRRRRRR        AAAAAAAAA     RRRRRRRRRRRR
LLL                    III        BBB         BBB  RRR         RRR  AAA         AAA  RRR         RRR
LLL                    III        BBB         BBB  RRR         RRR  AAA         AAA  RRR         RRR
LLL                    III        BBB         BBB  RRR         RRR  AAA         AAA  RRR         RRR
LLL                    III        BBB         BBB  RRR         RRR  AAA         AAA  RRR         RRR
LLL                    III        BBB         BBB  RRR         RRR  AAA         AAA  RRR         RRR
LLL                    III        BBB         BBB  RRR         RRR  AAA         AAA  RRR         RRR
LLL                    III        BBBBBBBBBBBB     RRRRRRRRRRRR     AAA         AAA  RRRRRRRRRRRR
LLL                    III        BBBBBBBBBBBB     RRRRRRRRRRRR     AAA         AAA  RRRRRRRRRRRR
LLL                    III        BBBBBBBBBBBB     RRRRRRRRRRRR     AAA         AAA  RRRRRRRRRRRR
LLL                    III        BBB         BBB  RRR   RRR        AAAAAAAAAAAAAAA  RRR   RRR
LLL                    III        BBB         BBB  RRR   RRR        AAAAAAAAAAAAAAA  RRR   RRR
LLL                    III        BBB         BBB  RRR   RRR        AAAAAAAAAAAAAAA  RRR   RRR
LLL                    III        BBB         BBB  RRR      RRR     AAA         AAA  RRR      RRR
LLL                    III        BBB         BBB  RRR      RRR     AAA         AAA  RRR      RRR
LLL                    III        BBB         BBB  RRR      RRR     AAA         AAA  RRR      RRR
LLLLLLLLLLLLLLL     IIIIIIIII     BBBBBBBBBBBB     RRR         RRR  AAA         AAA  RRR         RRR
LLLLLLLLLLLLLLL     IIIIIIIII     BBBBBBBBBBBB     RRR         RRR  AAA         AAA  RRR         RRR
LLLLLLLLLLLLLLL     IIIIIIIII     BBBBBBBBBBBB     RRR         RRR  AAA         AAA  RRR         RRR
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L 16

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**FILE**ID**FILEIO




          FFFFFFFFFF    IIIIII    LL          EEEEEEEEEE    IIIIII      OOOOOO
          FFFFFFFFFF    IIIIII    LL          EEEEEEEEEE    IIIIII      OOOOOO
          FF              II      LL          EE              II      OO      OO
          FF              II      LL          EE              II      OO      OO
          FF              II      LL          EE              II      OO      OO
          FF              II      LL          EE              II      OO      OO
          FFFFFFFF        II      LL          EEEEEEEE        II      OO      OO
          FFFFFFFF        II      LL          EEEEEEEE        II      OO      OO
          FF              II      LL          EE              II      OO      OO
          FF              II      LL          EE              II      OO      OO
          FF              II      LL          EE              II      OO      OO      ....
          FF              II      LL          EE              II      OO      OO      ....
          FF            IIIIII    LLLLLLLLLL  EEEEEEEEEE    IIIIII      OOOOOO        ....
          FF            IIIIII    LLLLLLLLLL  EEEEEEEEEE    IIIIII      OOOOOO        ....

          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
```

```
0 MODULE LIB_FILEIO (                           ! Routines to read/write files
0                   LANGUAGE (BLISS32),
0                   IDENT = 'V04-000'
0                   ) =
1 BEGIN
1
1 !
1 !****************************************************************************
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1 !*  SOFTWARE ON EQUIPMENT WHICH IS NOT SUPPLIED BY DIGITAL.                 *
1 !*                                                                          *
1 !*                                                                          *
1 !****************************************************************************
1
1 !++
1 !
1 ! FACILITY:  Library command processor
1 !
1 ! ABSTRACT:
1 !
1 !       The VAX/VMS librarian is invoked by DCL to process the LIBRARY
1 !       command.  It utilizes the librarian procedure set to perform
1 !       the actual modifications to the library.
1 !
1 ! ENVIRONMENT:
1 !
1 !       VAX native, user mode.
1 !
1 !--
1 !
1 !
1 ! AUTHOR:  Benn Schreiber,       CREATION DATE:  20-June-1979
1 !
1 ! MODIFIED BY:
1 !
1 !       V03-003 GJA0083         Greg Awdziewicz         12-Apr-1984
1 !               Make read errors in Get_record routine fatal, to
1 !               stop infinite looping in the four Inputxxx modules
1 !               when RMS can't read the file. (QAR #2076)
1 !
1 !       V03-002 MLJ0086         Martin L. Jack, 6-Apr-1982  13:19
```

```
1 !                     Fix V02-011 to work for shareable image libraries.
1 !
1 !             V02-011         RPG0011         Bob Grosso      30-Mar-1982
1 !                     Use SQO (sequential only) option in FAB FOP to gain
1 !                     network performance enhancement by restricting file
1 !                     to sequential processing.
1 !
1 !             V02-003         RPG0003         Bob Grosso      07-Jan-1982
1 !                     Return error when input file locked.
1 !
1 !             V02-002         RPG002          3ob Grosso      7-Aug-1981
1 !                     lib$gl_ctlmsk now a quadword
1 !
1 !             V02-001 BLS0029         Benn Schreiber          23-Dec-1980
1 !                     Convert messages to message compiler.  Libraries of shareable
1 !                     image symbol tables.
1 !
1 !--
1
1
```

```
;     79         0078   1 LIBRARY
;     80         0079   1           'SYS$LIBRARY:STARLET.L32';         !System data structures
;     81         0080   1 REQUIRE
;     82         0081   1           'PREFIX';                          !Librarian macros
;     83         0265   1 REQUIRE
;     84         0266   1           'LIBDEF';                          !Librarian data structures
;     85         0554   1 REQUIRE
;     86         0555   1           'LBRDEF';                          !Library processor definitions
;     87         1146   1
;     88         1147   1 EXTERNAL
;     89         1148   1      lbr$gl_rmsstv : ADDRESSING_MODE (GENERAL), !RMS STV from librarian
;     90         1149   1      lib$gl_ctlmsk : BLOCK [2],            !Library control mask
;     91         1150   1      lib$gl_libctl,                        !Library control index
;     92         1151   1      lib$gl_inpfdb : REF BBLOCK,           !Pointer to input FDB
;     93         1152   1      lib$gl_rab : BBLOCK,                  !Pointer to input RAB
;     94         1153   1      lib$gl_type,                          !Type of library opened
;     95         1154   1      lib$gl_inplist : REF BBLOCK;          !Listhead for input files
;     96         1155   1
;     97         1156   1 EXTERNAL ROUTINE
;     98         1157   1      find_list_width,                      !Determine listing width
;     99         1158   1      getfilnamdesc,                        !Get string descriptor for file name
;    100         1159   1      lib_get_mem,                          !Get memory
;    101         1160   1      lib_free_mem,                         !and give it back
;    102         1161   1      lib_get_zmem;                         !Get zeroed memory
;    103         1162   1
;    104         1163   1 EXTERNAL LITERAL
;    105         1164   1      lib$_initerr;                         !Error initializing library
;  107         1165 1 GLOBAL ROUTINE next_input_file =
;  108         1166 2 BEGIN
;  109         1167 2
;  110         1168 2 !++
;  111         1169 2 !
;  112         1170 2 ! FUNCTIONAL DESCRIPTION:
;  113         1171 2 !
;  114         1172 2 !       This routine opens the next input file and returns success or failure.
;  115         1173 2 !
;  116         1174 2 ! IMPLICIT INPUTS:
;  117         1175 2 !
;  118         1176 2 !       The list of input files is pointed to by lib$gl_inplist.
;  119         1177 2 !
;  120         1178 2 ! OUTPUT PARAMETERS:
;  121         1179 2 !       NONE
;  122         1180 2 !
;  123         1181 2 ! IMPLICIT OUTPUTS:
;  124         1182 2 !
;  125         1183 2 !       The file is opened, and lib$gl_inpfdb points to the current FDB.
;  126         1184 2 !
;  127         1185 2 !--
;  128         1186 2
;  129         1187 2 LOCAL
;  130         1188 2     inpfab : BBLOCK [fab$c_bln];           !FAB to open file
;  131         1189 2
;  132         1190 2 IF .lib$gl_inpfdb EQL 0                  !If fdb not set up yet
;  133         1191 3 THEN BEGIN
;  134         1192 3     lib$gl_inpfdb = lib$gl_inplist;      !Then point at listhead to get first
;  135       P 1193 3     $RAB_INIT (                          ! and initialize the RAB
;  136       P 1194 3                 RAB = lib$al_rab,
;  137       P 1195 3                 FAB = inpfab,
;  138       P 1196 3                 ROP = LOC                ! use locate mode
;  139         1197 3                 );
;  140         1198 3     END
;  141         1199 3 ELSE BEGIN                              !Otherwise close open library
;  142         1200 3     LOCAL
;  143         1201 3         status;
;  144         1202 3     BIND
;  145         1203 3         inpdesc = lib$gl_inpfdb [fdb$l_namdesc] : BBLOCK;
;  146         1204 3
;  147         1205 3     $FAB_INIT (FAB = inpfab);            !Initialize FAB as a FAB
;  148         1206 3     inpfab [fab$w_ifi] = .lib$gl_inpfdb [fdb$w_ifi]; !Set the IFI for CLOSE
;  149       P 1207 3     rms_perform ($DISCONNECT (RAB = lib$al_rab),
;  150       P 1208 3                 lib$_closein,
;  151         1209 3                 .lib$al_rab [rab$l_stv], 1, inpdesc);
;  152       P 1210 3     rms_perform ($CLOSE (FAB = inpfab), !Close the library
;  153       P 1211 3                 lib$_closein,
;  154         1212 3                 .inpfab [fab$l_stv], 1, inpdesc);
;  155         1213 2     END;
;  156         1214 2 lib$gl_inpfdb = .lib$gl_inpfdb [fdb$l_nxtfdb]; !Link to next FDB
;  157         1215 2 if .lib$gl_inpfdb EQL 0                  !And if no more
;  158         1216 3 THEN BEGIN
;  159         1217 3     IF .lib$al_rab [rab$l_ubf] NEQ 0
;  160         1218 3     THEN lib_free_mem (lbr$c_maxrecsiz, .lib$al_rab [rab$l_ubf]);
;  161         1219 3     RETURN false
;  162         1220 2     END;
;  163         1221 2
```

**

```
;  164          1222 3 BEGIN
;  165          1223 3      LOCAL
;  166          1224 3           open_status;
;  167          1225 3
;  168          1226 3      BIND
;  169          1227 3           inpdesc = lib$gl_inpfdb [fdb$l_namdesc] : BBLOCK, !Descriptor for filename
;  170          1228 3           inpnam = lib$gl_inpfdb [fdb$t_nam] : BBLOCK;     !Name NAM block
;  171          1229 3
;  172        P 1230 3      $FAB_INIT (                                     !Init the FAB
;  173        P 1231 3                   FAB = inpfab,
;  174        P 1232 3                   FAC = GET,                         !For gets
;  175        P 1233 3                   MRS = lbr$c_maxrecsiz,             !Max record size
;  176        P 1234 3                   RFM = VAR,                         !Variable format records
;  177        P 1235 3                   FOP = <NAM,SQO>,                   !Open by NAM block
;  178        P 1236 3                                                      !Restrict to sequential access for network performance gain
;  179        P 1237 3                   NAM = inpnam,                      !Point to the nam block
;  180        P 1238 3                   FNS = .inpdesc [dsc$w_length],     !Pass name also in case network open
;  181        P 1239 3                   FNA = .inpdesc [dsc$a_pointer]
;  182          1240 3                   );
;  183          1241 3      IF .lib$gl_type EQL lbr$c_typ_shstb           !If a shareable image being opened
;  184          1242 3      THEN
;  185          1243 4           BEGIN
;  186          1244 4           inpfab [fab$v_bro] = true;                 ! then set bro also
;  187          1245 4           inpfab [fab$v_sqo] = false;                ! and clear SQO
;  188          1246 3           END;
;  189          1247 3      open_status = $OPEN (FAB = inpfab);
;  190          1248 3      IF NOT .open_status
;  191          1249 3      THEN
;  192          1250 4           BEGIN
;  193          1251 4           SIGNAL (lib$_openin,
;  194          1252 4                   1, inpdesc,
;  195          1253 4 !                 .inpfab [fab$l_stv],
;  196          1254 4                   .open_status );
;  197          1255 4           RETURN .open_status;
;  198          1256 3           END;
;  199          1257 3      lib$gl_inpfdb [fdb$w_ifi] = .inpfab [fab$w_ifi];     !Save IFI for close
;  200          1258 3      IF .lib$al_rab [rab$l_ubf] EQL 0                     !If no user buffer allocated
;  201          1259 4      THEN BEGIN
;  202        P 1260 4           perform (lib_get_mem (lbr$c_maxrecsiz, lib$al_rab [rab$l_ubf]), !Allocate buffer
;  203          1261 4                           lib$_initerr, 1, inpdesc);
;  204          1262 4           lib$al_rab [rab$w_usz] = lbr$c_maxrecsiz;       !and set size in RAB
;  205          1263 3           END;
;  206        P 1264 3      rms_perform ($CONNECT (RAB = lib$al_rab),            !Connect for record I/O
;  207        P 1265 3                   lib$_openin,
;  208          1266 3                   .lib$al_rab [rab$l_stv], 1, inpdesc);
;  209          1267 3      IF .lib$gl_type EQL lbr$c_typ_shstb          !If opening a shareable image
;  210          1268 4      THEN BEGIN
;  211          1269 4           inpfab [fab$v_esc] = true;                !Set the majik bit
;  212          1270 4           inpfab [fab$l_ctx] = rme$c_setrfm;        !Function to set record format
;  213          1271 4           inpfab [fab$b_rfm] = fab$c_var;           !Set variable length records for $gets
;  214        P 1272 4           rms_perform ($MODIFY (FAB = inpfab),      !Tell RMS to think differently
;  215        P 1273 4                   lib$_openin,                      ! this should not fail
;  216          1274 4                   inpfab [fab$l_stv], 1, inpdesc);!  but if it does report the error
;  217          1275 3           END;
;  218          1276 2      END;
;  219          1277 2 RETURN ss$_normal
;  220          1278 1 END;                                   ! Of next_input_file
```

```
                                                         .TITLE  LIB_FILEIO
                                                         .IDENT  \V04-000\

                                                         .EXTRN  LBR$GL_RMSSTV, LIB$GL_CTLMSK
                                                         .EXTRN  LIB$GL_LIBCTL, LIB$GL_INPFDB
                                                         .EXTRN  LIB$AL_RAB, LIB$GL_TYPE
                                                         .EXTRN  LIB$GL_INPLIST, FIND_LIST_WIDTH
                                                         .EXTRN  GETFILNAMDESC, LIB_GET_MEM
                                                         .EXTRN  LIB_FREE_MEM, LIB_GET_ZMEM
                                                         .EXTRN  LIB$_INITERR, SYS$DISCONNECT
                                                         .EXTRN  SYS$CLOSE, SYS$OPEN
                                                         .EXTRN  SYS$CONNECT, SYS$MODIFY

                                                         .PSECT  $CODE$,NOWRT,2

                                          07FC 00000     .ENTRY  NEXT_INPUT_FILE, Save R2,R3,R4,R5,R6,R7,R8,-; 1165
                                                                 R9,R10                                     ;
                          5A     0000G  CF   9E 00002     MOVAB   LIB$GL_INPFDB, R10                         ;
                          59 00000000G  00   9E 00007     MOVAB   LIB$SIGNAL, R9                             ;
                          58     0000G  CF   9E 0000E     MOVAB   $RMS_PTR, R8                               ;
                          5E        B0  AE   9E 00013     MOVAB   -80(SP), SP                                ;
                          56            6A   D0 00017     MOVL    LIB$GL_INPFDB, R6                          ; 1190
                                        20   12 0001A     BNEQ    1$                                         ;
                          6A     0000G  CF   9E 0001C     MOVAB   LIB$GL_INPLIST, LIB$GL_INPFDB              ; 1192
 0044   8F          00    6E            00   2C 00021     MOVC5   #0, (SP), #0, #68, $RMS_PTR                ; 1197
                                        68      00028                                                        ;
                          68      4401  8F   B0 00029     MOVW    #17409, $RMS_PTR                           ;
                     04   A8  00010000  8F   D0 0002E     MOVL    #65536, $RMS_PTR+4                         ;
                     3C   A8            6E   9E 00036     MOVAB   INPFAB, $RMS_PTR+60                        ;
                                        5A   11 0003A     BRB     3$                                         ; 1190
                          57        10  A6   9E 0003C 1$: MOVAB   16(R6), R7                                 ; 1203
 0050   8F          00    6E            00   2C 00040     MOVC5   #0, (SP), #0, #80, $RMS_PTR                ; 1205
                                        6E      00047                                                        ;
                          6E      5003  8F   B0 00048     MOVW    #20483, $RMS_PTR                           ;
                     16   AE            02   90 0004D     MOVB    #2, $RMS_PTR+22                            ;
                     1F   AE            02   90 00051     MOVB    #2, $RMS_PTR+31                            ;
                     02   AE        06  A6   B0 00055     MOVW    6(R6), INPFAB+2                            ; 1206
                                        58   DD 0005A     PUSHL   R8                                         ; 1209
               00000000G  00            01   FB 0005C     CALLS   #1, SYS$DISCONNECT                         ;
                          12            50   E8 00063     BLBS    STATUS, 2$                                 ;
                                    0C  A8   DD 00066     PUSHL   LIB$AL_RAB+12                              ;
                                        50   DD 00069     PUSHL   STATUS                                     ;
                                        57   DD 0006B     PUSHL   R7                                         ;
                                        01   DD 0006D     PUSHL   #1                                         ;
                              00861050  8F   DD 0006F     PUSHL   #8786000                                   ;
                          69            05   FB 00075     CALLS   #5, LIB$SIGNAL                             ;
                                        5E   DD 00078 2$: PUSHL   SP                                         ; 1212
               00000000G  00            01   FB 0007A     CALLS   #1, SYS$CLOSE                              ;
                          12            50   E8 00081     BLBS    STATUS, 3$                                 ;
                                    0C  AE   DD 00084     PUSHL   INPFAB+12                                  ;
                                        50   DD 00087     PUSHL   STATUS                                     ;
                                        57   DD 00089     PUSHL   R7                                         ;
                                        01   DD 0008B     PUSHL   #1                                         ;
                              00861050  8F   DD 0008D     PUSHL   #8786000                                   ;
                          69            05   FB 00093     CALLS   #5, LIB$SIGNAL                             ;
```

```
                        7A              9A  D0 00096 3$:     MOVL    @LIB$GL_INPFDB, LIB$GL_INPFDB              ; 1214
                                        15  12 00099         BNEQ    5$                                         ; 1215
                        50        24    A8  D0 0009B         MOVL    LIB$AL_RAB+36, R0                          ; 1217
                                        0C  13 0009F         BEQL    4$                                         ;
                                        50  DD 000A1         PUSHL   R0                                         ; 1218
                        7E      0800    8F  3C 000A3         MOVZWL  #2048, -(SP)                               ;
                  0000G CF              02  FB 000A8         CALLS   #2, LIB_FREE_MEM                           ;
                                      00F4  31 000AD 4$:     BRW     12$                                        ; 1219
              56        6A              10  C1 000B0 5$:     ADDL3   #16, LIB$GL_INPFDB, R6                     ; 1227
              57        6A  00000040    8F  C1 000B4         ADDL3   #64, LIB$GL_INPFDB, R7                     ; 1228
 0050   8F    00        6E              00  2C 000BC         MOVC5   #0, (SP), #0, #80, $RMS_PTR                ; 1240
                                        6E     000C3                                                            ;
                        6E      5003    8F  B0 000C4         MOVW    #20483, $RMS_PTR                           ;
                   04   AE  01000040    8F  D0 000C9         MOVL    #16777280, $RMS_PTR+4                      ;
                   16   AE              02  90 000D1         MOVB    #2, $RMS_PTR+22                            ;
                   1F   AE              02  90 000D5         MOVB    #2, $RMS_PTR+31                            ;
                   28   AE              57  D0 000D9         MOVL    R7, $RMS_PTR+40                            ;
                   2C   AE        04    A6  D0 000DD         MOVL    4(R6), $RMS_PTR+44                         ;
                   34   AE              66  90 000E2         MOVB    (R6), $RMS_PTR+52                          ;
                   36   AE      0800    8F  B0 000E6         MOVW    #2048, $RMS_PTR+54                         ;
                   05          0000G    CF  D1 000EC         CMPL    LIB$GL_TYPE, #5                            ; 1241
                                        0A  12 000F1         BNEQ    6$                                         ;
                   16   AE        40    8F  88 000F3         BISB2   #64, INPFAB+22                             ; 1244
                   04   AE        40    8F  8A 000F8         BICB2   #64, INPFAB+4                              ; 1245
                                        5E  DD 000FD 6$:     PUSHL   SP                                         ; 1247
              00000000G 00              01  FB 000FF         CALLS   #1, SYS$OPEN                               ;
                        52              50  D0 00106         MOVL    R0, OPEN_STATUS                            ;
                        13              52  E8 00109         BLBS    OPEN_STATUS, 7$                            ; 1248
                                        52  DD 0010C         PUSHL   OPEN_STATUS                                ; 1254
                                        56  DD 0010E         PUSHL   R6                                         ; 1251
                                        01  DD 00110         PUSHL   #1                                         ;
                            00861098    8F  DD 00112         PUSHL   #8786072                                   ;
                        69              04  FB 00118         CALLS   #4, LIB$SIGNAL                             ;
                        50              52  D0 0011B         MOVL    OPEN_STATUS, R0                            ; 1255
                                            04 0011E         RET                                                ;
                        50              6A  D0 0011F 7$:     MOVL    LIB$GL_INPFDB, R0                          ; 1257
                   06   A0        02    AE  B0 00122         MOVW    INPFAB+2, 6(R0)                            ;
                                  24    A8  D5 00127         TSTL    LIB$AL_RAB+36                              ; 1258
                                        25  12 0012A         BNEQ    9$                                         ;
                                  24    A8  9F 0012C         PUSHAB  LIB$AL_RAB+36                              ; 1261
                        7E      0800    8F  3C 0012F         MOVZWL  #2048, -(SP)                               ;
                  0000G CF              02  FB 00134         CALLS   #2, LIB_GET_MEM                            ;
                        0F              50  E8 00139         BLBS    STATUS, 8$                                 ;
                                        50  DD 0013C         PUSHL   STATUS                                     ;
                                        56  DD 0013E         PUSHL   R6                                         ;
                                        01  DD 00140         PUSHL   #1                                         ;
                           00000000G    8F  DD 00142         PUSHL   #LIB$_INITERR                              ;
                        69              04  FB 00148         CALLS   #4, LIB$SIGNAL                             ;
                   20   A8      0800    8F  B0 0014B 8$:     MOVW    #2048, LIB$AL_RAB+32                       ; 1262
                                        58  DD 00151 9$:     PUSHL   R8                                         ; 1266
              00000000G 00              01  FB 00153         CALLS   #1, SYS$CONNECT                            ;
                        12              50  E8 0015A         BLBS    STATUS, 10$                                ;
                                  0C    A8  DD 0015D         PUSHL   LIB$AL_RAB+12                              ;
                                        50  DD 00160         PUSHL   STATUS                                     ;
                                        56  DD 00162         PUSHL   R6                                         ;
                                        01  DD 00164         PUSHL   #1                                         ;
                            00861098    8F  DD 00166         PUSHL   #8786072                                   ;
```

```
                                  69                05  FB 0016C          CALLS   #5, LIB$SIGNAL                         ;
                                  05       0000G    CF  D1 0016F  10$:    CMPL    LIB$GL_TYPE, #5                        ; 1267
                                                    2A  12 00174          BNEQ    11$                                    ;
                              07  AE                08  88 00176          BISB2   #8, INPFAB+7                           ; 1269
                              18  AE                01  D0 0017A          MOVL    #1, INPFAB+24                          ; 1270
                              1F  AE                02  90 0017E          MOVB    #2, INPFAB+31                          ; 1271
                                                    5E  DD 00182          PUSHL   SP                                     ; 1274
                       00000000G  00                01  FB 00184          CALLS   #1, SYS$MODIFY                         ;
                                  12                50  E8 0018B          BLBS    STATUS, 11$                            ;
                                              0C    AE  9F 0018E          PUSHAB  INPFAB+12                              ;
                                                    50  DD 00191          PUSHL   STATUS                                 ;
                                                    56  DD 00193          PUSHL   R6                                     ;
                                                    01  DD 00195          PUSHL   #1                                     ;
                                        00861098    8F  DD 00197          PUSHL   #8786072                               ;
                                  69                05  FB 0019D          CALLS   #5, LIB$SIGNAL                         ;
                                  50                01  D0 001A0  11$:    MOVL    #1, R0                                 ; 1277
                                                        04 001A3          RET                                            ;
                                                    50  D4 001A4  12$:    CLRL    R0                                     ; 1278
                                                        04 001A6          RET                                            ;

; Routine Size:  423 bytes,    Routine Base:  $CODE$ + 0000
;  222      1279  1 GLOBAL ROUTINE get_record (record_desc) =
;  223      1280  2 BEGIN
;  224      1281  2 !++
;  225      1282  2 ! FUNCTIONAL DESCRIPTION:
;  226      1283  2 !
;  227      1284  2 !       This routine reads the next record from the current input file
;  228      1285  2 !
;  229      1286  2 ! Inputs:
;  230      1287  2 !
;  231      1288  2 !       NONE
;  232      1289  2 !
;  233      1290  2 ! Implicit inputs:
;  234      1291  2 !
;  235      1292  2 !       Input file must be open
;  236      1293  2 !
;  237      1294  2 ! Outputs:
;  238      1295  2 !
;  239      1296  2 !       record_desc     is a string descriptor for the record
;  240      1297  2 !
;  241      1298  2 !--
;  242      1299  2 LOCAL
;  243      1300  2     status;
;  244      1301  2
;  245      1302  2 MAP
;  246      1303  2     record_desc : REF BBLOCK;
;  247      1304  2
;  248      1305  2 BIND
;  249      1306  2     inpdesc = lib$gl_inpfdb [fdb$l_namdesc] : BBLOCK;
;  250      1307  2
;  251      1308  2 status = $GET (RAB = lib$al_rab);       !Read the record
;  252      1309  3 IF NOT .status AND (.status NEQ rms$_eof)
;  253      1310  2 THEN SIGNAL (lib$_readerr OR sts$k_severe,
;  254      1311  2         1, inpdesc, .status, .lib$al_rab [rab$l_stv]);
;  255      1312  2 record_desc [dsc$w_length] = .lib$al_rab [rab$w_rsz]; !Return length
;  256      1313  2 record_desc [dsc$a_pointer]   = .lib$al_rab [rab$l_rbf]; !and address of record
;  257      1314  2 RETURN .status
;  258      1315  1 END;                                  ! Of get_record


                                                         .EXTRN  SYS$GET

                                      000C 00000         .ENTRY  GET_RECORD, Save R2,R3                    ; 1279
          52      0000G  CF             10  C1 00002     ADDL3   #16, LIB$GL_INPFDB, R2                    ; 1306
                               0000G  CF  9F 00008       PUSHAB  LIB$AL_RAB                                ; 1308
             00000000G  00             01  FB 0000C      CALLS   #1, SYS$GET                               ;
                        53             50  D0 00013      MOVL    R0, STATUS                                ;
                        1E             53  E8 00016      BLBS    STATUS, 1$                                ; 1309
             0001827A   8F             53  D1 00019      CMPL    STATUS, #98938                            ;
                                       15  13 00020      BEQL    1$                                        ;
                               0000G   CF  DD 00022      PUSHL   LIB$AL_RAB+12                             ; 1311
                                       0C  BB 00026      PUSHR   #^M<R2,R3>                                ; 1310
                                       01  DD 00028      PUSHL   #1                                        ;
                            008610B6   8F  DD 0002A      PUSHL   #8786102                                  ;
             00000000G  00             05  FB 00030      CALLS   #5, LIB$SIGNAL                            ;
                        50         04  AC  D0 00037 1$:  MOVL    RECORD_DESC, R0                           ; 1312
                        60      0000G  CF  B0 0003B      MOVW    LIB$AL_RAB+34, (R0)                       ;
                        04   A0      0000G  CF  D0 00040        MOVL    LIB$AL_RAB+40, 4(R0)                      ; 1313
                             50             53  D0 00046        MOVL    STATUS, R0                                ; 1314
                                                04 00049        RET                                               ; 1315

; Routine Size:  74 bytes,    Routine Base:  $CODE$ + 01A7
;  260          1316  1 GLOBAL ROUTINE lib_open_out (fdb, relnam, carriage_cntrl, listingwidth) =
;  261          1317  2 BEGIN
;  262          1318  2 !++
;  263          1319  2 ! FUNCTIONAL DESCRIPTION:
;  264          1320  2 !
;  265          1321  2 !       This routine opens the output file specified by fdb.
;  266          1322  2 !
;  267          1323  2 ! INPUTS:
;  268          1324  2 !
;  269          1325  2 !       fdb             address of the file descriptor block
;  270          1326  2 !       relnam          Address of related NAM block
;  271          1327  2 !       carriage_cntrl  true if fab$v_cr, false if not
;  272          1328  2 !       listingwidth    optional address of place to store width of device
;  273          1329  2 !
;  274          1330  2 ! OUTPUTS:
;  275          1331  2 !
;  276          1332  2 !       fdb[fdb$w_ifi]  ifi of open file
;  277          1333  2 !
;  278          1334  2 !--
;  279          1335  2
;  280          1336  2 MAP
;  281          1337  2     fdb : REF BBLOCK;
;  282          1338  2
;  283          1339  2 LOCAL
;  284          1340  2     status,
;  285          1341  2     ofab : BBLOCK [fab$c_bln];
;  286          1342  2
;  287          1343  2 BIND
;  288          1344  2     namblk = fdb [fdb$t_nam] : BBLOCK,  !Name the NAM block
;  289          1345  2     filedefdesc = fdb [fdb$l_defext] : BBLOCK,  !String descriptor for default filename
;  290          1346  2     filenamedesc = fdb [fdb$l_namdesc] : BBLOCK; !String descriptor for filename
;  291          1347  2
;  292          1348  2 BUILTIN
;  293          1349  2     NULLPARAMETER;
;  294          1350  2
;  295        P 1351  2 $FAB_INIT (                                          !Initialize the FAB
;  296        P 1352  2         FAB = ofab,
;  297        P 1353  2         RFM = VAR,
;  298        P 1354  2         FNS = .filenamedesc [dsc$w_length],
;  299        P 1355  2         FNA = .filenamedesc [dsc$a_pointer],
;  300        P 1356  2         DNS = .filedefdesc  [dsc$w_length],
;  301        P 1357  2         DNA = .filedefdesc  [dsc$a_pointer],
;  302        P 1358  2         FAC = PUT,
;  303        P 1359  2         NAM = namblk,
;  304        P 1360  2         FOP = <OFP, SQO>                             !Restrict to sequential access for network performance gain
;  305          1361  2         );
;  306          1362  2
;  307          1363  2 IF .carriage_cntrl                                   !If carriage control desired
;  308          1364  2     THEN ofab [fab$v_cr] = true;
;  309          1365  2
;  310        P 1366  2 $RAB_INIT (                                          !Initialize the RAB
;  311        P 1367  2         RAB = lib$al_rab,
;  312        P 1368  2         FAB = ofab
;  313          1369  2         );
;  314          1370  2 namblk [nam$l_rlf] = .relnam;                        !Set address of related NAM block
;  315          1371  2 !
;  316          1372  2 ! Create the file
;  317          1373 2 !
;  318          1374 2 status = $CREATE (FAB = ofab);                         !Create the file
;  319          1375 2 IF NOT .status                                         !If error
;  320          1376 3 THEN BEGIN
;  321          1377 3     getfilnamdesc (ofab, filenamedesc);                !Get string descriptor for name
;  322          1378 3     SIGNAL_STOP (                                      !Signal error and stop
;  323          1379 3             lib$_openout,
;  324          1380 3             1, filenamedesc, .status, .ofab [fab$l_stv]);
;  325          1381 2     END;
;  326          1382 2 getfilnamdesc (ofab, filenamedesc);
;  327        P 1383 2 rms_perform ($CONNECT (RAB = lib$al_rab),                     !Connect the record stream
;  328        P 1384 2         lib$_openout,
;  329          1385 2         .lib$al_rab [rab$l_stv], 1, filenamedesc);
;  330          1386 2 !
;  331          1387 2 ! Set Ifi into fdb and return
;  332          1388 2 !
;  333          1389 2 fdb [fdb$w_ifi] = .ofab [fab$w_ifi];
;  334          1390 2 IF NOT NULLPARAMETER (4)
;  335          1391 2 THEN perform (find_list_width (ofab, .listingwidth));
;  336          1392 2 RETURN true
;  337          1393 1 END;                                              !Of lib_open_out


                                                                        .EXTRN  SYS$CREATE

                                                      07FC 00000        .ENTRY  LIB_OPEN_OUT, Save R2,R3,R4,R5,R6,R7,R8,R9,-; 1316
                                                                                R10                                  :
                              5A        0000G    CF    9E 00002         MOVAB   $RMS_PTR, R10                        :
                              5E           B0    AE    9E 00007         MOVAB   -80(SP), SP                          :
                              56           04    AC    D0 0000B         MOVL    FDB, R6                              ; 1344
                              59           40    A6    9E 0000F         MOVAB   64(R6), R9                           :
                              57           08    A6    9E 00013         MOVAB   8(R6), R7                            ; 1345
                              58           10    A6    9E 00017         MOVAB   16(R6), R8                           ; 1346
    0050    8F          00    6E                 00    2C 0001B         MOVC5   #0, (SP), #0, #80, $RMS_PTR          ; 1361
                                                 6E       00022                                                      :
                              6E         5003    8F    B0 00023         MOVW    #20483, $RMS_PTR                     :
                        04    AE     20000040    8F    D0 00028         MOVL    #536870976, $RMS_PTR+4               :
                        16    AE                 01    90 00030         MOVB    #1, $RMS_PTR+22                      :
                        1F    AE                 02    90 00034         MOVB    #2, $RMS_PTR+31                      :
                        28    AE                 59    D0 00038         MOVL    R9, $RMS_PTR+40                      :
                        2C    AE           04    A8    D0 0003C         MOVL    4(R8), $RMS_PTR+44                   :
                        30    AE           04    A7    D0 00041         MOVL    4(R7), $RMS_PTR+48                   :
                        34    AE                 68    90 00046         MOVB    (R8), $RMS_PTR+52                    :
                        35    AE                 67    90 0004A         MOVB    (R7), $RMS_PTR+53                    :
                              04           0C    AC    E9 0004E         BLBC    CARRIAGE_CNTRL, 1$                   ; 1363
                        1E    AE                 02    88 00052         BISB2   #2, OFAB+30                          ; 1364
    0044    8F          00    6E                 00    2C 00056 1$:     MOVC5   #0, (SP), #0, #68, $RMS_PTR          ; 1369
                                                 6A       0005D                                                      :
                              6A         4401    8F    B0 0005E         MOVW    #17409, $RMS_PTR                     :
                        3C    AA                 6E    9E 00063         MOVAB   OFAB, $RMS_PTR+60                    :
                        10    A9           08    AC    D0 00067         MOVL    RELNAM, 16(R9)                       ; 1370
                                                 5E    DD 0006C         PUSHL   SP                                   ; 1374
                 00000000G    00                 01    FB 0006E         CALLS   #1, SYS$CREATE                       :
                              52                 50    D0 00075         MOVL    R0, STATUS                           :
                              20                 52    E8 00078         BLBS    STATUS, 2$                           ; 1375
                                                 58    DD 0007B         PUSHL   R8                                   ; 1377
```

```
                      04   AE  9F 0007D       PUSHAB  OFAB                          :
      0000G  CF            02  FB 00080       CALLS   #2, GETFILNAMDESC              :
                      0C   AE  DD 00085       PUSHL   OFAB+12                        : 1380
                           52  DD 00088       PUSHL   STATUS                         :
                           58  DD 0008A       PUSHL   R8                             : 1378
                           01  DD 0008C       PUSHL   #1                             :
               008610A4    8F  DD 0008E       PUSHL   #8786084                       :
  00000000G  00            05  FB 00094       CALLS   #5, LIB$STOP                   :
                           58  DD 0009B 2$:   PUSHL   R8                             : 1382
                      04   AE  9F 0009D       PUSHAB  OFAB                           :
      0000G  CF            02  FB 000A0       CALLS   #2, GETFILNAMDESC              :
                           5A  DD 000A5       PUSHL   R10                            : 1385
  00000000G  00            01  FB 000A7       CALLS   #1, SYS$CONNECT                :
             16            50  E8 000AE       BLBS    STATUS, 3$                     :
                      0C   AA  DD 000B1       PUSHL   LIB$AL_RAB+12                  :
                           50  DD 000B4       PUSHL   STATUS                         :
                           58  DD 000B6       PUSHL   R8                             :
                           01  DD 000B8       PUSHL   #1                             :
               008610A4    8F  DD 000BA       PUSHL   #8786084                       :
  00000000G  00            05  FB 000C0       CALLS   #5, LIB$SIGNAL                 :
         06  A6       02   AE  B0 000C7 3$:   MOVW    OFAB+2, 6(R6)                  : 1389
             04            6C  91 000CC       CMPB    (AP), #4                       : 1390
                           13  1F 000CF       BLSSU   4$                             :
                      10   AC  D5 000D1       TSTL    16(AP)                         :
                           0E  13 000D4       BEQL    4$                             :
                      10   AC  DD 000D6       PUSHL   LISTINGWIDTH                   : 1391
                      04   AE  9F 000D9       PUSHAB  OFAB                           :
      0000G  CF            02  FB 000DC       CALLS   #2, FIND_LIST_WIDTH            :
             03            50  E9 000E1       BLBC    STATUS, 5$                     :
             50            01  D0 000E4 4$:   MOVL    #1, R0                         : 1392
                               04 000E7 5$:   RET                                    : 1393

; Routine Size:  232 bytes,    Routine Base:  $CODE$ + 01F1
;  339          1394  1 GLOBAL ROUTINE lib_close_out (fdb, delete) =
;  340          1395  2 BEGIN
;  341          1396  2 !++
;  342          1397  2 ! Close the open output file
;  343          1398  2 !
;  344          1399  2 ! Inputs:
;  345          1400  2 !
;  346          1401  2 !        fdb     Address of the fdb for the file
;  347          1402  2 !        delete  True to delete file
;  348          1403  2 !
;  349          1404  2 ! Outputs:
;  350          1405  2 !
;  351          1406  2 !        file is closed
;  352          1407  2 !
;  353          1408  2 !--
;  354          1409  2
;  355          1410  2 MAP
;  356          1411  2     fdb : REF BBLOCK;
;  357          1412  2
;  358          1413  2 BIND
;  359          1414  2     namblk = fdb [fdb$t_nam] : BBLOCK;
;  360          1415  2
;  361          1416  2 LOCAL
;  362          1417  2     ofab : BBLOCK [fab$c_bln];
;  363          1418  2
;  364          1419  2 $FAB_INIT (FAB = ofab);                 !Make a FAB
;  365          1420  2 ofab [fab$v_dlt] = .delete;             !Set delete flag true/false
;  366          1421  2 ofab [fab$w_ifi] = .fdb [fdb$w_ifi];    !Set IFI for close
;  367          1422  2 ofab [fab$l_nam] = namblk;
;  368          1423  2 lib$al_rab [rab$l_fab] = ofab;
;  369        P 1424  2 rms_perform ($DISCONNECT (RAB = lib$al_rab), !Disconnect record stream
;  370        P 1425  2         lib$_closeout,
;  371          1426  2         .lib$al_rab [rab$l_stv], 1, fdb [fdb$l_namdesc]);
;  372        P 1427  2 rms_perform ($CLOSE (FAB = ofab),       !Close the file
;  373        P 1428  2         lib$_closeout,
;  374          1429  2         .ofab [fab$l_stv], 1, fdb [fdb$l_namdesc]);
;  375          1430  2 RETURN true
;  376          1431  1 END;                                    !



                                          00FC 00000      .ENTRY  LIB_CLOSE_OUT, Save R2,R3,R4,R5,R6,R7     ; 1394
                      57 00000000G  00  9E 00002          MOVAB   LIB$SIGNAL, R7                            ;
                      5E        B0  AE  9E 00009          MOVAB   -80(SP), SP                               ;
                      56        04  AC  D0 0000D          MOVL    FDB, R6                                   ; 1414
 0050  8F       00    6E            00  2C 00011          MOVC5   #0, (SP), #0, #80, $RMS_PTR               ; 1419
                                    6E     00018                                                            ;
                      6E      5003  8F  B0 00019          MOVW    #20483, $RMS_PTR                          ;
                 16   AE            02  90 0001E          MOVB    #2, $RMS_PTR+22                           ;
                 1F   AE            02  90 00022          MOVB    #2, $RMS_PTR+31                           ;
   05  AE       01    07        08  AC  F0 00026          INSV    DELETE, #7, #1, OFAB+5                    ; 1420
                 02   AE        06  A6  B0 0002D          MOVW    6(R6), OFAB+2                             ; 1421
                 28   AE        40  A6  9E 00032          MOVAB   64(R6), OFAB+40                           ; 1422
              0000G   CF            6E  9E 00037          MOVAB   OFAB, LIB$AL_RAB+60                       ; 1423
                             0000G  CF  9F 0003C          PUSHAB  LIB$AL_RAB                                ; 1426
```

```
                    00000000G  00          01  FB 00040        CALLS   #1, SYS$DISCONNECT                              ;
                               14          50  E8 00047        BLBS    STATUS, 1$                                      ;
                                     0000G CF  DD 0004A        PUSHL   LIB$AL_RAB+12                                   ;
                                           50  DD 0004E        PUSHL   STATUS                                          ;
                                        10 A6  9F 00050        PUSHAB  16(R6)                                          ;
                                           01  DD 00053        PUSHL   #1                                              ;
                                  00861058 8F  DD 00055        PUSHL   #8786008                                        ;
                               67          05  FB 0005B        CALLS   #5, LIB$SIGNAL                                  ;
                                           5E  DD 0005E 1$:    PUSHL   SP                                              ; 1429
                    00000000G  00          01  FB 00060        CALLS   #1, SYS$CLOSE                                   ;
                               13          50  E8 00067        BLBS    STATUS, 2$                                      ;
                                        0C AE  DD 0006A        PUSHL   OFAB+12                                         ;
                                           50  DD 0006D        PUSHL   STATUS                                          ;
                                        10 A6  9F 0006F        PUSHAB  16(R6)                                          ;
                                           01  DD 00072        PUSHL   #1                                              ;
                                  00861058 8F  DD 00074        PUSHL   #8786008                                        ;
                               67          05  FB 0007A        CALLS   #5, LIB$SIGNAL                                  ;
                               50          01  D0 0007D 2$:    MOVL    #1, R0                                          ; 1430
                                               04 00080        RET                                                     ; 1431

; Routine Size:  129 bytes,    Routine Base:  $CODE$ + 02D9


;  377          1432  1 END                                   ! Of module
;  378          1433  0 ELUDOM




                                                                  .EXTRN  LIB$SIGNAL, LIB$STOP

;                                 PSECT SUMMARY
;
;       Name                   Bytes                   Attributes
;
;  $CODE$                           858  NOVEC,NOWRT,  RD ,  EXE,NOSHR,  LCL,  REL,  CON,NOPIC,ALIGN(2)




;                           Library Statistics
;
;                                       -------- Symbols --------       Pages        Processing
;       File                            Total    Loaded   Percent       Mapped       Time
;
;  _$255$DUA28:[SYSLIB]STARLET.L32;1     9776       110         1         581          00:01.0




;                                  COMMAND QUALIFIERS

;       BLISS/CHECK=(FIELD,INITIAL,OPTIMIZE)/LIS=LIS$:FILEIO/OBJ=OBJ$:FILEIO MSRC$:FILEIO/UPDATE=(ENH$:FILEIO)
; Size:          858 code + 0 data bytes
; Run Time:         00:30.3
; Elapsed Time:     00:59.8
; Lines/CPU Min:      2840
; Lexemes/CPU-Min: 52015
; Memory Used:  252 pages
; Compilation Complete
```

0200 AH-BT13A-SE
VAX/VMS V4.0

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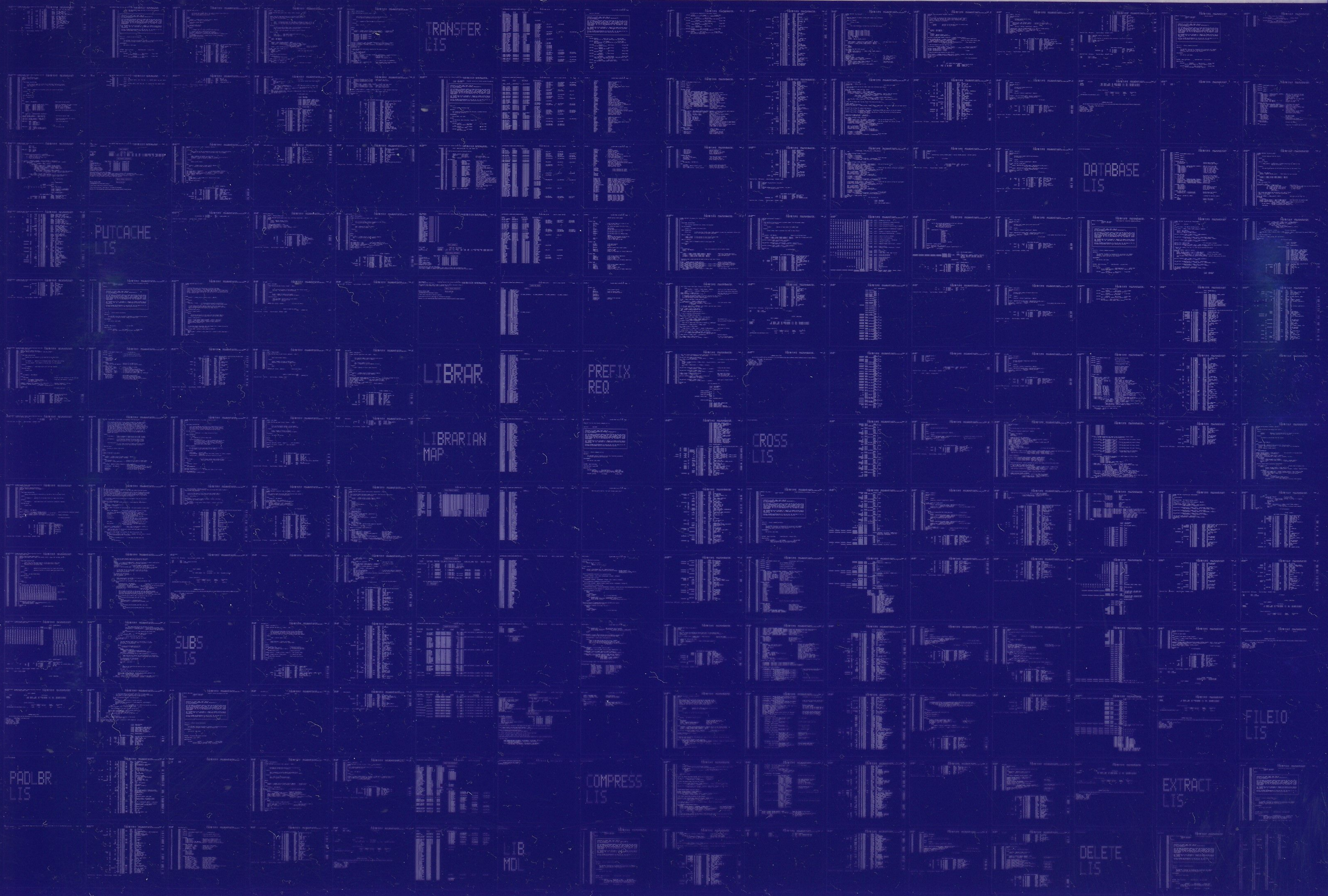

0201 AH-BT13A-SE
VAX/VMS V4.0

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GETCMD
LIS

INPUTOBJ
LIS

INPUTTXT
LIS

LIBRARIAN
LIS

INPUTMAC
LIS

INPUTHLP
LIS