

This code show how to reuse the same sprite for displaying a starfield.

For each star the following properties are reserved:

- y position byte
- x position byte
- colour byte
- x high byte (for pos > \$ff)
- speed

Since sprite can be reused after \$15 lines from the previous one, we take care to set the correct Y value distance between each star

The code can be assembled using native Turbo Assembler for C64 (use {E command to import SEQ file)

```

    *= $1000

    JSR $E544 ; CLEAR SCREEN

NUMSTARS = 10 ;MIN 1 MAX 10

    SEI      ; DISABLE INT

    LDA #$00
    CMP $D012
    BNE *-3

    STA $D020 ; SET BORDER TO 0

    LDA #$80
    STA $07F8 ;SPR POINT 1
    LDA #$01
    STA $D015 ;ENABLE SPR1

    LDA #$01
    STA $D01B ;SPR PRIORITY

MLOOP
    LDX #0
LOOPSTAR
    LDA STARFLD1,X
    CMP $D012
    BNE *-3

    CLC      ; ADD SPACE BETWEEN
    ADC #2   ; CUR RAST AND SPRITE

    STA $D001      ; Y
    LDA STARFLD2,X
    STA $D027      ; SPRITE COLOR1

```

```
    INX
    JSR MOVESTARS

    LDA STARFLD1,X
    STA $D000      ; X
    LDA STARFLD2,X
    STA $D010      ; X HIGH BIT

    INX            ;
    CPX #NUMSTARS*2
    BNE LOOPSTAR

    JMP MLOOP
```

MOVESTARS

```
    LDA STARFLD1,X
    CLC
    ADC STARFLD3,X ; ADD X
    TAY
    STA STARFLD1,X
    BCC CHECKHBIT ; CHECK IF 0
    LDA #$01      ; SET X HI BIT
    STA STARFLD2,X
    RTS
```

CHECKHBIT

```
    LDA STARFLD2,X ; CHECK X HI BIT
    BNE CHECKBORD
    RTS
```

CHECKBORD

```
    CPY #$50 ; CHECK RIGHT BORDER
    BPL RESETPOSX
    RTS
```

RESETPOSX

```
    LDA #0
    STA STARFLD2,X ; RESET X HI BIT
    STA STARFLD1,X ; RESET X

    RTS
```

STARFLD1 ; XX/YY

```
    .WORD $7435,$304A,$745F,$8274
    .WORD $3389,$E79E,$A5B4,$41C9
    .WORD $21DE,$82F4
```

STARFLD2 ; X HI BIT/ COLOUR

```
    .WORD $0B,$010C,$0F,$0C
    .WORD $0B,$0C,$0B,$010C
    .WORD $010F,$0C
```

```
STARFLD3 ; STAR SPEED / UNUSED
        .WORD $0100,$0200,$0300,$0200
        .WORD $0100,$0200,$0100,$0200
        .WORD $0300,$0100

SPR1DATA
        *= $2000
        .BYTE $80
```

From:

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

Permanent link:

<https://codebase64.org/doku.php?id=base:starfield>

Last update: **2019-01-22 16:14**

