

## 8 bit to hexadecimal conversion

by ABujok

This is another way to print a 8 bit integer value as a HEX value on a C64 Screen. The given integer must be loaded into the accu before calling the routine.

; Example:

```
lda #$3F      ; load accu immediate with $3f or 63
  jsr OUTHEX  ; print $3F
  rts        ; bye
```

; Syntax for DASM

BSOUT = \$ffd2 ; Print character in accu

;\*\*\*\*\*

; print Akku hex value

;\*\*\*\*\*

```
OUTHEX tax      ; save value for low nibble
  and #$f0     ; High nibble
  clc          ; clear carry
  ror          ; rotate one bit right
  ror          ; rotate one bit right
  ror          ; rotate one bit right
  ror          ; rotate one bit right
  jsr NIB2HEX  ; print nibble
  txa          ; restore value
  and #$0f     ; Low nibble
  jsr NIB2HEX  ; print nibble
  rts
```

;\*\*\*\*\*

\* Akku low Nibble to Hex

;\*\*\*\*\*

```
NIB2HEX cmp #$0a ; Accu >= 10?
  bcs HEX       ; Yes
DIGIT  clc      ; Accu < 10
  adc #$30     ; Accu + $30
  jmp OUT      ; print
HEX  clc      ;
  adc #$37     ; Accu + $37
OUT  jmp BSOUT ; Print Accu (HEX nibble) and bye
```

Slight optimization:

;\*\*\*\*\*

; print Akku hex value

```
;*****  
OUTHEX tax      ; save value for low nibble  
      lsr      ; ignore CARRY and shift hi nybble to lonybble pos.  
      lsr      ;  
      lsr      ;  
      lsr      ;  
      jsr NIB2HEX ; print nibble  
      txa      ; restore value  
      and #$0f  ; Low nibble  
      jsr NIB2HEX ; print nibble  
      rts  
  
;*****  
;* Akku low Nibble to Hex  
;*****  
NIB2HEX cmp #$0a ; Accu >= 10?  
      bcs HEX    ; Yes  
      adc #$30   ; Accu < 10  
      jmp BSOUT  ; Print #$30 - #39  
HEX adc #$36    ; Accu >= 10, subtract #$09 to get "A" to "F" (CARRY always  
set here)  
      jmp BSOUT  ; Print Accu (HEX nibble) and bye
```

From: <https://codebase64.org/> - Codebase 64 wiki

Permanent link: [https://codebase64.org/doku.php?id=base:8\\_bit\\_to\\_hexadecimal\\_conversion&rev=1503181059](https://codebase64.org/doku.php?id=base:8_bit_to_hexadecimal_conversion&rev=1503181059)

Last update: 2017-08-20 00:17

