```
LLL                 IIIIIIIII     BBBBBBBBBBBB     RRRRRRRRRRRR     TTTTTTTTTTTTTTT  LLL
LLL                 IIIIIIIII     BBBBBBBBBBBB     RRRRRRRRRRRR     TTTTTTTTTTTTTTT  LLL
LLL                 IIIIIIIII     BBBBBBBBBBBB     RRRRRRRRRRRR     TTTTTTTTTTTTTTT  LLL
LLL                    III        BBB         BBB  RRR         RRR        TTT        LLL
LLL                    III        BBB         BBB  RRR         RRR        TTT        LLL
LLL                    III        BBB         BBB  RRR         RRR        TTT        LLL
LLL                    III        BBB         BBB  RRR         RRR        TTT        LLL
LLL                    III        BBB         BBB  RRR         RRR        TTT        LLL
LLL                    III        BBBBBBBBBBBB     RRRRRRRRRRRR           TTT        LLL
LLL                    III        BBBBBBBBBBBB     RRRRRRRRRRRR           TTT        LLL
LLL                    III        BBBBBBBBBBBB     RRRRRRRRRRRR           TTT        LLL
LLL                    III        BBB         BBB  RRR   RRR              TTT        LLL
LLL                    III        BBB         BBB  RRR   RRR              TTT        LLL
LLL                    III        BBB         BBB  RRR   RRR              TTT        LLL
LLL                    III        BBB         BBB  RRR      RRR           TTT        LLL
LLL                    III        BBB         BBB  RRR      RRR           TTT        LLL
LLL                    III        BBB         BBB  RRR      RRR           TTT        LLL
LLLLLLLLLLLLLLL     IIIIIIIII     BBBBBBBBBBBB     RRR         RRR        TTT        LLLLLLLLLLLLLLL
LLLLLLLLLLLLLLL     IIIIIIIII     BBBBBBBBBBaB     RRR         RRR        TTT        LLLLLLLLLLLLLLL
LLLLLLLLLLLLLLL     IIIIIIIII     BBBBBBBBBBBB     RRR         RRR        TTT        LLLLLLLLLLLLLLL
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FILEID**LIBTABMAC

J 3

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LL            IIIIII    BBBBBBBB    TTTTTTTTTT    AAAAAA    BBBBBBBB    MM      MM    AAAAAA      CCCCCCCC
LL            IIIIII    BBBBBBBB    TTTTTTTTTT    AAAAAA    BBBBBBBB    MM      MM    AAAAAA      CCCCCCCC
LL              II      BB      BB      TT      AA      AA  BB      BB  MMMM  MMMM  AA      AA  CC
LL              II      BB      BB      TT      AA      AA  BB      BB  MMMM  MMMM  AA      AA  CC
LL              II      BB      BB      TT      AA      AA  BB      BB  MM  MM  MM  AA      AA  CC
LL              II      BB      BB      TT      AA      AA  BB      BB  MM  MM  MM  AA      AA  CC
LL              II      BBBBBBBB        TT      AA      AA  BBBBBBBB    MM      MM  AA      AA  CC
LL              II      BBBBBBBB        TT      AA      AA  BBBBBBBB    MM      MM  AA      AA  CC
LL              II      BB      BB      TT      AAAAAAAAAA  BB      BB  MM      MM  AAAAAAAAAA  CC
LL              II      BB      BB      TT      AAAAAAAAAA  BB      BB  MM      MM  AAAAAAAAAA  CC
LL              II      BB      BB      TT      AA      AA  BB      BB  MM      MM  AA      AA  CC              ....
LL              II      BB      BB      TT      AA      AA  BB      BB  MM      MM  AA      AA  CC              ....
LLLLLLLLLL    IIIIII    BBBBBBBB        TT      AA      AA  BBBBBBBB    MM      MM  AA      AA    CCCCCCCC      ....
LLLLLLLLLL    IIIIII    BBBBBBBB        TT      AA      AA  BBBBBBBB    MM      MM  AA      AA    CCCCCCCC      ....

MM      MM    AAAAAA    RRRRRRRR
MM      MM    AAAAAA    RRRRRRRR
MMMM  MMMM  AA      AA  RR      RR
MMMM  MMMM  AA      AA  RR      RR
MM  MM  MM  AA      AA  RR      RR
MM  MM  MM  AA      AA  RR      RR
MM      MM  AA      AA  RRRRRRRR
MM      MM  AA      AA  RRRRRRRR
MM      MM  AAAAAAAAAA  RR  RR
MM      MM  AAAAAAAAAA  RR  RR
MM      MM  AA      AA  RR    RR
MM      MM  AA      AA  RR    RR
MM      MM  AA      AA  RR      RR
MM      MM  AA      AA  RR      RR
```

```
        .TITLE  LIB$TABLE_MACROS - Define macros for LIB$ tables
        .IDENT  /1-001/                 ; File: LIBTABMAC.MAR Edit: SBL1001

;
;****************************************************************************
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;*                                                                          *
;*                                                                          *
;****************************************************************************
;


;++
; FACILITY: General Utility Library
;
; ABSTRACT:
;
;       This file contains macros that define the various translation
;       tables that reside in the Run-Time Library.  These macros are
;       inserted into [RTL.OBJ]S.MLB during the system build, and are
;       invoked by both LIBVECTOR and by the individual source files
;       to create object modules.
;
;       The name of each macro is the name of the appropriate table prefixed
;       with '$'.
;
; ENVIRONMENT: No executable code.
;
; AUTHOR: Steven B. Lionel, CREATION DATE: 28-October-1982
;
; MODIFIED BY:
;
; 1-001 - Original. SBL 28-October-1982
;--
```

```
        .SBTTL  DECLARATIONS
;
; LIBRARY MACRO CALLS:
;
;       NONE
;
; EXTERNAL DECLARATIONS:
;
        .DSABL  GBL             ; Force all external symbols to be declared
;       NONE
;
; MACROS:
;
;       See below
;
; EQUATED SYMBOLS:
;
;       NONE
;
; OWN STORAGE:
;
;       NONE
;
; PSECT DECLARATIONS:
;
;       No generated code or data.
;
;-
```

```
        .SBTTL  $LIB$AB_ASC_EBC

;++
; FUNCTIONAL DESCRIPTION:
;
;       This is the ASCII to EBCDIC translation table, based on
; ANSI X3.26 - 1970
;
;       All ASCII graphics are translated to their equivalent EBCDIC
; graphic except for:
;
;       ASCII graphic                   EBCDIC graphic
;       -------------                   --------------
;       [ (left square bracket)         cents sign
;       ! (exclamation point)           short vertical bar
;       ^ (circumflex)                  logical not
;       ] (right squar• bracket)        ! (exclamation point)
;
;--

        .MACRO  $LIB$AB_ASC_EBC
        .BYTE   ^0000,^0001,^0002,^0003,^0067,^0055,^0056,^0057 ;000-007
        .BYTE   ^0026,^0005,^0045,^0013,^0014,^0015,^0016,^0017 ;010-017
        .BYTE   ^0020,^0021,^0022,^0023,^0074,^0075,^0062,^0046 ;020-027
        .BYTE   ^0030,^0031,^0077,^0047,^0034,^0035,^0036,^0037 ;030-037
        .BYTE   ^0100,^0117,^0177,^0173,^0133,^0154,^0120,^0175 ;040-047
        .BYTE   ^0115,^0135,^0134,^0116,^0153,^0140,^0113,^0141 ;050-057
        .BYTE   ^0360,^0361,^0362,^0363,^0364,^0365,^0366,^0367 ;060-067
        .BYTE   ^0370,^0371,^0172,^0136,^0114,^0176,^0156,^0157 ;070-077
        .BYTE   ^0174,^0301,^0302,^0303,^0304,^0305,^0306,^0307 ;100-107
        .BYTE   ^0310,^0311,^0321,^0322,^0323,^0324,^0325,^0326 ;110-117
        .BYTE   ^0327,^0330,^0331,^0342,^0343,^0344,^0345,^0346 ;120-127
        .BYTE   ^0347,^0350,^0351,^0112,^0340,^0132,^0137,^0155 ;130-137
        .BYTE   ^0171,^0201,^0202,^0203,^0204,^0205,^0206,^0207 ;140-147
        .BYTE   ^0210,^0211,^0221,^0222,^0223,^0224,^0225,^0226 ;150-157
        .BYTE   ^0227,^0230,^0231,^0242,^0243,^0244,^0245,^0246 ;160-167
        .BYTE   ^0247,^0250,^0251,^0300,^0152,^0320,^0241,^0007 ;170-177

        .BYTE   ^0077,^0077,^0077,^0077,^0077,^0077,^0077,^0077 ;200-207
        .BYTE   ^0077,^0077,^0077,^0077,^0077,^0077,^0077,^0077 ;210-217
        .BYTE   ^0077,^0077,^0077,^0077,^0077,^0077,^0077,^0077 ;220-227
        .BYTE   ^0077,^0077,^0077,^0077,^0077,^0077,^0077,^0077 ;230-237
        .BYTE   ^0077,^0077,^0077,^0077,^0077,^0077,^0077,^0077 ;240-247
        .BYTE   ^0077,^0077,^0077,^0077,^0077,^0077,^0077,^0077 ;250-257
        .BYTE   ^0077,^0077,^0077,^0077,^0077,^0077,^0077,^0077 ;260-267
        .BYTE   ^0077,^0077,^0077,^0077,^0077,^0077,^0077,^0077 ;270-277
        .BYTE   ^0077,^0077,^0077,^0077,^0077,^0077,^0077,^0077 ;300-307
        .BYTE   ^0077,^0077,^0077,^0077,^0077,^0077,^0077,^0077 ;310-317
        .BYTE   ^0077,^0077,^0077,^0077,^0077,^0077,^0077,^0077 ;320-327
        .BYTE   ^0077,^0077,^0077,^0077,^0077,^0077,^0077,^0077 ;330-337
        .BYTE   ^0077,^0077,^0077,^0077,^0077,^0077,^0077,^0077 ;340-347
        .BYTE   ^0077,^0077,^0077,^0077,^0077,^0077,^0077,^0077 ;350-357
        .BYTE   ^0077,^0077,^0077,^0077,^0077,^0077,^0077,^0077 ;360-367
        .BYTE   ^0077,^0077,^0077,^0077,^0077,^0077,^0077,^0377 ;370-377
;
        .ENDM
        .SBTTL  $LIB$AB_ASC_EBC_REV

;++
; FUNCTIONAL DESCRIPTION:
;
;       This is the Reversible ASCII to EBCDIC translation table, based
; on ANSI X3.26 - 1970
;
;       All ASCII graphics are translated to their equivalent EBCDIC
; graphic except for:
;
;       ASCII graphic                   EBCDIC graphic
;       -------------                   --------------
;       [ (left square bracket)         cents sign
;       ! (exclamation point)           short vertical bar
;       ^ (circumflex)                  logical not
;       ] (right square bracket)        ! (exclamation point)
;
;       Note that this translation table, unlike LIB$AB_ASC_EBC, is a
;       one-to-one onto mapping.  That is, it has a reverse translation,
;       namely LIB$AB_EBC_ASC_REV.
;--

        .MACRO  $LIB$AB_ASC_EBC_REV
        .BYTE   ^X00,^X01,^X02,^X03,^X37,^X2D,^X2E,^X2F ; 00-07
        .BYTE   ^X16,^X05,^X25,^X0B,^X0C,^X0D,^X0E,^X0F ; 08-0F
        .BYTE   ^X10,^X11,^X12,^X13,^X3C,^X3D,^X32,^X26 ; 10-17
        .BYTE   ^X18,^X19,^X3F,^X27,^X1C,^X1D,^X1E,^X1F ; 18-1F
        .BYTE   ^X40,^X4F,^X7F,^X7B,^X5B,^X6C,^X50,^X7D ; 20-27
        .BYTE   ^X4D,^X5D,^X5C,^X4E,^X6B,^X60,^X4B,^X61 ; 28-2F
        .BYTE   ^XF0,^XF1,^XF2,^XF3,^XF4,^XF5,^XF6,^XF7 ; 30-37
        .BYTE   ^XF8,^XF9,^X7A,^X5E,^X4C,^X7E,^X6E,^X6F ; 38-3F
        .BYTE   ^X7C,^XC1,^XC2,^XC3,^XC4,^XC5,^XC6,^XC7 ; 40-47
        .BYTE   ^XC8,^XC9,^XD1,^XD2,^XD3,^XD4,^XD5,^XD6 ; 48-4F
        .BYTE   ^XD7,^XD8,^XD9,^XE2,^XE3,^XE4,^XE5,^XE6 ; 50-57
        .BYTE   ^XE7,^XE8,^XE9,^X4A,^XE0,^X5A,^X5F,^X6D ; 58-5F
        .BYTE   ^X79,^X81,^X82,^X83,^X84,^X85,^X86,^X87 ; 60-67
        .BYTE   ^X88,^X89,^X91,^X92,^X93,^X94,^X95,^X96 ; 68-6F
        .BYTE   ^X97,^X98,^X99,^XA2,^XA3,^XA4,^XA5,^XA6 ; 70-77
        .BYTE   ^XA7,^XA8,^XA9,^XC0,^X6A,^XD0,^XA1,^X07 ; 78-7F
        .BYTE   ^X20,^X21,^X22,^X23,^X24,^x15,^X06,^X17 ; 80-87
        .BYTE   ^X28,^X29,^X2A,^X2B,^X2C,^X09,^X0A,^X1B ; 88-8F
        .BYTE   ^X30,^X31,^X1A,^X33,^X34,^X35,^X36,^X08 ; 90-97
        .BYTE   ^X38,^X39,^X3A,^X3B,^X04,^X14,^X3E,^XE1 ; 98-9F
        .BYTE   ^X41,^X42,^X43,^X44,^X45,^X46,^X47,^X48 ; A0-A7
        .BYTE   ^X49,^X51,^X52,^X53,^X54,^X55,^X56,^X57 ; A8-AF
        .BYTE   ^X58,^X59,^X62,^X63,^X64,^X65,^X66,^X67 ; B0-B7
        .BYTE   ^X68,^X69,^X70,^X71,^X72,^X73,^X74,^X75 ; B8-BF
        .BYTE   ^X76,^X77,^X78,^X80,^X8A,^X8B,^X8C,^X8D ; C0-C7
        .BYTE   ^X8E,^X8F,^X90,^X9A,^X9B,^X9C,^X9D,^X9E ; C8-CF
        .BYTE   ^X9F,^XA0,^XAA,^XAB,^XAC,^XAD,^XAE,^XAF ; D0-D7
        .BYTE   ^XB0,^XB1,^XB2,^XB3,^XB4,^XB5,^XB6,^XB7 ; D8-DF
        .BYTE   ^XB8,^XB9,^XBA,^XBB,^XBC,^XBD,^XBE,^XBF ; E0-E7
        .BYTE   ^XCA,^XCB,^XCC,^XCD,^XCE,^XCF,^XDA,^XDB ; E8-EF
        .BYTE   ^XDC,^XDD,^XDE,^XDF,^XEA,^XEB,^XEC,^XED ; F0-F7
        .BYTE   ^XEE,^XEF,^XFA,^XFB,^XFC,^XFD,^XFE,^XFF ; F8-FF
```

```
;
        .ENDM
        .SBTTL  $LIB$AB_CVT_O_U

;++
; FUNCTIONAL DESCRIPTION:
;
;       This is the overpunch to unsigned translation table.
;       It maps every character to itself except that it maps
;       the overpunch sign characters to the corresponding
;       digit.
;
;--

        .MACRO  $LIB$AB_CVT_O_U
        .BYTE   ^X00,^X01,^X02,^X03,^X04,^X05,^X06,^X07
        .BYTE   ^X08,^X09,^X0A,^X0B,^X0C,^X0D,^X0E,^X0F
        .BYTE   ^X10,^X11,^X12,^X13,^X14,^X15,^X16,^X17
        .BYTE   ^X18,^X19,^X1A,^X1B,^X1C,^X1D,^X1E,^X1F
        .BYTE   ^X20,^X30,^X22,^X23,^X24,^X25,^X26,^X27
        .BYTE   ^X28,^X29,^X2A,^X2B,^X2C,^X2D,^X2E,^X2F
        .BYTE   ^X30,^X31,^X32,^X33,^X34,^X35,^X36,^X37
        .BYTE   ^X38,^X39,^X30,^X3B,^X3C,^X3D,^X3E,^X30
        .BYTE   ^X40,^X31,^X32,^X33,^X34,^X35,^X36,^X37
        .BYTE   ^X38,^X39,^X31,^X32,^X33,^X34,^X35,^X36
        .BYTE   ^X37,^X38,^X39,^X53,^X54,^X55,^X56,^X57
        .BYTE   ^X58,^X59,^X5A,^X30,^X5C,^X30,^X5E,^X5F
        .BYTE   ^X60,^X61,^X62,^X63,^X64,^X65,^X66,^X67
        .BYTE   ^X68,^X69,^X6A,^X6B,^X6C,^X6D,^X6E,^X6F
        .BYTE   ^X70,^X71,^X72,^X73,^X74,^X75,^X76,^X77
        .BYTE   ^X78,^X79,^X7A,^X30,^X7C,^X30,^X7E,^X7F
        .BYTE   ^X30,^X81,^X82,^X83,^X84,^X85,^X86,^X87
        .BYTE   ^X88,^X89,^X8A,^X8B,^X8C,^X8D,^X8E,^X8F
        .BYTE   ^X90,^X91,^X92,^X93,^X94,^X95,^X96,^X97
        .BYTE   ^X98,^X99,^X9A,^X9B,^X9C,^X9D,^X9E,^X9F
        .BYTE   ^XA0,^XA1,^XA2,^XA3,^XA4,^XA5,^XA6,^XA7
        .BYTE   ^XA8,^XA9,^XAA,^XAB,^XAC,^XAD,^XAE,^XAF
        .BYTE   ^XB0,^XB1,^XB2,^XB3,^XB4,^XB5,^XB6,^XB7
        .BYTE   ^XB8,^XB9,^XBA,^XBB,^XBC,^XBD,^XBE,^XBF
        .BYTF   ^XC0,^XC1,^XC2,^XC3,^XC4,^XC5,^XC6,^XC7
        .BYTE   ^XC8,^XC9,^XCA,^XCB,^XCC,^XCD,^XCE,^XCF
        .BYTE   ^XD0,^XD1,^XD2,^XD3,^XD4,^XD5,^XD6,^XD7
        .BYTE   ^XD8,^XD9,^XDA,^XDB,^XDC,^XDD,^XDE,^XDF
        .BYTE   ^XE0,^XE1,^XE2,^XE3,^XE4,^XE5,^XE6,^XE7
        .BYTE   ^XE8,^XE9,^XEA,^XEB,^XEC,^XED,^XEE,^XEF
        .BYTE   ^XF0,^XF1,^XF2,^XF3,^XF4,^XF5,^XF6,^XF7
        .BYTE   ^XF8,^XF9,^XFA,^XFB,^XFC,^XFD,^XFE,^XFF
;
        .ENDM
        .SBTTL  $L:B$AB_CVTPT_O

;++
; FUNCTIONAL DESCRIPTION:
;
;       This is the packed to overpunch translation table.
;
;--

        .MACRO  $LIB$AB_CVTPT_O
        .BYTE   ^X7B,^X7B,^X7B,^X7B,^X7B,^X7B,^X7B,^X7B
        .BYTE   ^X7B,^X7B,^X7B,^X7D,^X7B,^X7D,^X7B,^X7B
        .BYTE   ^X7B,^X7B,^X7B,^X7B,^X7B,^X7B,^X7B,^X7B
        .BYTE   ^X7B,^X7B,^X41,^X4A,^X41,^X4A,^X41,^X41
        .BYTE   ^X7B,^X7B,^X7B,^X7B,^X7B,^X7B,^X7B,^X7B
        .BYTE   ^X7B,^X7B,^X42,^X4B,^X42,^X4B,^X42,^X42
        .BYTE   ^X7B,^X7B,^X7B,^X7B,^X7B,^X7B,^X7B,^X7B
        .BYTE   ^X7B,^X7B,^X43,^X4C,^X43,^X4C,^X43,^X43
        .BYTE   ^X7B,^X7B,^X7B,^X7B,^X7B,^X7B,^X7B,^X7B
        .BYTE   ^X7B,^X7B,^X44,^X4D,^X44,^X4D,^X44,^X44
        .BYTE   ^X7B,^X7B,^X7B,^X7B,^X7B,^X7B,^X7B,^X7B
        .BYTE   ^X7B,^X7B,^X45,^X4E,^X45,^X4E,^X45,^X45
        .BYTE   ^X7B,^X7B,^X7B,^X7B,^X7B,^X7B,^X7B,^X7B
        .BYTE   ^X7B,^X7B,^X46,^X4F,^X46,^X4F,^X46,^X46
        .BYTE   ^X7B,^X7B,^X7B,^X7B,^X7B,^X7B,^X7B,^X7B
        .BYTE   ^X7B,^X7B,^X47,^X50,^X47,^X50,^X47,^X47
        .BYTE   ^X7B,^X7B,^X7B,^X7B,^X7B,^X7B,^X7B,^X7B
        .BYTE   ^X7B,^X7B,^X48,^X51,^X48,^X51,^X48,^X48
        .BYTE   ^X7B,^X7B,^X7B,^X7B,^X7B,^X7B,^X7B,^X7B
        .BYTE   ^X7B,^X7B,^X49,^X52,^X49,^X52,^X49,^X49
        .BYTE   ^X7B,^X7B,^X7B,^X7B,^X7B,^X7B,^X7B,^X7B
        .BYTE   ^X7B,^X7B,^X7B,^X7B,^X7B,^X7B,^X7B,^X7B
        .BYTE   ^X7B,^X7B,^X7B,^X7B,^X7B,^X7B,^X7B,^X7B
        .BYTE   ^X7B,^X7B,^X7B,^X7B,^X7B,^X7B,^X7B,^X7B
        .BYTE   ^X7B,^X7B,^X7B,^X7B,^X7B,^X7B,^X7B,^X7B
        .BYTE   ^X7B,^X7B,^X7B,^X7B,^X7B,^X7B,^X7B,^X7B
        .BYTE   ^X7B,^X7B,^X7B,^X7B,^X7B,^X7B,^X7B,^X7B
        .BYTE   ^X7B,^X7B,^X7B,^X7B,^X7B,^X7B,^X7B,^X7B
        .BYTE   ^X7B,^X7B,^X7B,^X7B,^X7B,^X7B,^X7B,^X7B
        .BYTE   ^X7B,^X7B,^X7B,^X7B,^X7B,^X7B,^X7B,^X7B
        .BYTE   ^X7B,^X7B,^X7B,^X7B,^X7B,^X7B,^X7B,^X7B
        .BYTE   ^X7B,^X7B,^X7B,^X7B,^X7B,^X7B,^X7B,^X7B
;
        .ENDM
        .SBTTL  $LIB$AB_CVTPT_U

;++
; FUNCTIONAL DESCRIPTION:
;
;       This is the packed to unsigned translation table.
;
;--

        .MACRO  $LIB$AB_CVTPT_U
        .BYTE   ^X00,^X00,^X00,^X00,^X00,^X00,^X00,^X00
        .BYTE   ^X00,^X00,^X30,^X30,^X30,^X30,^X30,^X30
        .BYTE   ^X00,^X00,^X00,^X00,^X00,^X00,^X00,^X00
        .BYTE   ^X00,^X00,^X31,^X31,^X31,^X31,^X31,^X31
        .BYTE   ^X00,^X00,^X00,^X00,^X00,^X00,^X00,^X00
        .BYTE   ^X00,^X00,^X32,^X32,^X32,^X32,^X32,^X32
        .BYTE   ^X00,^X00,^X00,^X00,^X00,^X00,^X00,^X00
        .BYTE   ^X00,^X00,^X33,^X33,^X33,^X33,^X33,^X33
        .BYTE   ^X00,^X00,^X00,^X00,^X00,^X00,^X00,^X00
        .BYTE   ^X00,^X00,^X34,^X34,^X34,^X34,^X34,^X34
        .BYTE   ^X00,^X00,^X00,^X00,^X00,^X00,^X00,^X00
        .BYTE   ^X00,^X00,^X35,^X35,^X35,^X35,^X35,^X35
        .BYTE   ^X00,^X00,^X00,^X00,^X00,^X00,^X00,^X00
        .BYTE   ^X00,^X00,^X36,^X36,^X36,^X36,^X36,^X36
        .BYTE   ^X00,^X00,^X00,^X00,^X00,^X00,^X00,^X00
        .BYTE   ^X00,^X00,^X37,^X37,^X37,^X37,^X37,^X37
        .BYTE   ^X00,^X00,^X00,^X00,^X00,^X00,^X00,^X00
        .BYTE   ^X00,^X00,^X38,^X38,^X38,^X38,^X38,^X38
        .BYTE   ^X00,^X00,^X00,^X00,^X00,^X00,^X00,^X00
        .BYTE   ^X00,^X00,^X39,^X39,^X39,^X39,^X39,^X39
        .BYTE   ^X00,^X00,^X00,^X00,^X00,^X00,^X00,^X00
        .BYTE   ^X00,^X00,^X00,^X00,^X00,^X00,^X00,^X00
        .BYTE   ^X00,^X00,^X00,^X00,^X00,^X00,^X00,^X00
        .BYTE   ^X00,^X00,^X00,^X00,^X00,^X00,^X00,^X00
        .BYTE   ^X00,^X00,^X00,^X00,^X00,^X00,^X00,^X00
        .BYTE   ^X00,^X00,^X00,^X00,^X00,^X00,^X00,^X00
        .BYTE   ^X00,^X00,^X00,^X00,^X00,^X00,^X00,^X00
        .BYTE   ^X00,^X00,^X00,^X00,^X00,^X00,^X00,^X00
        .BYTE   ^X00,^X00,^X00,^X00,^X00,^X00,^X00,^X00
        .BYTE   ^X00,^X00,^X00,^X00,^X00,^X00,^X00,^X00
        .BYTE   ^X00,^X00,^X00,^X00,^X00,^X00,^X00,^X00
        .BYTE   ^X00,^X00,^X00,^X00,^X00,^X00,^X00,^X00
;
        .ENDM
        .SBTTL  $LIB$AB_CVTPT_Z

;++
; FUNCTIONAL DESCRIPTION:
;
;       This is the packed to zoned translation table.
;
;       It is used in conjunction with a CVTPT machine instruction to
; convert packed decimal data items to zoned numeric data type.  Given
; the binary representation for the highest addressed byte (that is, the
; least significant digit and sign) of a data item in the packed
; decimal data type, the table gives the hex representation of the
; highest addressed byte in the zoned numeric form of the data item.
;--

        .MACRO  $LIB$AB_CVTPT_Z
                                                                ; Hex
                                                                ; -----
        .BYTE   ^X30,^X30,^X30,^X30,^X30,^X30,^X30,^X30 ; 00-07
        .BYTE   ^X30,^X30,^X30,^X70,^X30,^X70,^X30,^X30 ; 08-0F
        .BYTE   ^X30,^X30,^X30,^X30,^X30,^X30,^X30,^X30 ; 10-17
        .BYTE   ^X30,^X30,^X31,^X71,^X31,^X71,^X31,^X31 ; 18-1F
        .BYTE   ^X30,^X30,^X30,^X30,^X30,^X30,^X30,^X30 ; 20-27
        .BYTE   ^X30,^X30,^X32,^X72,^X32,^X72,^X32,^X32 ; 28-2F
        .BYTE   ^X30,^X30,^X30,^X30,^X30,^X30,^X30,^X30 ; 30-37
        .BYTE   ^X30,^X30,^X33,^X73,^X33,^X73,^X33,^X33 ; 38-3F
        .BYTE   ^X30,^X30,^X30,^X30,^X30,^X30,^X30,^X30 ; 40-47
        .BYTE   ^X30,^X30,^X34,^X74,^X34,^X74,^X34,^X34 ; 48-4F
        .BYTE   ^X30,^X30,^X30,^X30,^X30,^X30,^X30,^X30 ; 50-57
        .BYTE   ^X30,^X30,^X35,^X75,^X35,^X75,^X35,^X35 ; 58-5F
        .BYTE   ^X30,^X30,^X30,^X30,^X30,^X30,^X30,^X30 ; 60-67
        .BYTE   ^X30,^X30,^X36,^X76,^X36,^X76,^X36,^X36 ; 68-6F
        .BYTE   ^X30,^X30,^X30,^X30,^X30,^X30,^X30,^X30 ; 70-77
        .BYTE   ^X30,^X30,^X37,^X77,^X37,^X77,^X37,^X37 ; 78-7F
        .BYTE   ^X30,^X30,^X30,^X30,^X30,^X30,^X30,^X30 ; 80-87
        .BYTE   ^X30,^X30,^X38,^X78,^X38,^X78,^X38,^X38 ; 88-8F
        .BYTE   ^X30,^X30,^X30,^X30,^X30,^X30,^X30,^X30 ; 90-97
        .BYTE   ^X30,^X30,^X39,^X79,^X39,^X79,^X39,^X39 ; 98-9F
        .BYTE   ^X30,^X30,^X30,^X30,^X30,^X30,^X30,^X30 ; A0-A7
        .BYTE   ^X30,^X30,^X30,^X30,^X30,^X30,^X30,^X30 ; A8-8F
        .BYTE   ^X30,^X30,^X30,^X30,^X30,^X30,^X30,^X30 ; B0-B7
        .BYTE   ^X30,^X30,^X30,^X30,^X30,^X30,^X30,^X30 ; B8-BF
        .BYTE   ^X30,^X30,^X30,^X30,^X30,^X30,^X30,^X30 ; C0-C7
        .BYTE   ^X30,^X30,^X30,^X30,^X30,^X30,^X30,^X30 ; C8-CF
        .BYTE   ^X30,^X30,^X30,^X30,^X30,^X30,^X30,^X30 ; D0-D7
        .BYTE   ^X30,^X30,^X30,^X30,^X30,^X30,^X30,^X30 ; D8-DF
        .BYTE   ^X30,^X30,^X30,^X30,^X30,^X30,^X30,^X30 ; E0-E7
        .BYTE   ^X30,^X30,^X30,^X30,^X30,^X30,^X30,^X30 ; E8-EF
        .BYTE   ^X30,^X30,^X30,^X30,^X30,^X30,^X30,^X30 ; F0-F7
        .BYTE   ^X30,^X30,^X30,^X30,^X30,^X30,^X30,^X30 ; F8-FF
;
        .ENDM
        .SBTTL  $LIB$AB_CVTTP_O

;++
; FUNCTIONAL DESCRIPTION:
;
;       This is the overpunch to packed translation table.
;
;--

        .MACRO  $LIB$AB_CVTTP_O
        .BYTE   ^X00,^X00,^X00,^X00,^X00,^X00,^X00,^X00
        .BYTE   ^X00,^X00,^X00,^X00,^X00,^X00,^X00,^X00
        .BYTE   ^X00,^X00,^X00,^X00,^X00,^X00,^X00,^X00
        .BYTE   ^X00,^X00,^X00,^X00,^X00,^X00,^X00,^X00
        .BYTE   ^X00,^X0D,^X00,^X00,^X00,^X00,^X00,^X00
        .BYTE   ^X00,^X00,^X00,^X00,^X00,^X00,^X00,^X00
        .BYTE   ^X0C,^X1C,^X2C,^X3C,^X4C,^X5C,^X6C,^X7C
        .BYTE   ^X8C,^X9C,^X0D,^X00,^X00,^X00,^X00,^X0C
        .BYTE   ^X00,^X1C,^X2C,^X3C,^X4C,^X5C,^X6C,^X7C
        .BYTE   ^X8C,^X9C,^X1D,^X2D,^X3D,^X4D,^X5D,^X6D
        .BYTE   ^X7D,^X8D,^X9D,^X00,^X00,^X00,^X00,^X00
        .BYTE   ^X00,^X00,^X00,^X0C,^X00,^X0D,^X00,^X00
        .BYTE   ^X00,^X00,^X00,^X00,^X00,^X00,^X00,^X00
        .BYTE   ^X00,^X00,^X00,^X00,^X00,^X00,^X00,^X00
        .BYTE   ^X00,^X00,^X00,^X00,^X00,^X00,^X00,^X00
        .BYTE   ^X00,^X00,^X00,^X0C,^X00,^X0D,^X00,^X00
        .BYTE   ^X00,^X00,^X00,^X00,^X00,^X00,^X00,^X00
        .BYTE   ^X00,^X00,^X00,^X00,^X00,^X00,^X00,^X00
        .BYTE   ^X00,^X00,^X00,^X00,^X00,^X00,^X00,^X00
        .BYTE   ^X00,^X00,^X00,^X00,^X00,^X00,^X00,^X00
        .BYTE   ^X00,^X00,^X00,^X00,^X00,^X00,^X00,^X00
        .BYTE   ^X00,^X00,^X00,^X00,^X00,^X00,^X00,^X00
        .BYTE   ^X00,^X00,^X00,^X00,^X00,^X00,^X00,^X00
        .BYTE   ^X00,^X00,^X00,^X00,^X00,^X00,^X00,^X00
        .BYTE   ^X00,^X00,^X00,^X00,^X00,^X00,^X00,^X00
        .BYTE   ^X00,^X00,^X00,^X00,^X00,^X00,^X00,^X00
        .BYTE   ^X00,^X00,^X00,^X00,^X00,^X00,^X00,^X00
        .BYTE   ^X00,^X00,^X00,^X00,^X00,^X00,^X00,^X00
        .BYTE   ^X00,^X00,^X00,^X00,^X00,^X00,^X00,^X00
        .BYTE   ^X00,^X00,^X00,^X00,^X00,^X00,^X00,^X00
        .BYTE   ^X00,^X00,^X00,^X00,^X00,^X00,^X00,^X00
        .BYTE   ^X00,^X00,^X00,^X00,^X00,^X00,^X00,^X00
;
        .ENDM
        .SBTTL  $LIB$AB_CVTTP_U

;++
; FUNCTIONAL DESCRIPTION:
;
;       This is the unsigned to packed translation table.
;
;--

        .MACRO  $LIB$AB_CVTTP_U
        .BYTE   ^X00,^X00,^X00,^X00,^X00,^X00,^X00,^X00
        .BYTE   ^X00,^X00,^X00,^X00,^X00,^X00,^X00,^X00
        .BYTE   ^X00,^X00,^X00,^X00,^X00,^X00,^X00,^X00
        .BYTE   ^X00,^X00,^X00,^X00,^X00,^X00,^X00,^X00
        .BYTE   ^X00,^X00,^X00,^X00,^X00,^X00,^X00,^X00
        .BYTE   ^X00,^X00,^X00,^X00,^X00,^X00,^X00,^X00
        .BYTE   ^X0C,^X1C,^X2C,^X3C,^X4C,^X5C,^X6C,^X7C
        .BYTE   ^X8C,^X9C,^X00,^X00,^X00,^X00,^X00,^X00
        .BYTE   ^X00,^X00,^X00,^X00,^X00,^X00,^X00,^X00
        .BYTE   ^X00,^X00,^X00,^X00,^X00,^X00,^X00,^X00
        .BYTE   ^X00,^X00,^X00,^X00,^X00,^X00,^X00,^X00
        .BYTE   ^X00,^X00,^X00,^X00,^X00,^X00,^X00,^X00
        .BYTE   ^X00,^X00,^X00,^X00,^X00,^X00,^X00,^X00
        .BYTE   ^X00,^X00,^X00,^X00,^X00,^X00,^X00,^X00
        .BYTE   ^X00,^X00,^X00,^X00,^X00,^X00,^X00,^X00
        .BYTE   ^X00,^X00,^X00,^X00,^X00,^X00,^X00,^X00
        .BYTE   ^X00,^X00,^X00,^X00,^X00,^X00,^X00,^X00
        .BYTE   ^X00,^X00,^X00,^X00,^X00,^X00,^X00,^X00
        .BYTE   ^X00,^X00,^X00,^X00,^X00,^X00,^X00,^X00
        .BYTE   ^X00,^X00,^X00,^X00,^X00,^X00,^X00,^X00
        .BYTE   ^X00,^X00,^X00,^X00,^X00,^X00,^X00,^X00
        .BYTE   ^X00,^X00,^X00,^X00,^X00,^X00,^X00,^X00
        .BYTE   ^X00,^X00,^X00,^X00,^X00,^X00,^X00,^X00
        .BYTE   ^X00,^X00,^X00,^X00,^X00,^X00,^X00,^X00
        .BYTE   ^X00,^X00,^X00,^X00,^X00,^X00,^X00,^X00
        .BYTE   ^X00,^X00,^X00,^X00,^X00,^X00,^X00,^X00
        .BYTE   ^X00,^X00,^X00,^X00,^X00,^X00,^X00,^X00
        .BYTE   ^X00,^X00,^X00,^X00,^X00,^X00,^X00,^X00
        .BYTE   ^X00,^X00,^X00,^X00,^X00,^X00,^X00,^X00
        .BYTE   ^X00,^X00,^X00,^X00,^X00,^X00,^X00,^X00
        .BYTE   ^X00,^X00,^X00,^X00,^X00,^X00,^X00,^X00
        .BYTE   ^X00,^X00,^X00,^X00,^X00,^X00,^X00,^X00
;
        .ENDM
        .SBTTL  $LIB$AB_CVT_U_O

;++
; FUNCTIONAL DESCRIPTION:
;
;       This is the ursigned to overpunch translation table.  It is indexed
;       by 0 through 9 for the positive overpunches and 10 through 19 for
;       the negative overpunches.
;
;--

        .MACRO  $LIB$AB_CVT_U_O
        .ASCII  "{ABCDEFGHI"
        .ASCII  "}JKLMNOPQR"
;
        .ENDM
```

```
SIG

C
C
C

C**
C*
C*
C*
C*
C*
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C*
C*
C*
C*
C*
C*
C*
C*
C*
C*
C*
C*
C*
C*
C*
C**
```

```
        .SBTTL  $LIBSAB_EBC_ASC

;++
; FUNCTIONAL DESCRIPTION:
;
;       This is the EBCDIC to ASCII translation table based on
; ANSI X3.26 - 1970
;
;       All EBCDIC graphics are translated to the identical ASCII
; graphic except for:
;
;       EBCDIC graphic                  ASCII graphic
;       --------------                  -------------
;       cents sign                      [ (left square bracket)
;       short vertical bar              ! (exclamation point)
;       logical not                     ^ (circumflex)
;       ! (exclamation point)           ] (right square bracket)
;
;
;       Untranslatable codes map into ^0134 (The ASCII character "\").
;       Mapping them into ^0032 (The ASCII Substitute char.) would be
;       more desireable, but could cause trouble with compatibility with
;       STREAM-ASCII files under RMS-11 which recognizes ^0032 as
;       a CONTROL-Z signifying an End-of-file.
;
;--


        .MACRO  $LIBSAB_EBC_ASC
        .BYTE   ^0000,^0001,^0002,^0003,^0134,^0011,^0134,^0177 ;000-007
        .BYTE   ^0134,^0134,^0134,^0013,^0014,^0015,^0016,^0017 ;010-017
        .BYTE   ^0020,^0021,^0022,^0023,^0134,^0134,^0010,^0134 ;020-027
        .BYTE   ^0030,^0031,^0134,^0134,^0034,^0035,^0036,^0037 ;030-037
        .BYTE   ^0134,^0134,^0134,^0134,^0134,^0012,^0027,^0033 ;040-047
        .BYTE   ^0134,^0134,^0134,^0134,^0134,^0005,^0006,^0007 ;050-057
        .BYTE   ^0134,^0134,^0026,^0134,^0134,^0134,^0134,^0004 ;060-067
        .BYTE   ^0134,^0134,^0134,^0134,^0024,^0025,^0134,^0032 ;070-077
        .BYTE   ^0040,^0134,^0134,^0134,^0134,^0134,^0134,^0134 ;100-107
        .BYTE   ^0134,^0134,^0133,^0056,^0074,^0050,^0053,^0041 ;110-117
        .BYTE   ^0046,^0134,^0134,^0134,^0134,^0134,^0134,^0134 ;120-127
        .BYTE   ^0134,^0134,^0135,^0044,^0052,^0051,^0073,^0136 ;130-137
        .BYTE   ^0055,^0057,^0134,^0134,^0134,^0134,^0134,^0134 ;140-147
        .BYTE   ^0134,^0134,^0174,^0054,^0045,^0137,^0076,^0077 ;150-157
        .BYTE   ^0134,^0134,^0134,^0134,^0134,^0134,^0134,^0134 ;160-167
        .BYTE   ^0134,^0140,^0072,^0043,^0100,^0047,^0075,^0042 ;170-177

        .BYTE   ^0134,^0141,^0142,^0143,^0144,^0145,^0146,^0147 ;200-207
        .BYTE   ^0150,^0151,^0134,^0134,^0134,^0134,^0134,^0134 ;210-217
        .BYTE   ^0134,^0152,^0153,^0154,^0155,^0156,^0157,^0160 ;220-227
        .BYTE   ^0161,^0162,^0134,^0134,^0134,^0134,^0134,^0134 ;230-237
        .BYTE   ^0134,^0176,^0163,^0164,^0165,^0166,^0167,^0170 ;240-247
        .BYTE   ^0171,^0172,^0134,^0134,^0134,^0134,^0134,^0134 ;250-257
        .BYTE   ^0134,^0134,^0134,^0134,^0134,^0134,^0134,^0134 ;260-267
        .BYTE   ^0134,^0134,^0134,^0134,^0134,^0134,^0134,^0134 ;270-277
        .BYTE   ^0173,^0101,^0102,^0103,^0104,^0105,^0106,^0107 ;300-307
        .BYTE   ^0110,^0111,^0134,^0134,^0134,^0134,^0134,^0134 ;310-317
        .BYTE   ^0175,^0112,^0113,^0114,^0115,^0116,^0117,^0120 ;320-327
```

C
C
C

```
        .BYTE   ^0121,^0122,^0134,^0134,^0134,^0134,^0134,^0134 ;330-337
        .BYTE   ^0134,^0134,^0123,^0124,^0125,^0126,^0127,^0130 ;340-347
        .BYTE   ^0131,^0132,^0134,^0134,^0134,^0134,^0134,^0134 ;350-357
        .BYTE   ^0060,^0061,^0062,^0063,^0064,^0065,^0066,^0067 ;360-367
        .BYTE   ^0070,^0071,^0134,^0134,^0134,^0134,^0134,^0377 ;370-377
;
        .ENDM
        .SBTTL  $LIB$AB_EBC_ASC_REV

;++
; FUNCTIONAL DESCRIPTION:
;
;       This is the Reversible EBCDIC to ASCII translation table based
; on ANSI X3.26 - 1970
;
;       All EBCDIC graphics are translated to the identical ASCII
; graphic except for:
;
;       EBCDIC graphic                  ASCII graphic
;       --------------                  -------------
;       cents sign                      [ (left square bracket)
;       short vertical bar              ! (exclamation point)
;       logical not                     ^ (circumflex)
;       ! (exclamation point)           ] (right square bracket)
;
;
;       Note that this translation table, unlike LIB$AB_EBC_ASC, is a
;       one-to-one onto mapping.  That is, it has a reverse translation,
;       namely LIB$AB_ASC_EBC_REV.
;
;--

        .MACRO  $LIB$AB_EBC_ASC_REV
        .BYTE   ^X00,^X01,^X02,^X03,^X9C,^X09,^X86,^X7F ; 00-07
        .BYTE   ^X97,^X8D,^X8E,^X0B,^X0C,^X0D,^X0E,^X0F ; 08-0F
        .BYTE   ^X10,^X11,^X12,^X13,^X9D,^X85,^X08,^X87 ; 10-17
        .BYTE   ^X18,^X19,^X92,^X8F,^X1C,^X1D,^X1E,^X1F ; 18-1F
        .BYTE   ^X80,^X81,^X82,^X83,^X84,^X0A,^X17,^X1B ; 20-27
        .BYTE   ^X88,^X89,^X8A,^X8B,^X8C,^X05,^X06,^X07 ; 28-2F
        .BYTE   ^X90,^X91,^X16,^X93,^X94,^X95,^X96,^X04 ; 30-37
        .BYTE   ^X98,^X99,^X9A,^X9B,^X14,^X15,^X9E,^X1A ; 38-3F
        .BYTE   ^X20,^XA0,^XA1,^XA2,^XA3,^XA4,^XA5,^XA6 ; 40-47
        .BYTE   ^XA7,^XA8,^X5B,^X2E,^X3C,^X28,^X2B,^X21 ; 48-4F
        .BYTE   ^X26,^XA9,^XAA,^XAB,^XAC,^XAD,^XAE,^XAF ; 50-57
        .BYTE   ^XB0,^XB1,^X5D,^X24,^X2A,^X29,^X3B,^X5E ; 58-5F
        .BYTE   ^X2D,^X2F,^XB2,^XB3,^XB4,^XB5,^XB6,^XB7 ; 60-67
        .BYTE   ^XB8,^XB9,^X7C,^X2C,^X25,^X5F,^X3E,^X3F ; 68-6F
        .BYTE   ^XBA,^XBB,^XBC,^XBD,^XBE,^XBF,^XC0,^XC1 ; 70-77
        .BYTE   ^XC2,^X60,^X3A,^X23,^X40,^X27,^X3D,^X22 ; 78-7F
        .BYTE   ^XC3,^X61,^X62,^X63,^X64,^X65,^X66,^X67 ; 80-87
        .BYTE   ^X68,^X69,^XC4,^XC5,^XC6,^XC7,^XC8,^XC9 ; 88-8F
        .BYTE   ^XCA,^X6A,^X6B,^X6C,^X6D,^X6E,^X6F,^X70 ; 90-97
        .BYTE   ^X71,^X72,^XCB,^XCC,^XCD,^XCE,^XCF,^XD0 ; 98-9F
        .BYTE   ^XD1,^X7E,^X73,^X74,^X75,^X76,^X77,^X78 ; A0-A7
        .BYTE   ^X79,^X7A,^XD2,^XD3,^XD4,^XD5,^XD6,^XD7 ; A8-AF
        .BYTE   ^XD8,^XD9,^XDA,^XDB,^XDC,^XDD,^XDE,^XDF ; B0-B7
        .BYTE   ^XE0,^XE1,^XE2,^XE3,^XE4,^XE5,^XE6,^XE7 ; B8-BF
        .BYTE   ^X7B,^X41,^X42,^X43,^X44,^X45,^X46,^X47 ; C0-C7
        .BYTE   ^X48,^X49,^XE8,^XE9,^XEA,^XEB,^XEC,^XED ; C8-CF
        .BYTE   ^X7D,^X4A,^X4B,^X4C,^X4D,^X4E,^X4F,^X50 ; D0-D7
        .BYTE   ^X51,^X52,^XEE,^XEF,^XF0,^XF1,^XF2,^XF3 ; D8-DF
        .BYTE   ^X5C,^X9F,^X53,^X54,^X55,^X56,^X57,^X58 ; E0-E7
        .BYTE   ^X59,^X5A,^XF4,^XF5,^XF6,^XF7,^XF8,^XF9 ; E8-EF
        .BYTE   ^X30,^X31,^X32,^X33,^X34,^X35,^X36,^X37 ; F0-F7
        .BYTE   ^X38,^X39,^XFA,^XFB,^XFC,^XFD,^XFE,^XFF ; F8-FF
;
        .ENDM
        .SBTTL  $LIB$AB_UPCASE - String Upcase Translate Table
;++
; FUNCTIONAL DESCRIPTION:
;
;       LIB$AB_UPCASE is a translate table, suitable for use with
;       a MOVTC instruction, which specified translation of
;       lower case ASCII characters to their upper case equivalent.
;
;       Only the characters 'a' through 'z' are translated, all
;       other characters translate to themselves.
;
;--

        .MACRO  $LIB$AB_UPCASE

I=0
        .REPEAT <^A/a/-0>
        .BYTE   I
I=I+1
        .ENDR
        .REPEAT 26
        .BYTE   I-<^A/a/-^A/A/>
I=I+1
        .ENDR
        .REPEAT <255-^A/z/>
        .BYTE   I
I=I+1
        .ENDR

        .ENDM

        .END                            ; End of module LIB$$TABLE_MACROS
```

0203 AH-BT13A-SE
VAX/VMS V4.0

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RTLMACMAR
MAR

LIBASCEBC
LIS

LIBASTINP
LIS

RTLMACB32
REQ

STRMACROS
REQ

LIBBINTRE
LIS

RTLODBG
REQ

LIBDEF
FOR

LIBANASTR
LIS

LIBASNMBX
LIS

LIBBBCCI
LIS

LIBCHAR
LIS

LIBABUPCA
LIS

LIBADDX
LIS

RTLPSECT
REQ

SIGDEF
FOR

LIBASCTIM
LIS

LIBTABMAC
MAR

LIBATTACH
LIS

STRLNK
REQ.

LIBA2EREV
LIS

LIBBBSSI
LIS

LIBCALLG
LIS

LIBCLICAL
LIS

LIBADDP
LIS