```
EEEEEEEEEEEEEEE    DDDDDDDDDDD        TTTTTTTTTTTTTTT
EEEEEEEEEEEEEEE    DDDDDDDDDDD        TTTTTTTTTTTTTTT
EEEEEEEEEEEEEEE    DDDDDDDDDDD        TTTTTTTTTTTTTTT
EEE                DDD       DDD            TTT
EEE                DDD       DDD            TTT
EEE                DDD       DDD            TTT
EEE                DDD       DDD            TTT
EEE                DDD       DDD            TTT
EEE                DDD       DDD            TTT
EEEEEEEEEEEE       DDD       DDD            TTT
EEEEEEEEEEEE       DDD       DDD            TTT
EEEEEEEEEEEE       DDD       DDD            TTT
EEE                DDD       DDD            TTT
EEE                DDD       DDD            TTT
EEE                DDD       DDD            TTT
EEE                DDD       DDD            TTT
EEE                DDD       DDD            TTT
EEE                DDD       DDD            TTT
EEEEEEEEEEEEEEE    DDDDDDDDDDD              TTT
EEEEEEEEEEEEEEE    DDDDDDDDDDD              TTT
EEEEEEEEEEEEEEE    DDDDDDDDDDD              TTT
```

FILEID**CHMINSCHR

ED
VO

```
CCCCCCC   HH      HH  MM        MM  IIIIII    NN      NN  SSSSSSSS    CCCCCCC   HH      HH  RRRRRRR
CCCCCCC   HH      HH  MM        MM  IIIIII    NN      NN  SSSSSSSS    CCCCCCC   HH      HH  RRRRRRR
CC        HH      HH  MMMM  MMMM        II    NN      NN  SS          CC        HH      HH  RR      RR
CC        HH      HH  MMMM  MMMM        II    NN      NN  SS          CC        HH      HH  RR      RR
CC        HH      HH  MM  MM    MM      II    NNNN    NN  SS          CC        HH      HH  RR      RR
CC        HH      HH  MM  MM    MM      II    NNNN    NN  SS          CC        HH      HH  RR      RR
CC        HHHHHHHHHH  MM        MM      II    NN  NN  NN  SSSSSS      CC        HHHHHHHHHH  RRRRRRR
CC        HHHHHHHHHH  MM        MM      II    NN  NN  NN  SSSSSS      CC        HHHHHHHHHH  RRRRRRR
CC        HH      HH  MM        MM      II    NN    NNNN        SS    CC        HH      HH  RR  RR
CC        HH      HH  MM        MM      II    NN    NNNN        SS    CC        HH      HH  RR  RR
CC        HH      HH  MM        MM      II    NN      NN        SS    CC        HH      HH  RR      RR
CC        HH      HH  MM        MM      II    NN      NN        SS    CC        HH      HH  RR      RR
CCCCCCC   HH      HH  MM        MM  IIIIII    NN      NN  SSSSSSSS    CCCCCCC   HH      HH  RR      RR
CCCCCCC   HH      HH  MM        MM  IIIIII    NN      NN  SSSSSSSS    CCCCCCC   HH      HH  RR      RR
```

```
LL              IIIIII       SSSSSSSS
LL              IIIIII       SSSSSSSS
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
LLLLLLLLL    IIIIII       SSSSSSSS
LLLLLLLLL    IIIIII       SSSSSSSS
```

I 14
EDT$CHMINSCHR - insert a string of characters   16-Sep-1984 00:01:27   VAX-11 Bliss-32 V4.0-742   Page 1
                                                  14-Sep-1984 12:22:36   [EDT.SRC]CHMINSCHR.BLI;1   (1)

ED
VO

```
 1    0001  0 %TITLE 'EDT$CHMINSCHR - insert a string of characters'
 2    0002  0 MODULE EDT$CHMINSCHR (                            ! Insert a string of characters
 3    0003  0                IDENT = 'V04-000'                  ! File: CHMINSCHR.BLI Edit: JBS1010
 4    0004  0                ) =
 5    0005  1 BEGIN
 6    0006  1
 7    0007  1 !****************************************************************************
 8    0008  1 !*                                                                          *
 9    0009  1 !*   COPYRIGHT (c) 1978, 1980, 1982, 1984 BY                                *
10    0010  1 !*   DIGITAL EQUIPMENT CORPORATION, MAYNARD, MASSACHUSETTS.                 *
11    0011  1 !*   ALL RIGHTS RESERVED.                                                   *
12    0012  1 !*                                                                          *
13    0013  1 !*   THIS SOFTWARE IS FURNISHED UNDER A LICENSE AND MAY BE USED AND COPIED  *
14    0014  1 !*   ONLY IN  ACCORDANCE WITH  THE  TERMS  OF  SUCH  LICENSE  AND WITH THE  *
15    0015  1 !*   INCLUSION OF THE ABOVE COPYRIGHT NOTICE. THIS SOFTWARE OR  ANY  OTHER  *
16    0016  1 !*   COPIES THEREOF MAY NOT BE PROVIDED OR OTHERWISE MADE AVAILABLE TO ANY  *
17    0017  1 !*   OTHER PERSON.  NO TITLE TO AND OWNERSHIP OF  THE  SOFTWARE IS  HEREBY  *
18    0018  1 !*   TRANSFERRED.                                                           *
19    0019  1 !*                                                                          *
20    0020  1 !*   THE INFORMATION IN THIS SOFTWARE IS  SUBJECT TO CHANGE WITHOUT NOTICE  *
21    0021  1 !*   AND  SHOULD  NOT  BE  CONSTRUED AS  A COMMITMENT BY DIGITAL EQUIPMENT  *
22    0022  1 !*   CORPORATION.                                                           *
23    0023  1 !*                                                                          *
24    0024  1 !*   DIGITAL ASSUMES NO RESPONSIBILITY FOR THE USE  OR  RELIABILITY OF ITS  *
25    0025  1 !*   SOFTWARE ON EQUIPMENT WHICH IS NOT SUPPLIED BY DIGITAL.                *
26    0026  1 !*                                                                          *
27    0027  1 !*                                                                          *
28    0028  1 !****************************************************************************
29    0029  1 !
30    0030  1
31    0031  1 !++
32    0032  1 ! FACILITY:     EDT -- The DEC Standard Editor
33    0033  1 !
34    0034  1 ! ABSTRACT:
35    0035  1 !
36    0036  1 !       This module does a (change mode) insertion of a string of
37    0037  1 !       characters at the current position in the text.
38    0038  1 !
39    0039  1 ! ENVIRONMENT:  Runs at any access mode - AST reentrant
40    0040  1 !
41    0041  1 ! AUTHOR: Bob Kushlis, CREATION DATE: Unknown
42    0042  1 !
43    0043  1 ! MODIFIED BY:
44    0044  1 !
45    0045  1 ! 1-001 - Original.  DJS 04-Feb-1981.  This module was created by
46    0046  1 !         extracting the routine INSERT_CHARS from the module CHANGE.BLI.
47    0047  1 ! 1-002 - Regularize headers.  JBS 02-Mar-1981
48    0048  1 ! 1-003 - Change SPLIT_LINE to EDT$$SPLT_LNINS .   JBS 30-Mar-1981
49    0049  1 ! 1-004 - Fix up some comments.  JBS 02-Jun-1981
50    0050  1 ! 1-005 - Use new message codes.  JBS 04-Aug-1981
51    0051  1 ! 1-006 - New screen update logic.  JBS 13-Sep-1982
52    0052  1 ! 1-007 - Replace call to edt$$tst_eob. STS 22-Sep-1982
53    0053  1 ! 1-008 - Add a parameter to the split line routine.  SMB 16-Nov-1982
54    0054  1 ! 1-009 - Change the parameter to split line routine.  SMB 17-Nov-1982
55    0055  1 ! 1-010 - Change the call to EDT$$MRK_LNCHG.  JBS 27-Dec-1982
56    0056  1 !--
57    0057  1
```

```
59     0058   1   %SBTTL 'Declarations'
60     0059   1   !
61     0060   1   ! TABLE OF CONTENTS:
62     0061   1   !
63     0062   1
64     0063   1   REQUIRE 'EDTSRC:TRAROUNAM';
65     0502   1
66     0503   1   FORWARD ROUTINE
67     0504   1       EDT$$INS_STR;                                    ! Insert a string of characters at the current position
68     0505   1
69     0506   1   !
70     0507   1   ! INCLUDE FILES:
71     0508   1   !
72     0509   1
73     0510   1   REQUIRE 'EDTSRC:EDTREQ';
74     0645   1
75     0646   1   !
76     0647   1   ! MACROS:
77     0648   1   !
78     0649   1   !       NONE
79     0650   1   !
80     0651   1   ! EQUATED SYMBOLS:
81     0652   1   !
82     0653   1   !       NONE
83     0654   1   !
84     0655   1   ! OWN STORAGE:
85     0656   1   !
86     0657   1   !       NONE
87     0658   1   !
88     0659   1   ! EXTERNAL REFERENCES:
89     0660   1   !
90     0661   1   !       In the routine
```

K 14
EDT$CHMINSCHR   EDT$CHMINSCHR - insert a string of characters   16-Sep-1984 00:01:27   VAX-11 Bliss-32 V4.0-742   Page   3
V04-000   EDT$$INS_STR - insert a string of characters   14-Sep-1984 12:22:36   [EDT.SRC]CHMINSCHR.BLI;1   (3)

```
 92    0662  1 %SBTTL 'EDT$$INS_STR  - insert a string of characters'
 93    0663  1
 94    0664  1 GLOBAL ROUTINE EDT$$INS_STR (                          ! Insert a string of characters
 95    0665  1     S,                                                 ! Address of string to insert
 96    0666  1     L                                                  ! Length of string to insert
 97    0667  1     ) =
 98    0668  1
 99    0669  1 !++
100    0670  1 ! FUNCTIONAL DESCRIPTION:
101    0671  1 !
102    0672  1 !       Insert a string of characters at the current position in the text.
103    0673  1 !
104    0674  1 ! FORMAL PARAMETERS:
105    0675  1 !
106    0676  1 !   S                        a pointer to the string
107    0677  1 !   L                        the length of the string
108    0678  1 !
109    0679  1 ! IMPLICIT INPUTS:
110    0680  1 !
111    0681  1 !       EDT$$A_SEL_POS
112    0682  1 !       EDT$$A_LN_END
113    0683  1 !       EDT$$G_LN_LEN
114    0684  1 !       EDT$$A_LN_PTR
115    0685  1 !       EDT$$T_LN_BUF
116    0686  1 !
117    0687  1 ! IMPLICIT OUTPUTS:
118    0688  1 !
119    0689  1 !       EDT$$A_SEL_POS
120    0690  1 !       EDT$$A_LN_PTR
121    0691  1 !
122    0692  1 ! ROUTINE VALUE:
123    0693  1 !
124    0694  1 !       1 = success, 0 = error (line overflow)
125    0695  1 !
126    0696  1 ! SIDE EFFECTS:
127    0697  1 !
128    0698  1 !       NONE
129    0699  1 !
130    0700  1 !--
131    0701  1
132    0702  2     BEGIN
133    0703  2
134    0704  2     EXTERNAL ROUTINE
135    0705  2         EDT$$MSG_BELL : NOVALUE,         ! Output a message to the terminal with a warning bell
136    0706  2         EDT$$MRK_LNCHG : NOVALUE,        ! Track line updates
137    0707  2         EDT$$CS_OP,                      ! Move up a line
138    0708  2         EDT$$UPD_LNLEN : NOVALUE,        ! Update the length of the current line
139    0709  2         EDT$$SEL_RNGPOS,                 ! Compare the select line with the current line
140    0710  2         EDT$$SPLT_LNINS : NOVALUE;       ! Split a line of text at the current cursor position
141    0711  2
142    0712  2     EXTERNAL
143    0713  2         EDT$$A_SEL_POS,                  ! select position.
144    0714  2         EDT$$A_LN_END,                   ! End of current line pointer
145    0715  2         EDT$$G_LN_LEN,                   ! Length of current line
146    0716  2         EDT$$A_WK_LN : REF LIN_BLOCK,
147    0717  2         EDT$$Z_EOB_LN,
148    0718  2         EDT$$A_LN_PTR,                   ! Current character pointer
```

L 14

EDT$CHMINSCHR   EDT$CHMINSCHR - insert a string of characters   16-Sep-1984 00:01:27   VAX-11 Bliss-32 V4.0-742   Page 4
V04-000   EDT$$INS_STR - insert a string of characters   14-Sep-1984 12:22:36   [EDT.SRC]CHMINSCHR.BLI;1   (3)

```
  149    0719  2            EDT$$T_LN_BUF;                                ! Line buffer
  150    0720  2
  151    0721  2         MESSAGES ((LINEXC255));
  152    0722  2   !+
  153    0723  2   ! First make sure the line will not overflow.
  154    0724  2   !-
  155    0725
  156    0726  3            IF (.EDT$$G_LN_LEN + .L GTRU 255)
  157    0727  2            THEN
  158    0728  3                BEGIN
  159    0729  3                EDT$$MSG_BELL (EDT$_LINEXC255);
  160    0730  3                RETURN (0);
  161    0731  3                END
  162    0732  2            ELSE
  163    0733  3                BEGIN
  164    0734  3
  165    0735  3                LOCAL
  166    0736  3                    OLD_LPOINT;
  167    0737  3
  168    0738  3   !+
  169    0739  3   ! Check for the old EOB.
  170    0740  3   !-
  171    0741  3
  172    0742  4                IF (.EDT$$A_WK_LN EQLA EDT$$Z_EOB_LN)
  173    0743  3                THEN
  174    0744  4                    BEGIN
  175    0745  4                    EDT$$SPLT_LNINS (0);                  ! Don't use optimizer
  176    0746  4                    EDT$$CS_UP ();
  177    0747  3                    END;
  178    0748  3
  179    0749  3   !+
  180    0750  3   ! Compute the new cursor position.
  181    0751  3   !-
  182    0752  3                OLD_LPOINT = .EDT$$A_LN_PTR;
  183    0753  3                EDT$$A_LN_PTR = CH$PLUS (.EDT$$A_LN_PTR, .L);
  184    0754  3   !+
  185    0755  3   ! Open up a hole for the new characters.
  186    0756  3   !-
  187    0757  3                EDT$$CPY_MEM (CH$DIFF (.EDT$$A_LN_END, .OLD_LPOINT), .OLD_LPOINT, .EDT$$A_LN_PTR);
  188    0758  3   !+
  189    0759  3   ! And move them in.
  190    0760  3   !-
  191    0761  3                EDT$$CPY_MEM (.L, .S, .OLD_LPOINT);
  192    0762  3   !+
  193    0763  3   ! Update the length of the line.
  194    0764  3   !-
  195    0765  3                EDT$$UPD_LNLEN (.L);
  196    0766  3   !+
  197    0767  3   ! Record the insertion for the screen updater.
  198    0768  3   !-
  199    0769  3                EDT$$MRK_LNCHG (SCR_EDIT_MODIFY, .OLD_LPOINT - EDT$$T_LN_BUF);
  200    0770  3   !+
  201    0771  3   ! Update select range if necessary.
  202    0772  3   !-
  203    0773  3
  204    0774  4                IF (EDT$$SEL_RNGPOS () EQL 0)
  205    0775  3                THEN
```

M 14

EDT$CHMINSCHR   EDT$CHMINSCHR - insert a string of characters   16-Sep-1984 00:01:27   VAX-11 Bliss-32 V4.0-742   Page 5
V04-000   EDT$$INS_STR - insert a string of characters   14-Sep-1984 12:22:36   [EDT.SRC]CHMINSCHR.BLI;1   (3)

```
  206   0776  3  !+
  207   0777  3  ! The current line is the select line.
  208   0778  3  !-
  209   0779  3
  210   0780  3          IF CH$PTR_LSS (.OLD_LPOINT, .EDT$$A_SEL_POS) THEN EDT$$A_SEL_POS = CH$PLUS (.EDT$$A_SEL_POS, .L)
  211   0781  3
  212   0782  3          RETURN (1);
  213   0783  2          END;
  214   0784  2
  215   0785  1      END;                                              ! of routine EDT$$INS_STR


                                                                .TITLE    EDT$CHMINSCHR EDT$CHMINSCHR - insert a string o
                                                                                     f characters
                                                                .IDENT    \V04-000\

                                                                .EXTRN    EDT$$MSG_BELL, EDT$$MRK_LNCHG
                                                                .EXTRN    EDT$$CS_OP, EDT$$UPD_LNLEN
                                                                .EXTRN    EDT$$SEL_RNGPOS
                                                                .EXTRN    EDT$$SPLT_LNINS
                                                                .EXTRN    EDT$$A_SEL_POS, EDT$$A_LN_END
                                                                .EXTRN    EDT$$G_LN_LEN, EDT$$A_QK_CN
                                                                .EXTRN    EDT$$Z_EOB_LN, EDT$$A_LN_PTR
                                                                .EXTRN    EDT$$T_LN_BUF, EDT$_LINEXC255

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

                                          03FC 00000            .ENTRY    EDT$$INS_STR, Save R2,R3,R4,R5,R6,R7,R8,R9  ; 0664
                        59 00000000G  00  9E 00002            MOVAB     EDT$$A_SEL_POS, R9
                        58 00000000G  00  9E 00009            MOVAB     EDT$$A_LN_PTR, R8
                        57           08  AC  D0 00010            MOVL      L, R7                                      ; 0726
           50 00000000G  00          57  C1 00014            ADDL3     R7, EDT$$G_LN_LEN, R0
             000000FF  8F            50  D1 0001C            CMPL      R0, #255
                                     10  1B 00023            BLEQU     1$
                      00000000G  8F  DD 00025            PUSHL     #EDT$_LINEXC255                             ; 0729
              00000000G  00          01  FB 0002B            CALLS     #1, EDT$$MSG_BELL
                                     50  D4 00032            CLRL      R0                                       ; 0733
                                     04 00034            RET
           50 00000000G  00          9E 00035  1$:         MOVAB     EDT$$Z_EOB_LN, R0                          ; 0742
           50 00000000G  00          D1 0003C            CMPL      EDT$$A_WK_CN, R0
                                     10  12 00043            BNEQ      2$
                                     7E  D4 00045            CLRL      -(SP)                                    ; 0745
              00000000G  00          01  FB 00047            CALLS     #1, EDT$$SPLT_LNINS
              00000000G  00          00  FB 0004E            CALLS     #0, EDT$$CS_UP                           ; 0746
                        56           68  D0 00055  2$:       MOVL      EDT$$A_LN_PTR, OLD_LPOINT                 ; 0752
                        68           57  C0 00058            ADDL2     R7, EDT$$A_LN_PTR                         ; 0753
           51 00000000G  00          56  C3 0005B            SUBL3     OLD_LPOINT, EDT$$A_LN_END, R1            ; 0757
                        50           68  D0 00063            MOVL      EDT$$A_LN_PTR, R0
             60           66          51  28 00066            MOVC3     R1, (OLD_LPOINT), (R0)
             66           04  BC      57  28 0006A            MOVC3     R7, @S, (OLD_LPOINT)                      ; 0761
                                     57  DD 0006F            PUSHL     R7                                       ; 0765
              00000000G  00          01  FB 00071            CALLS     #1, EDT$$UPD_LNLEN
           50 00000000G  00          9E 00078            MOVAB     EDT$$T_LN_BUF, R0                          ; 0769
             7E           56          50  C3 0007F            SUBL3     R0, OLD_LPOINT, -(SP)
                                     01  DD 00083            PUSHL     #1
              00000000G  00          02  FB 00085            CALLS     #2, EDT$$MRK_LNCHG
              00000000G  00          00  FB 0008C            CALLS     #0, EDT$$SEL_RNGPOS                       ; 0774
```

```
                                    50  D5 00093          TSTL    R0
                                    08  12 00095          BNEQ    3$
                     69             56  D1 00097          CMPL    OLD_LPOINT, EDT$$A_SEL_POS          0780
                                    03  1E 0009A          BGEQU   3$
                     69             57  C0 0009C          ADDL2   R7, EDT$$A_SEL_POS
                     50             01  D0 0009F 3$:      MOVL    #1, R0                             0782
                                    04 000A2              RET                                        0785
```

; Routine Size: 163 bytes,   Routine Base: _EDT$CODE + 0000

; 216   0786 1
; 217   0787 1 !<BLF/PAGE>

EDTSCHMINSCHR   EDTSCHMINSCHR - insert a string of characters   16-Sep-1984 00:01:27   VAX-11 Bliss-32 V4.0-742   Page 7
VO4-000   EDTSSINS_STR - insert a string of characters   14-Sep-1984 12:22:36   [EDT.SRC]CHMINSCHR.BLI;1   (4)

B 15

```
; 219    0788 1 END                                    ! of module EDTSCHMINSCHR
; 220    0789 1
; 221    0790 0 ELUDOM
```

                              PSECT SUMMARY

        Name   Bytes   Attributes

    _EDT$CODE   163 NOVEC,NOWRT, RD , EXE, SHR, LCL, REL, CON, PIC,ALIGN(2)

                         Library Statistics

                                -------- Symbols --------   Pages   Processing
        File   Total   Loaded   Percent   Mapped   Time

    _255DUA28:[EDT.SRC]EDT.L32;1   377   11   2   40   00:00.2
    _255DUA28:[EDT.SRC]PSECTS.L32;1   2   1   50   7   00:00.1

                         COMMAND QUALIFIERS

        BLISS/CHECK=(FIELD,INITIAL,OPTIMIZE)/NOTRACEBACK/LIS=LIS$:CHMINSCHR/OBJ=OBJ$:CHMINSCHR MSRC$:CHMINSCHR.BLI/UPDATE=(ENH$:C
        HMINSCHR)

; Size: 163 code + 0 data bytes
; Run Time: 00:12.4
; Elapsed Time: 00:14.3
; Lines/CPU Min: 3816
; Lexemes/CPU-Min: 11314
; Memory Used: 81 pages
; Compilation Complete

CHMFINENT
LIS

CHMINIT
LIS

CHMGCOUNT
LIS

CHMGINSTR
LIS

CHMGSUSTR
LIS

CHMINSMOD
LIS

CHMEMESS
LIS

CHMINSTAB
LIS

CHMENTTRM
LIS

CHMGBUF
LIS

CHMINSCHR
LIS

CHMINDATE
LIS

CHMEXVERB
LIS

CHMFINSTR
LIS

CHMGDIR
LIS

CHMGQUSTR
LIS

CHMHLPKPD
LIS

CHMINSSTR
LIS

CHMKEYWRD
LIS

CHMENDWRD
LIS

CHMEXCOM
LIS