

SYSTEMS ENGINEERING LABORATORIES PROGRAM LIBRARY

PROGRAM DESCRIPTION

Page 1 of 1

Catalog Number 300013C

IDENTIFICATION: Full ASCII to BCD Conversion

AUTHOR: Systems Engineering Laboratories, Inc.

ACCEPTED: January 28, 1969

PURPOSE: To convert a buffer of ASCII characters to BCD.

COMPUTER
CONFIGURATION: Any SEL 810A/B

SUBROUTINES
REQUIRED: None

STORAGE: 72 octal locations

TIMING: 16 cycles + 36 cycles per word

USE: The calling sequence is;

```
CALL ASCBCD
DAC BUF
DATA N
```

where BUF is the address of the first location of the buffer to be translated. The buffer contains 8 bit ASCII characters, 1 character per word right justified. N is the number of words in buffer. The 6 bit BCD character is stored in the buffer left justified as in most cases the BCD mode is used for outputting to 7 track magnetic tape.

METHOD: An indexed look-up on a table containing two BCD characters per word is used.

```

0002 00000 00000000 *
0003 00000 00000000 * CONVERT FROM ASCII TO BCD
0004 00000 00000000 *
0005 00000 00000000 *
0006 00000 00000000 * CALLING SEQUENCE
0007 00000 00000000 * CALL ASBCD
0008 00000 00000000 * DAC BUF
0009 00000 00000000 * DATA
0010 00000 00000000 REL
0011 00000 50000000 NAME ASCBCD,BEGN
0012 00000 00000000 BEGN *** **
0013 00001 01300000 LAA* BEGN
0014 00002 03100030 STA BUF
0015 00003 14100000 IMS BEGN
0016 00004 01300000 LAA* BEGN NEG COUNT
0017 00005 00000002 NEG
0018 00006 03100031 STA CNT
0019 00007 14100000 IMS BEGN
0020 00010 01300030 AGN LAA* BUF
0021 00011 00001216 LSL 10
0022 00012 00001215 RSL 10
0023 00013 00000006 IAB
0024 00014 00000003 CLA
0025 00015 00001713 FLL 15
0026 00016 00000006 IAB
0027 00017 02500032 LBA TABL,1
0028 00020 00000024 SAP
0029 00021 00001013 FLL 8
0030 00022 00000213 FLL 2
0031 00023 04300030 STB* BUF
0032 00024 14100030 IMS BUF
0033 00025 14100031 IMS CNT HAVE WE FINISHED BUFFER
0034 00026 11100010 BRU AGN
0035 00027 11300000 BRU* BEGN YES
0036 00030 00000001 BUF BSS 1
0037 00031 00000001 CNT BSS 1
0038 00032 00000000 *

```

MDL 1/25/69 *C

MDL 1/10/69 *C

| 1 | PAGE | 0002 | 810A/B | FULL ASCII TO BCD | CAT. NO. 300013C |
|--------|-------|----------|-----------|-------------------|------------------|
| | | | | ASCII | BCD |
| 0039 | 00032 | 00000000 | * | | MDL 1/10/69 *C |
| 0040 | 00032 | 00000000 | * | | MDL 1/10/69 *C |
| 0041 | 00032 | 00027461 | TABL DATA | '027461 | 300,301 57,61 |
| 0042 | 00033 | 00031063 | DATA | '031063 | 302,303 62,63 |
| 0043 | 00034 | 00032065 | DATA | '032065 | 304,305 64,65 |
| 0044 | 00035 | 00033067 | DATA | '033067 | 306,307 66,67 |
| 0045 | 00036 | 00034071 | DATA | '034071 | 310,311 70,71 |
| 0046 | 00037 | 00020442 | DATA | '020442 | 312,313 41,42 |
| 0047 | 00040 | 00021444 | DATA | '021444 | 314,315 43,44 |
| 0048 | 00041 | 00022446 | DATA | '022446 | 316,317 45,46 |
| 0049 | 00042 | 00023450 | DATA | '023450 | 320,321 47,50 |
| 0050 | 00043 | 00024422 | DATA | '024422 | 322,323 51,22 |
| 0051 | 00044 | 00011424 | DATA | '011424 | 324,325 23,24 |
| 0052 | 00045 | 00012426 | DATA | '012426 | 326,327 25,26 |
| 0053 | 00046 | 00013430 | DATA | '013430 | 330,331 27,30 |
| 0054 | 00047 | 00014475 | DATA | '014475 | 332,333 31,75 |
| 0055 | 00050 | 00017055 | DATA | '017055 | 334,335 36,55 |
| 0056 | 00051 | 00015077 | DATA | '015077 | 336,337 32,77 |
| 0057 | 00052 | 00010052 | DATA | '010052 | 240,241 20,52 |
| 0058 | 00053 | 00017435 | DATA | '017435 | 242,243 37,35 |
| 0059 | 00054 | 00025420 | DATA | '025420 | 244,245 53,20 |
| 0060 | 00055 | 00010014 | DATA | '010014 | 246,247 20,14 |
| 0061 | 00056 | 00016074 | DATA | '016074 | 250,251 34,74 |
| 0062 | 00057 | 00026060 | DATA | '026060 | 252,253 54,60 |
| 0063 | 00060 | 00015440 | DATA | '015440 | 254,255 33,40 |
| 0064 | 00061 | 00035421 | DATA | '035421 | 256,257 73,21 |
| 0065 | 00062 | 00005001 | DATA | '005001 | 260,261 12,01 |
| 0066 | 00063 | 00001003 | DATA | '001003 | 262,263 02,03 |
| 0067 | 00064 | 00002005 | DATA | '002005 | 264,265 04,05 |
| 0068 | 00065 | 00003007 | DATA | '003007 | 266,267 06,07 |
| 0069 | 00066 | 00004011 | DATA | '004011 | 270,271 10,11 |
| 0070 | 00067 | 00006456 | DATA | '006456 | 272,273 15,56 |
| 0071 | 00070 | 00037013 | DATA | '037013 | 274,275 76,13 |
| 0072 | 00071 | 00007072 | DATA | '007072 | 276,277 16,72 |
| 0073 | 00072 | 70400000 | END | | |
| ERRORS | 0000 | 00000 | | | |

REPLACE JPD SE T 13 1967 *B