K 14

```
UUU         UUU  TTTTTTTTTTTTTTT     IIIIIIIII     LLL                 333333333        222222222
UUU         UUU  TTTTTTTTTTTTTTT     IIIIIIIII     LLL                 333333333        222222222
UUU         UUU  TTTTTTTTTTTTTTT     IIIIIIIII     LLL                 333333333        222222222
UUU         UUU        TTT              III        LLL              333         333  222         222
UUU         UUU        TTT              III        LLL              333         333  222         222
UUU         UUU        TTT              III        LLL              333         333  222         222
UUU         UUU        TTT              III        LLL                          333              222
UUU         UUU        TTT              III        LLL                          333              222
UUU         UUU        TTT              III        LLL                          333              222
UUU         UUU        TTT              III        LLL                       333              222
UUU         UUU        TTT              III        LLL                       333              222
UUU         UUU        TTT              III        LLL                       333              222
UUU         UUU        TTT              III        LLL                          333        222
UUU         UUU        TTT              III        LLL                          333        222
UUU         UUU        TTT              III        LLL                          333        222
UUU         UUU        TTT              III        LLL              333         333     222
UUU         UUU        TTT              III        LLL              333         333     222
UUU         UUU        TTT              III        LLL              333         333     222
UUUUUUUUUUUUUUU        TTT           IIIIIIIII     LLLLLLLLLLLLLLL     333333333     222222222222222
UUUUUUUUUUUUUUU        TTT           IIIIIIIII     LLLLLLLLLLLLLLL     333333333     222222222222222
UUUUUUUUUUUUUUU        TTT           IIIIIIIII     LLLLLLLLLLLLLLL     333333333     222222222222222
```

```
**FILE**ID**RTB                                    I 11
```

```
RRRRRRRR    TTTTTTTTTT  BBBBBBBB
RRRRRRRR    TTTTTTTTTT  BBBBBBBB
RR      RR      TT      BB      BB
RR      RR      TT      BB      BB
RR      RR      TT      BB      BB
RR      RR      TT      BB      BB
RRRRRRRR        TT      BBBBBBBB
RRRRRRRR        TT      BBBBBBBB
RR  RR          TT      BB      BB
RR  RR          TT      BB      BB
RR    RR        TT      BB      BB      ....
RR    RR        TT      BB      BB      ....
RR      RR      TT      BBBBBBBB        ....
RR      RR      TT      BBBBBBBB        ....


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
```

SE
VO

```
0 MODULE RTB      (%TITLE 'Write RT-11 bootstrap'
0                 MAIN = RTB,
0                 IDENT = 'V04-000'
0                 ) =
1 BEGIN
1
1 !
1 !****************************************************************************
1 !*                                                                          *
1 !*  COPYRIGHT (c) 1978, 1980, 1982, 1984 BY                                 *
1 !*  DIGITAL EQUIPMENT CORPORATION, MAYNARD, MASSACHUSETTS.                  *
1 !*  ALL RIGHTS RESERVED.                                                    *
1 !*                                                                          *
1 !*  THIS SOFTWARE IS FURNISHED UNDER A LICENSE AND MAY BE USED AND COPIED   *
1 !*  ONLY IN  ACCORDANCE WITH  THE  TERMS  OF  SUCH  LICENSE  AND WITH THE   *
1 !*  INCLUSION OF THE ABOVE COPYRIGHT NOTICE. THIS SOFTWARE OR  ANY  OTHER   *
1 !*  COPIES THEREOF MAY NOT BE PROVIDED OR OTHERWISE MADE AVAILABLE TO ANY   *
1 !*  OTHER PERSON.  NO TITLE TO AND OWNERSHIP OF  THE  SOFTWARE IS  HEREBY   *
1 !*  TRANSFERRED.                                                            *
1 !*                                                                          *
1 !*  THE INFORMATION IN THIS SOFTWARE IS  SUBJECT TO CHANGE WITHOUT NOTICE   *
1 !*  AND  SHOULD  NOT  BE  CONSTRUED AS  A COMMITMENT BY DIGITAL EQUIPMENT   *
1 !*  CORPORATION.                                                            *
1 !*                                                                          *
1 !*  DIGITAL ASSUMES NO RESPONSIBILITY FOR THE USE  OR  RELIABILITY OF ITS   *
1 !*  SOFTWARE ON EQUIPMENT WHICH IS NOT SUPPLIED BY DIGITAL.                 *
1 !*                                                                          *
1 !*                                                                          *
1 !****************************************************************************
1 !
1
1 !++
1 ! FACILITY:
1 !       System build.
1 !
1 ! ABSTRACT:
1 !       This is a program to write RT-11 bootstrap blocks that is required to
1 !       build console media.
1 !
1 ! ENVIRONMENT:
1 !       VAX/VMS user mode.  Sufficient privilege to execute write logical block
1 !       is required for the output volume.
1 !--
1 !
1 ! AUTHOR: M. Jack, CREATION DATE: 06-Sep-1981
1 !
1 ! MODIFIED BY:
1 !
1 !**
1
1
1 LIBRARY 'SYS$LIBRARY:STARLET';
1 PSECT PLIT = $CODE$;
```

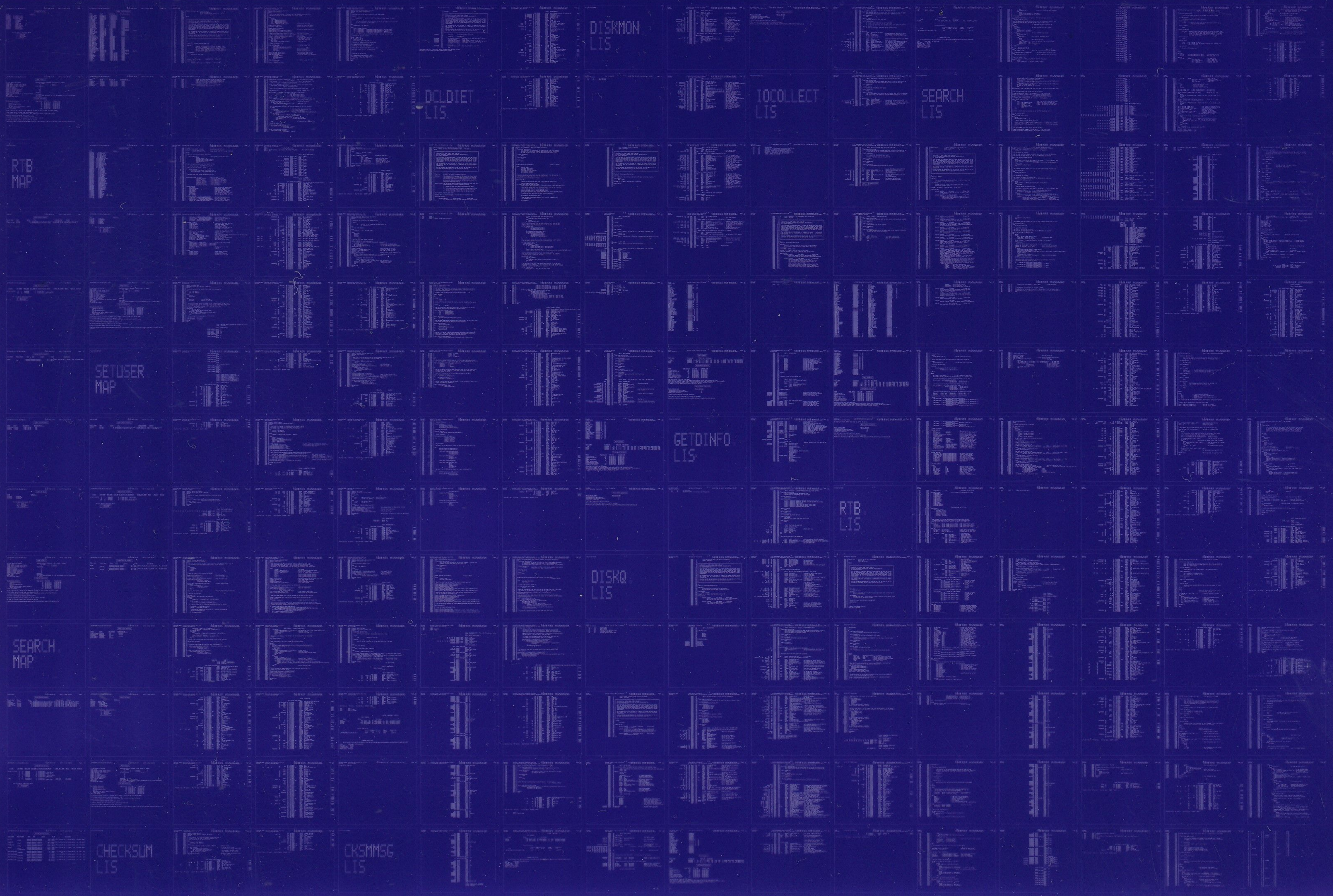
```
  1 ROUTINE RTB=
  1
  1 !++
  1 !
  1 ! FUNCTIONAL DESCRIPTION:
  1 !       This is the main routine for the RTB utility.
  1 !
  1 ! INPUT PARAMETERS:
  1 !       Standard VMS activation parameters (not used).
  1 !
  1 ! IMPLICIT INPUTS:
  1 !       Logical names RTB$INPUT and RTB$OUTPUT for the input file and output
  1 !       volume to be processed.
  1 !
  1 ! OUTPUT PARAMETERS:
  1 !       NONE
  1 !
  1 ! IMPLICIT OUTPUTS:
  1 !       NONE
  1 !
  1 ! ROUTINE VALUE:
  1 !       Standard VMS completion code.
  1 !
  1 ! SIDE EFFECTS:
  1 !       Five blocks of the input file are copied to the output volume.
  1 !
  1 !--
  1
  2 BEGIN
  2 LOCAL
  2         BUFFER:         VECTOR[512*5,BYTE], ! I/O buffer
  2         INPUT_FAB:      $FAB_DECL,          ! FAB used for input file lookup
  2         INPUT_CHAN:     WORD,               ! Channel assigned to input file
  2         OUTPUT_CHAN:    WORD,               ! Channel assigned to output volume
  2         STATUS,                             ! General status variable
  2         IOSB:           VECTOR[4,WORD];     ! I/O status block
  2
  2
  2 ! Open the file referenced by the logical name RTB$INPUT, which must be
  2 ! equated to CONSOL.SYS in the appropriate directory.
  2 !
P 2 $FAB_INIT(FAB=INPUT_FAB,
P 2     FNA=UPLIT BYTE('RTB$INPUT:'),
P 2     FNS=%CHARCOUNT('RTB$INPUT:'),
  2     FOP=UFO);
  2 STATUS = $OPEN(FAB=INPUT_FAB);
  2 IF NOT .STATUS THEN RETURN .STATUS;
  2 INPUT_CHAN = .INPUT_FAB[FAB$L_STV];
  2
  2
  2 ! Assign a channel to the volume referenced by the logical name RTB$OUTPUT,
  2 ! which is the console medium being built.
  2 !
  2 STATUS = $ASSIGN(DEVNAM=$DESCRIPTOR('RTB$OUTPUT:'), CHAN=OUTPUT_CHAN);
  2 IF NOT .STATUS THEN RETURN .STATUS;
  2
  2
```

```
;   112          0111  2 ! Read the first five blocks of the input file.
;   113          0112  2 !
;   114        P 0113  2 STATUS = $QIOW(
;   115        P 0114  2     FUNC=IO$_READVBLK,
;   116        P 0115  2     CHAN=.INPUT_CHAN,
;   117        P 0116  2     IOSB=IOSB,
;   118        P 0117  2     P1=BUFFER,
;   119        P 0118  2     P2=512*5,
;   120          0119  2     P3=1);
;   121          0120  2 IF .STATUS THEN STATUS = .IOSB[0];
;   122          0121  2 IF NOT .STATUS THEN RETURN .STATUS;
;   123          0122  2
;   124          0123  2
;   125          0124  2 ! Write virtual block 1 of the input file into logical block 0 of the output
;   126          0125  2 ! volume, and write virtual blocks 2 through 5 into logical blocks 2 through 5.
;   127          0126  2 !
;   128        P 0127  2 STATUS = $QIOW(
;   129        P 0128  2     FUNC=IO$_WRITELBLK,
;   130        P 0129  2     CHAN=.OUTPUT_CHAN,
;   131        P 0130  2     IOSB=IOSB,
;   132        P 0131  2     P1=BUFFER,
;   133        P 0132  2     P2=512,
;   134          0133  2     P3=0);
;   135          0134  2 IF .STATUS THEN STATUS = .IOSB[0];
;   136          0135  2 IF NOT .STATUS THEN RETURN .STATUS;
;   137        P 0136  2 STATUS = $QIOW(
;   138        P 0137  2     FUNC=IO$_WRITELBLK,
;   139        P 0138  2     CHAN=.OUTPUT_CHAN,
;   140        P 0139  2     IOSB=IOSB,
;   141        P 0140  2     P1=BUFFER+512,
;   142        P 0141  2     P2=512*4,
;   143          0142  2     P3=2);
;   144          0143  2 IF .STATUS THEN STATUS = .IOSB[0];
;   145          0144  2 IF NOT .STATUS THEN RETURN .STATUS;
;   146          0145  2
;   147          0146  2
;   148          0147  2 ! Return success.
;   149          0148  2 !
;   150          0149  2 SS$_NORMAL
;   151          0150  1 END;


                                                              .TITLE  RTB Write RT-11 bootstrap
                                                              .IDENT  \V04-000\

                                                              .PSECT  $CODE$,NOWRT,2

             3A  54  55  50  4E  49  24  42  54  52  00000 P.AAA:  .ASCII  \RTB$INPUT:\                        ;
         3A  54  55  50  54  55  4F  24  42  54  52  0000A P.AAC:  .ASCII  \RTB$OUTPUT:\                       ;
                                                     00015         .BLKB   3
                                           0000000B  00018 P.AAB:  .LONG   11                                  ;
                                           00000000' 0001C         .ADDRESS P.AAC                              ;

                                                              .EXTRN  SYS$OPEN, SYS$ASSIGN
                                                              .EXTRN  SYS$QIOW

                                                007C 00000 RTB:    .WORD   Save R2,R3,R4,R5,R6                 ; 0054
```

```
                                             56 00000000G  00  9E 00002          MOVAB   SYS$QIOW, R6                            ;
                                             5E      F5A4  CE  9E 00009          MOVAB   -2652(SP), SP                           ;
    0050    8F              00               6E            00  2C 0000E          MOVC5   #0, (SP), #0, #80, $RMS_PTR             ; 0098
                                                       0C  AE     00015                                                          ;
                                          0C AE      5003  8F  B0 00017          MOVW    #20483, $RMS_PTR                        ;
                                          10 AE  00020000  8F  D0 0001D          MOVL    #131072, $RMS_PTR+4                     ;
                                          22 AE            02  90 00025          MOVB    #2, $RMS_PTR+22                         ;
                                          2B AE            02  90 00029          MOVB    #2, $RMS_PTR+31                         ;
                                          38 AE        B0  AF  9E 0002D          MOVAB   P.AAA, $RMS_PTR+44                      ;
                                          40 AE            0A  90 00032          MOVB    #10, $RMS_PTR+52                        ;
                                                       0C  AE  9F 00036          PUSHAB  INPUT_FAB                               ; 0099
                                   00000000G 00            01  FB 00039          CALLS   #1, SYS$OPEN                            ;
                                             5F            50  E9 00040          BLBC    STATUS, 1$                              ; 0100
                                             52        18  AE  B0 00043          MOVW    INPUT_FAB+12, INPUT_CHAN                ; 0101
                                                           7E  7C 00047          CLRQ    -(SP)                                   ; 0107
                                                       08  AE  9F 00049          PUSHAB  OUTPUT_CHAN                             ;
                                                       A9  AF  9F 0004C          PUSHAB  P.AAB                                   ;
                                   00000000G 00            04  FB 0004F          CALLS   #4, SYS$ASSIGN                          ;
                                             77            50  E9 00056          BLBC    STATUS, 2$                              ; 0108
                                                           7E  7C 00059          CLRQ    -(SP)                                   ; 0119
                                             7E            01  7D 0005B          MOVQ    #1, -(SP)                               ;
                                             7E      0A00  8F  3C 0005E          MOVZWL  #2560, -(SP)                            ;
                                                       70  AE  9F 00063          PUSHAB  BUFFER                                  ;
                                                           7E  7C 00066          CLRQ    -(SP)                                   ;
                                                       24  AE  9F 00068          PUSHAB  IOSB                                    ;
                                                           31  DD 0006B          PUSHL   #49                                     ;
                                             7E            52  3C 0006D          MOVZWL  INPUT_CHAN, -(SP)                       ;
                                                           7E  D4 00070          CLRL    -(SP)                                   ;
                                             66            0C  FB 00072          CALLS   #12, SYS$QIOW                           ;
                                             58            50  E9 00075          BLBC    STATUS, 2$                              ; 0120
                                             50        04  AE  3C 00078          MOVZWL  IOSB, STATUS                            ;
                                             51            50  E9 0007C          BLBC    STATUS, 2$                              ; 0121
                                                           7E  7C 0007F          CLRQ    -(SP)                                   ; 0133
                                                           7E  7C 00081          CLRQ    -(SP)                                   ;
                                             7E      0200  8F  3C 00083          MOVZWL  #512, -(SP)                             ;
                                                       70  AE  9F 00088          PUSHAB  BUFFER                                  ;
                                                           7E  7C 0008B          CLRQ    -(SP)                                   ;
                                                       24  AE  9F 0008D          PUSHAB  IOSB                                    ;
                                                           20  DD 00090          PUSHL   #32                                     ;
                                             7E        28  AE  3C 00092          MOVZWL  OUTPUT_CHAN, -'SP)                      ;
                                                           7E  D4 00096          CLRL    -(SP)                                   ;
                                             66            0C  FB 00098          CALLS   #12, S\S$QIOW                           ;
                                             32            50  E9 0009B          BLBC    STATUS, 2$                              ; 0134
                                             50        04  AE  3C 0009E          MOVZWL  IOSB, STATUS                            ;
                                             2B            50  E9 000A2 1$:      BLBC    STATUS, 2$                              ; 0135
                                                           7E  7C 000A5          CLRQ    -(SP)                                   ; 0142
                                             7E            02  7D 000A7          MOVQ    #2, -(SP)                               ;
                                             7E      0800  8F  3C 000AA          MOVZWL  #2048, -(SP)                            ;
                                                     0270  CE  9F 000AF          PUSHAB  BUFFER+5i2                              ;
                                                           7E  7C 000B3          CLRQ    -(SP)                                   ;
                                                       24  AE  9F 000B5          PUSHAB  IOSB                                    ;
                                                           20  DD 000B8          PUSHL   #32                                     ;
                                             7E        28  AE  3C 000BA          MOVZWL  OUTPUT_CHAN, -(SP)                      ;
                                                           7E  D4 000BE          CLRL    -(SP)                                   ;
                                             66            0C  FB 000C0          CALLS   #12, SYS$QIOW                           ;
                                             0A            50  E9 000C3          BLBC    STATUS, 2$                              ; 0143
                                             50        04  AE  3C 000C6          MOVZWL  IOSB, STATUS                            ;
                                   03             50  E9 000CA         BLBC    STATUS, 2$                                      ; 0144
                                   50             01  D0 000CD         MOVL    #1, R0                                          ; 0150
                                                      04 000D0 2$:     RET                                                     ;

; Routine Size:  209 bytes,    Routine Base:  $CODE$ + 0020
;  153           0151  1 END
;  154           0152  0 ELUDOM



;                                         PSECT SUMMARY
;
;       Name                           Bytes                          Attributes
;
;  $CODE$                                   241  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       51         0          581          00:01.0



;                                          COMMAND QUALIFIERS

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

; Size:          209 code + 32 data bytes
; Run Time:         00:06.8
; Elapsed Time:     00:11.6
; Lines/CPU Min:     1341
; Lexemes/CPU-Min: 31341
; Memory Used:  106 pages
; Compilation Complete
```

0429 AH-BT13A-SE
VAX/VMS V4.0

DIGITAL EQUIPMENT CORPORATION
CONFIDENTIAL AND PROPRIETARY



DISKMON
LIS

DCLDIET
LIS

IOCOLLECT
LIS

SEARCH
LIS

RTB
MAP

SETUSER
MAP

GETDINFO
LIS

RTB
LIS

DISKQ
LIS

SEARCH
MAP

CHECKSUM
LIS

CKSMMSG
LIS