```
RRRRRRRRRRRR      UUU         UUU  NNN         NNN    000000000     FFFFFFFFFFFFFFF    FFFFFFFFFFFFFFF
RRRRRRRRRRRR      UUU         UUU  NNN         NNN    000000000     FFFFFFFFFFFFFFF    FFFFFFFFFFFFFFF
RRRRRRRRRRRR      UUU         UUU  NNN         NNN    000000000     FFFFFFFFFFFFFFF    FFFFFFFFFFFFFFF
RRR       RRR     UUU         UUU  NNN         NNN   000       000   FFF                FFF
RRR       RRR     UUU         UUU  NNN         NNN   000       000   FFF                FFF
RRR       RRR     UUU         UUU  NNN         NNN   000       000   FFF                FFF
RRR       RRR     UUU         UUU  NNNNNN      NNN   000       000   FFF                FFF
RRR       RRR     UUU         UUU  NNNNNN      NNN   000       000   FFF                FFF
RRR       RRR     UUU         UUU  NNNNNN      NNN   000       000   FFF                FFF
RRRRRRRRRRRR      UUU         UUU  NNN  NNN    NNN   000       000   FFFFFFFFFFF         FFFFFFFFFFF
RRRRRRRRRRRR      UUU         UUU  NNN   NNN   NNN   000       000   FFFFFFFFFFF         FFFFFFFFFFF
RRRRRRRRRRRR      UUU         UUU  NNN    NNN  NNN   000       000   FFFFFFFFFFF         FFFFFFFFFFF
RRR   RRR         UUU         UUU  NNN     NNNNNN    000       000   FFF                FFF
RRR    RRR        UUU         UUU  NNN      NNNNN    000       000   FFF                FFF
RRR     RRR       UUU         UUU  NNN       NNNN    000       000   FFF                FFF
RRR      RRR      UUU         UUU  NNN         NNN   00C       000   FFF                FFF
RRR       RRR     UUU         UUU  NNN         NNN   000       000   FFF                FFF
RRR       RRR     UUU         UUU  NNN         NNN   000       000   FFF                FFF
RRR        RRR    UUUUUUUUUUUUUUU  NNN         NNN    000000000      FFF                FFF
RRR         RRR   UUUUUUUUUUUUUUU  NNN         NNN    000000000      FFF                FFF
RRR          RRR  UUUUUUUUUUUUUUU  NNN         NNN    000000000      FFF                FFF
```

```
DDDDDDDD    LL              EEEEEEEEEE
DDDDDDDD    LL              EEEEEEEEEE
DD      DD  LL              EE
DD      DD  LL              EE
DD      DD  LL              EE
DD      DD  LL              EE
DD      DD  LL              EEEEEEEE
DD      DD  LL              EEEEEEEE
DD      DD  LL              EE
DD      DD  LL              EE
DD      DD  LL              EE              ....
DD      DD  LL              EE              ....
DDDDDDDD    LLLLLLLLLL      EEEEEEEEEE      ....
DDDDDDDD    LLLLLLLLLL      EEEEEEEEEE      ....


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
```

```
    1      0001  0  MODULE DLE (       !
    2      0002  0                     IDENT = 'V04-000'
    3    P 0003  0  %BLISS32[,
    4    P 0004  0           ADDRESSING_MODE(EXTERNAL=LONG_RELATIVE,NONEXTERNAL=LONG_RELATIVE)
    5      0005  0           ]
    6      0006  0                     ) =
    7      0007  1  BEGIN
    8      0008  1
    9      0009  1  !**********************************************************************
   10      0010  1  !*                                                                    *
   11      0011  1  !*   COPYRIGHT (c) 1978, 1980, 1982, 1984 BY                          *
   12      0012  1  !*   DIGITAL EQUIPMENT CORPORATION, MAYNARD, MASSACHUSETTS.           *
   13      0013  1  !*   ALL RIGHTS RESERVED.                                             *
   14      0014  1  !*                                                                    *
   15      0015  1  !*   THIS SOFTWARE IS FURNISHED UNDER A LICENSE AND MAY BE USED AND COPIED *
   16      0016  1  !*   ONLY IN  ACCORDANCE WITH  THE  TERMS  OF  SUCH  LICENSE  AND WITH THE *
   17      0017  1  !*   INCLUSION OF THE ABOVE COPYRIGHT NOTICE. THIS SOFTWARE OR  ANY  OTHER *
   18      0018  1  !*   COPIES THEREOF MAY NOT BE PROVIDED OR OTHERWISE MADE AVAILABLE TO ANY *
   19      0019  1  !*   OTHER PERSON.  NO TITLE TO AND OWNERSHIP OF  THE  SOFTWARE IS  HEREBY *
   20      0020  1  !*   TRANSFERRED.                                                     *
   21      0021  1  !*                                                                    *
   22      0022  1  !*   THE INFORMATION IN THIS SOFTWARE IS  SUBJECT TO CHANGE WITHOUT NOTICE *
   23      0023  1  !*   AND  SHOULD  NOT  BE  CONSTRUED AS  A COMMITMENT BY DIGITAL EQUIPMENT *
   24      0024  1  !*   CORPORATION.                                                     *
   25      0025  1  !*                                                                    *
   26      0026  1  !*   DIGITAL ASSUMES NO RESPONSIBILITY FOR THE USE  OR  RELIABILITY OF ITS *
   27      0027  1  !*   SOFTWARE ON EQUIPMENT WHICH IS NOT SUPPLIED BY DIGITAL.          *
   28      0028  1  !*                                                                    *
   29      0029  1  !*                                                                    *
   30      0030  1  !**********************************************************************
   31      0031  1  !
   32      0032  1  !++
   33      0033  1  ! FACILITY:      DSR (Digital Standard RUNOFF) / DSRPLUS
   34      0034  1  !
   35      0035  1  ! ABSTRACT: Processes the .DISPLAY ELEMENTS command.
   36      0036  1  !
   37      0037  1  !
   38      0038  1  ! ENVIRONMENT: Transportable
   39      0039  1  !
   40      0040  1  ! AUTHOR: R.W.Friday     CREATION DATE: May, 1979
   41      0041  1  !
```

```
:   43      0042 1 %SBTTL 'Revision History'
:   44      0043 1 !
:   45      0044 1 ! MODIFIED BY:
:   46      0045 1 !
:   47      0046 1 !      002      KFA00002      Ken Alden        07-Mar-1983
:   48      0047 1 !               Global edit of all modules. Updated module names, idents,
:   49      0048 1 !               copyright dates. Changed require files to BLISS library.
:   50      0049 1 !
:   51      0050 1 !--
```

```
  53       0051  1  %SBTTL 'Module Level Declarations'
  54       0052  1  !
  55       0053  1  !  TABLE OF CONTENTS:
  56       0054  1  !
  57       0055  1
  58       0056  1  !
  59       0057  1  !  INCLUDE FILES:
  60       0058  1  !
  61       0059  1
  62       0060  1  LIBRARY 'NXPORT:XPORT';                ! XPORT Library
  63       0061  1  REQUIRE 'REQ:RNODEF';                  ! RUNOFF variant definitions
  64       0192  1
  65     U 0193  1  %IF DSRPLUS %THEN
  66     U 0194  1  LIBRARY 'REQ:DPLLIB';                  ! DSRPLUS BLISS Library
  67       0195  1  %ELSE
  68       0196  1  LIBRARY 'REQ:DSRLIB';                  ! DSR BLISS Library
  69       0197  1  %FI
  70       0198  1
  71       0199  1  !
  72       0200  1  !  MACROS:
  73       0201  1  !
  74       0202  1
  75       0203  1  !
  76       0204  1  !  EQUATED SYMBOLS:
  77       0205  1  !
  78       0206  1
  79       0207  1  !
  80       0208  1  !  OWN STORAGE:
  81       0209  1  !
  82       0210  1
  83       0211  1  !
  84       0212  1  !  EXTERNAL REFERENCES:
  85       0213  1  !
  86       0214  1  EXTERNAL
  87       0215  1      LS1CHR : REF VECTOR,
  88       0216  1      LSTCNT : REF COUNTED_LIST,
  89       0217  1      LSTLCH : REF VECTOR,
  90       0218  1      LSTRCH : REF VECTOR,
  91       0219  1      LSTLDD : REF VECTOR,
  92       0220  1      FS01 : FIXED_STRING,
  93       0221  1      IRA : FIXED_STRING;
  94       0222  1
  95       0223  1  EXTERNAL ROUTINE
  96       0224  1      GETDD,
  97       0225  1      GETQC,
  98       0226  1      GETQS,
  99       0227  1      RSKIPS,
 100       0228  1      SKPSEP;
```

```
 102    0229   1   GLOBAL ROUTINE DLE (HANDLER) : NOVALUE =              !
 103    0230   1
 104    0231   1   !++
 105    0232   1   ! FUNCTIONAL DESCRIPTION:
 106    0233   1   !
 107    0234   1   !     See the ABSTRACT for a general description.
 108    0235   1   !
 109    0236   1   ! FORMAL PARAMETERS:
 110    0237   1   !
 111    0238   1   !     HANDLER is a dummy parameter passed for conformance only.
 112    0239   1   !
 113    0240   1   ! IMPLICIT INPUTS:
 114    0241   1   !
 115    0242   1   !
 116    0243   1   ! IMPLICIT OUTPUTS:      None
 117    0244   1   !
 118    0245   1   ! ROUTINE VALUE:
 119    0246   1   ! COMPLETION CODES:      None
 120    0247   1   !
 121    0248   1   ! SIDE EFFECTS: None
 122    0249   1   !
 123    0250   1   !--
 124    0251   1
 125    0252   2       BEGIN
 126    0253   2       LOCAL
 127    0254   2           DISPLAY_CODE,
 128    0255   2           GETDD_RESULT,
 129    0256   2           GETQC_RESULT;
 130    0257   2
 131    0258   2       !Turn off bulleting (if any) so that this command takes precedence.
 132    0259   2       LSTCHR [.LSTCNT [CL_INDEX] - 1] = 0;
 133    0260   2
 134    0261   2       !Skip spaces and tabs before the first display descriptor.
 135    0262   2       RSKIPS (IRA);
 136    0263   2
 137    0264   2       !Attempt to get a character enclosed in quotes
 138    0265   2       GETQC_RESULT = GETQC ();
 139    0266   2
 140    0267   2       !Quit if an error occurred.
 141    0268   2       IF  .GETQC_RESULT EQL -2
 142    0269   2       THEN
 143    0270   2           RETURN;
 144    0271   2
 145    0272   2           !If anything quoted was specified, save it
 146    0273   2           IF .GETQC_RESULT NEQ -1
 147    0274   2           THEN
 148    0275   2               LSTLCH [.LSTCNT [CL_INDEX] - 1] = .GETQC_RESULT;
 149    0276   2
 150    0277   2           !Now attempt to get a display descriptor.
 151    0278   2           !First skip a separator
 152    0279   2           SKPSEP (IRA);
 153    0280   2           !Now get a descriptor and save it.
 154    0281   2           CASE GETDD(DISPLAY_CODE) FROM -1 TO +1 OF
 155    0282   2               SET
 156    0283   2
 157    0284   2                   [-1]:
 158    0285   2                       !Quit if command was in error.
```

```
 159    0286  2                        RETURN;

 160    0287  2
 161    0288  2                    [0]:
 162    0289  2                        !Do nothing if nothing supplied
 163    0290  2                        0;
 164    0291  2
 165    0292  2                    [+1]:
 166    0293  2                        !Save descriptor
 167    0294  2                        LSTLDD [.LSTCNT [CL_INDEX] - 1] = .DISPLAY_CODE;
 168    0295  2
 169    0296  2                    TES;
 170    0297  2
 171    0298  2            !Skip parameter separator, to try and get the next quoted character.
 172    0299  2            SKPSEP (IRA);
 173    0300
 174    0301  2            !Now try to get another character enclosed in quotes.
 175    0302  2            GETQC_RESULT = GETQC ();
 176    0303
 177    0304  2            !Quit if an error, or nothing supplied
 178    0305  3            IF   (.GETQC_RESULT EQL -2)
 179    0306  3                OR (.GETQC_RESULT EQL -1)
 180    0307  2            THEN
 181    0308  2                RETURN;
 182    0309  2
 183    0310  2            !User said something, so save it.
 184    0311  2            LSTRCH [.LSTCNT [CL_INDEX] - 1] = .GETQC_RESULT;
 185    0312
 186    0313  1            END;                            !End of DLE
```

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

                                             .EXTRN    LSTCHR, LSTCNT, LSTLCH
                                             .EXTRN    LSTRCH, LSTLDD, FS01
                                             .EXTRN    IRA, GETDD, GETQC
                                             .EXTRN    GETQS, RSKIPS, SKPSEP

                                             .PSECT    $CODE$,NOWRT,2

                              007C  00000    .ENTRY    DLE, Save R2,R3,R4,R5,R6        ; 0229
              56 00000000G  EF  9E 00002     MOVAB     SKPSEP, R6
              55 00000000G  EF  9E 00009     MOVAB     GETQC, R5
              54 00000000G  EF  9E 00010     MOVAB     IRA, R4
              53 00000000G  EF  9E 00017     MOVAB     LSTCNT, R3
              5E           04  C2 0001E      SUBL2     #4, SP
              50           63  D0 00021      MOVL      LSTCNT, R0                      ; 0259
              50       04  A0  D0 00024      MOVL      4(R0), R0
              50 00000000GFF40  DE 00028     MOVAL     @LSTCHR[R0], R0
                         FC  A0  D4 00030    CLRL      -4(R0)
                              54  DD 00033   PUSHL     R4                              ; 0262
        00000000G  EF      01  FB 00035      CALLS     #1, RSKIPS                      ; 0265
                         65  00  FB 0003C    CALLS     #0, GETQC
                         52  50  D0 0003F    MOVL      R0, GETQC_RESULT                ; 0268
      FFFFFFFE  8F         52  D1 00042      CMPL      GETQC_RESULT, #-2
                         7C  13 00049        BEQL      5$
      FFFFFFFF  8F         52  D1 0004B      CMPL      GETQC_RESULT, #-1               ; 0273
```

```
                                         13  13 00052         BEQL    1$
                          50             63  D0 00054         MOVL    LSTCNT, R0                    ; 0275
                          50          04 A0  D0 00057         MOVL    4(R0), R0
                          50 00000000GFF40  DE 0005B          MOVAL   @LSTLCH[R0], R0
                    FC    A0             52  D0 00063         MOVL    GETQC_RESULT, -4(R0)
                                         54  DD 00067 1$:     PUSHL   R4                           ; 0279
                          66             01  FB 00069         CALLS   #1, SKPSEP
                                         5E  DD 0006C         PUSHL   SP                           ; 0281
                    00000000G EF         01  FB 0006E         CALLS   #1, GETDD
               02 FFFFFFFF  8F           50  CF 00075         CASEL   R0, #-1, #2
               0007        001A        004A     0007D 2$:     .WORD   5$-2$,-
                                                                      4$-2$,-
                                                                      3$-2$

                                         04 00083             RET                                  ; 0286
                          50             63  D0 00084 3$:     MOVL    LSTCNT, R0                    ; 0294
                          50          04 A0  D0 00087         MOVL    4(R0), R0
                          50 00000000GFF40  DE 0008B          MOVAL   @LSTLDD[R0], R0
                    FC    A0             6E  D0 00093         MOVL    DISPLAY_CODE, -4(R0)
                                         54  DD 00097 4$:     PUSHL   R4                           ; 0299
                          66             01  FB 00099         CALLS   #1, SKPSEP
                          65             00  FB 0009C         CALLS   #0, GETQC                     ; 0302
                          52             50  D0 0009F         MOVL    R0, GETQC_RESULT
                    FFFFFFFE  8F         52  D1 000A2         CMPL    GETQC_RESULT, #-2             ; 0305
                                         1C  13 000A9         BEQL    5$
                    FFFFFFFF  8F         52  D1 000AB         CMPL    GETQC_RESULT, #-1            ; 0306
                                         13  13 000B2         BEQL    5$
                          50             63  D0 000B4         MOVL    LSTCNT, R0                    ; 0311
                          50          04 A0  D0 000B7         MOVL    4(R0), R0
                          50 00000000GFF40  DE 000BB          MOVAL   @LSTRCH[R0], R0
                    FC    A0             52  D0 000C3         MOVL    GETQC_RESULT, -4(R0)
                                         04 000C7 5$:         RET                                  ; 0313
```

; Routine Size: 200 bytes,   Routine Base: $CODE$ + 0000

; 187   0314 1 END   !End of module
; 188   0315 0 ELUDOM

;   PSECT SUMMARY
;
;   Name   Bytes   Attributes
;
; $CODE$ 200 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]XPORT.L32;1                 590          0         0        252        00:00.1
:  _$255$DUA28:[RUNOFF.SRC]DSRLIB.L32;1           1248          3         0         86        00:00.3
```

```
:                                        COMMAND QUALIFIERS

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

: Size:            200 code + 0 data bytes
: Run Time:          00:04.0
: Elapsed Time:      00:15.6
: Lines/CPU Min:      4701
: Lexemes/CPU-Min: 10119
: Memory Used:   49 pages
: Compilation Complete
```

DSPHL
LIS

CONVLB
LIS

DOFLG
LIS

DSPENT
LIS

DSRLIB
LIS

DOCASE
LIS

DOCM
LIS

DOOPTS
LIS

DSPPAG
LIS

DLE
LIS