Programming for 8-bit Commodore systems using a modern IDE

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While you can still program directly on the original hardware, it sure is nice to have the conveniences of a development environment running on a modern PC. Let's use **CBM PRG Studio** to write BASIC and ML programs for our favorite 8-bit Commodore machines.

About Byron…

Healdton Oklahoma

(population 2,861)

Halfway between everything

That's not me in this picture,

But it happened just like this…

https://external-preview.redd.it/RhfX_IN3oP7orhnRfmOp5XIggMxKjhLGkjnnxhEFMCw.jpg?auto=webp&s=0a86b190e649b0cd2ab130b1c3d36f3b916f0ab6

GREEN TREE

EDGEWATER TECHNOLOGY

Manhattan Toy

USAble Life

Empire BlueCross

WINSTON BENEFITS

MERCK

icms®

MARTEN

usbank

STRATOSPHERE

GRAND CASINO

I was PAID to USE

- DBase IV
- C++
- Borland Pascal
- Borland Delphi
- Visual Basic
- Microsoft Access VBA
- RPG
- COBOL
- Java
- Microsoft ASP
- JavaScript
- VB.NET / ASP.NET
- TSQL
- Microsoft C#
- Allaire ColdFusion
- PHP on LAMP

I learned for FREE

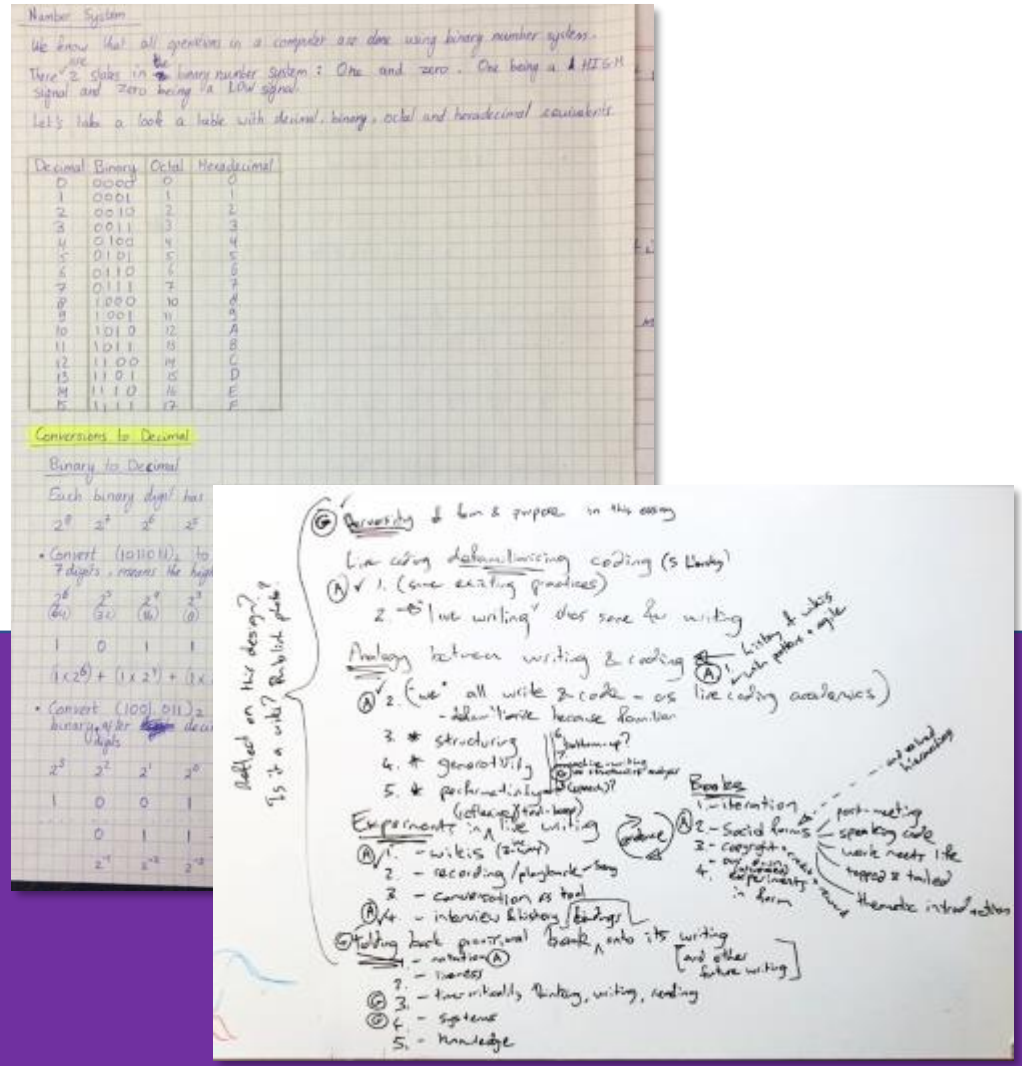
- BASIC
- HyperTalk
- Pilot
- Turbo Pascal
- 8086 Assembly
- 6502 Assembly
- Fortran
- LISP
- Ada
- Clarion
- Perl
- Python
- Ruby

It’s hard to visualize code inside 40 columns and 25 rows

```
60 PRINT"****** ******"
65 PRINT"7 OR 11 WINS":PRINT"3, 6, OR 12
 LOSES"
67 FORTD=1TO1000:NEXT
70 DI=D1+D2:IFDI=7ORDI=11THEN90
75 IFDI=3ORDI=6ORDI=12THEN110
80 PRINT:PRINT"NO WINNING COMBINATION, T
RY AGAIN."
85 FORTD=1TO1500:NEXTTD:PRINTCHR$(147):G
OTO30
90 FORTD=1TO100:NEXT:PRINTCHR$(147)
95 FORP=1TO10:PRINT"  YOU WON !!!!",:NEX
T
100 PRINT:PRINT"YOU WON $"BT:MN=MN+BT
105 FORTD=1TO1000:NEXT:PRINTCHR$(147):GO
TO20
110 PRINTCHR$(147);"TOO BAD,"
115 PRINT"YOU LOST $"BT
120 IFMN-BT<=0THEN130
125 MN=MN-BT:FORTD=1TO1000:NEXT:PRINTCHR
$(147):GOTO20
130 PRINT"YOU RAN OUT OF MONEY !!!!!!"
135 END
READY.
```

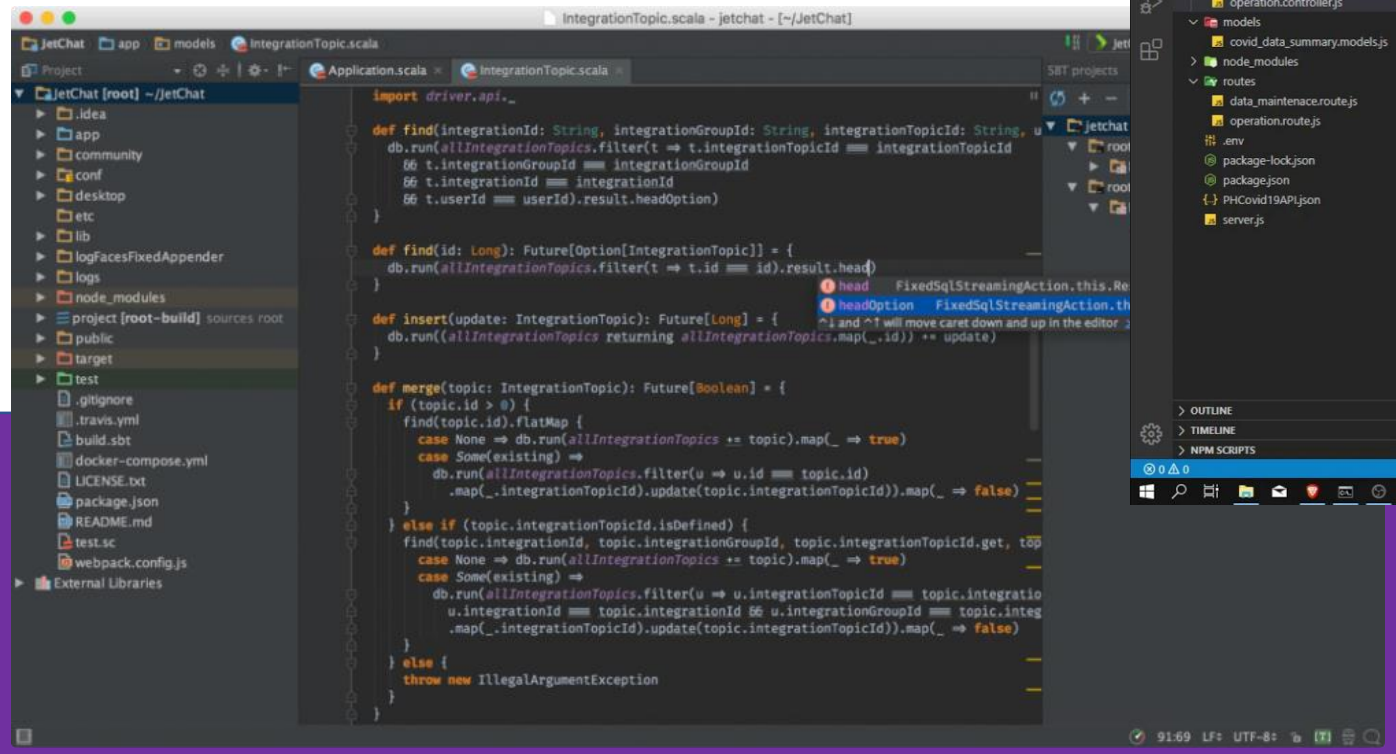
An incredible 320 X 200 pixels!

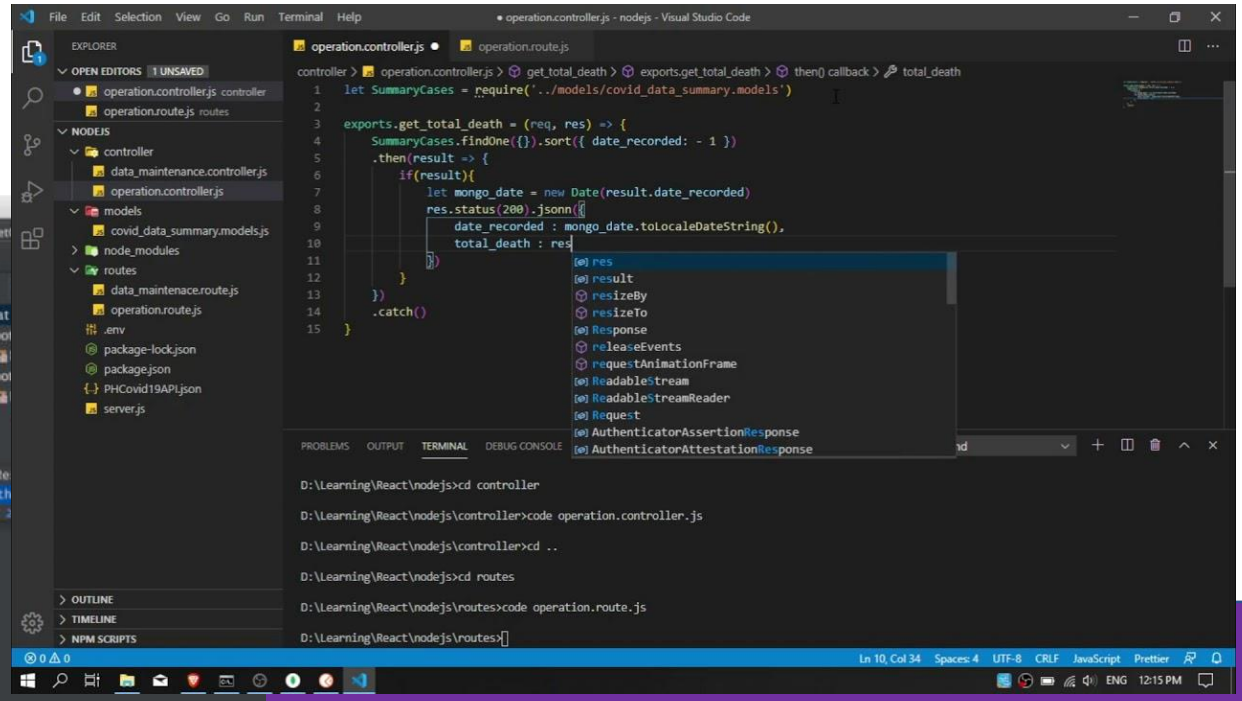
You have to keep a lot of notes…



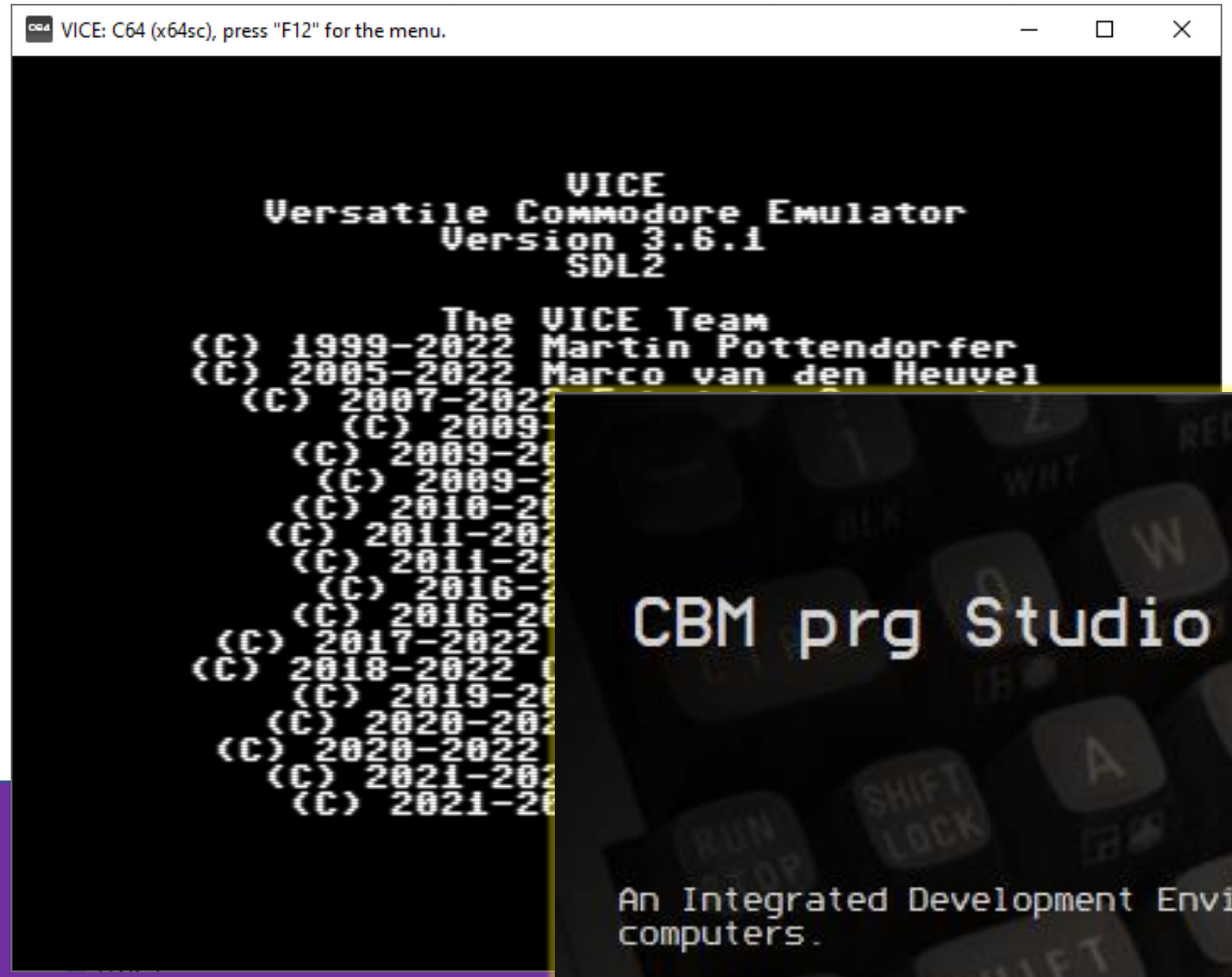
Modern PCs and Development Environments

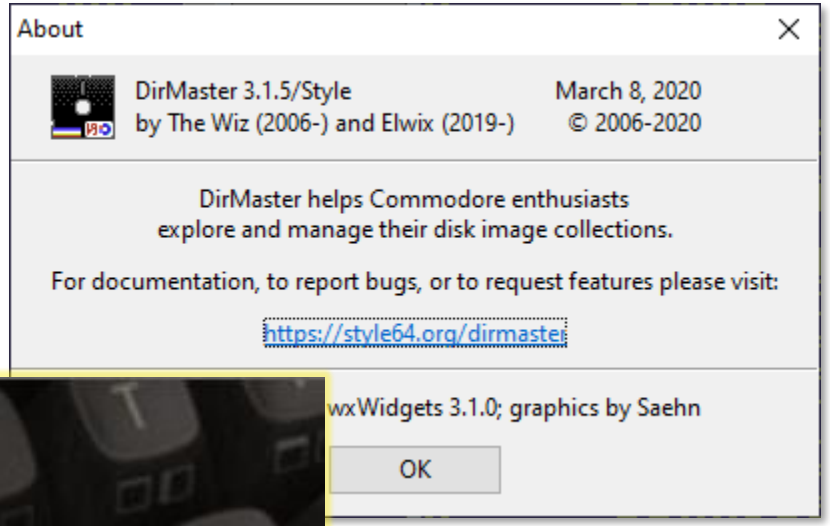
Ridiculous amount of screen space……





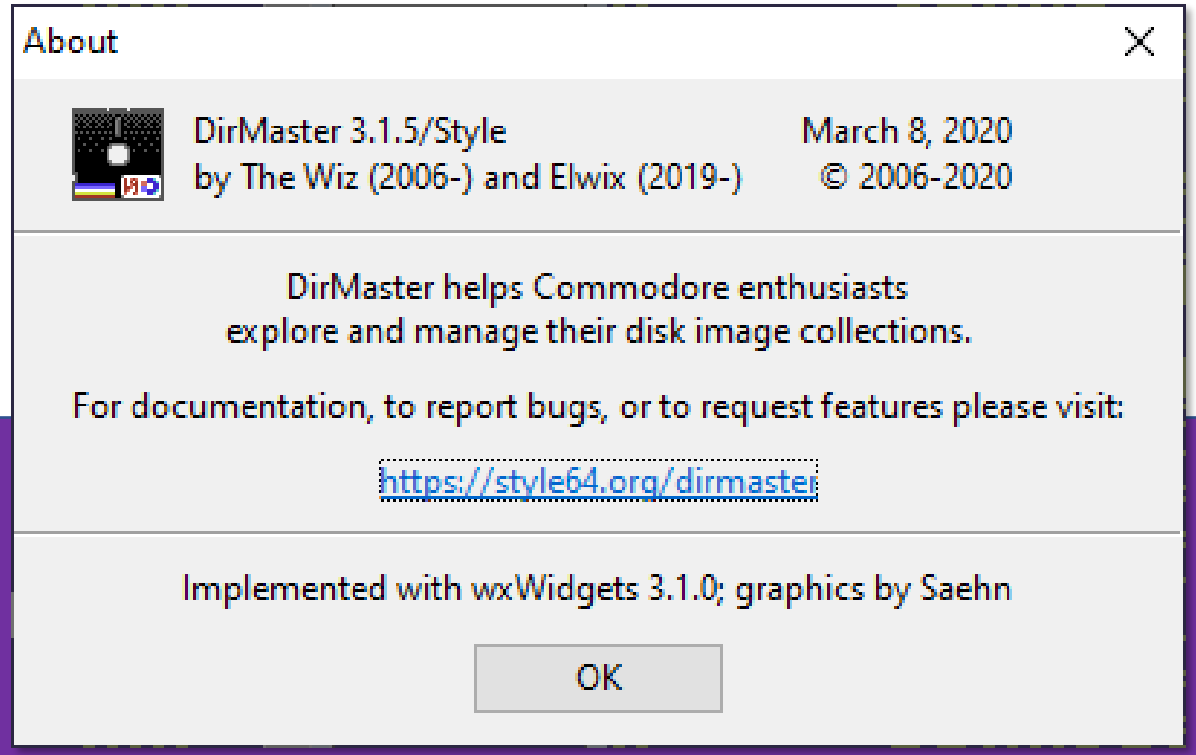
Easily 60 rows and 120 columns (or more for young eyes)





Tools for using a Windows PC for 8-bit Work

https://style64.org/dirmaster
TheWiz and Elwix



- First Released 2006
- Freeware
- View Disk Contents
- Copy, Delete, Move Files
- Add Separators
- Support all sorts of CBM Disk and Tape formats

https://www.ajordison.co.uk
Arthur Jordison

- First Released 2011
- Freeware
- Not Open Source
- Built on Microsoft.NET Framework
- Support for all Commodore 8-bit Machines

Why Use CBM PRG Studio?

- Git integration
- Sprite Editor
- Character Editor
- Screen Designer
- SID tool
- Screen Code Builder
- Memory Viewer
- Assembler/Disassembler

- Program Import/Export
- Code Formatting
- Renumbering Tool
- Auto Code Formatting
- BASIC Constants
- Renumbering
- Multiple Source Files
- MDI Interface

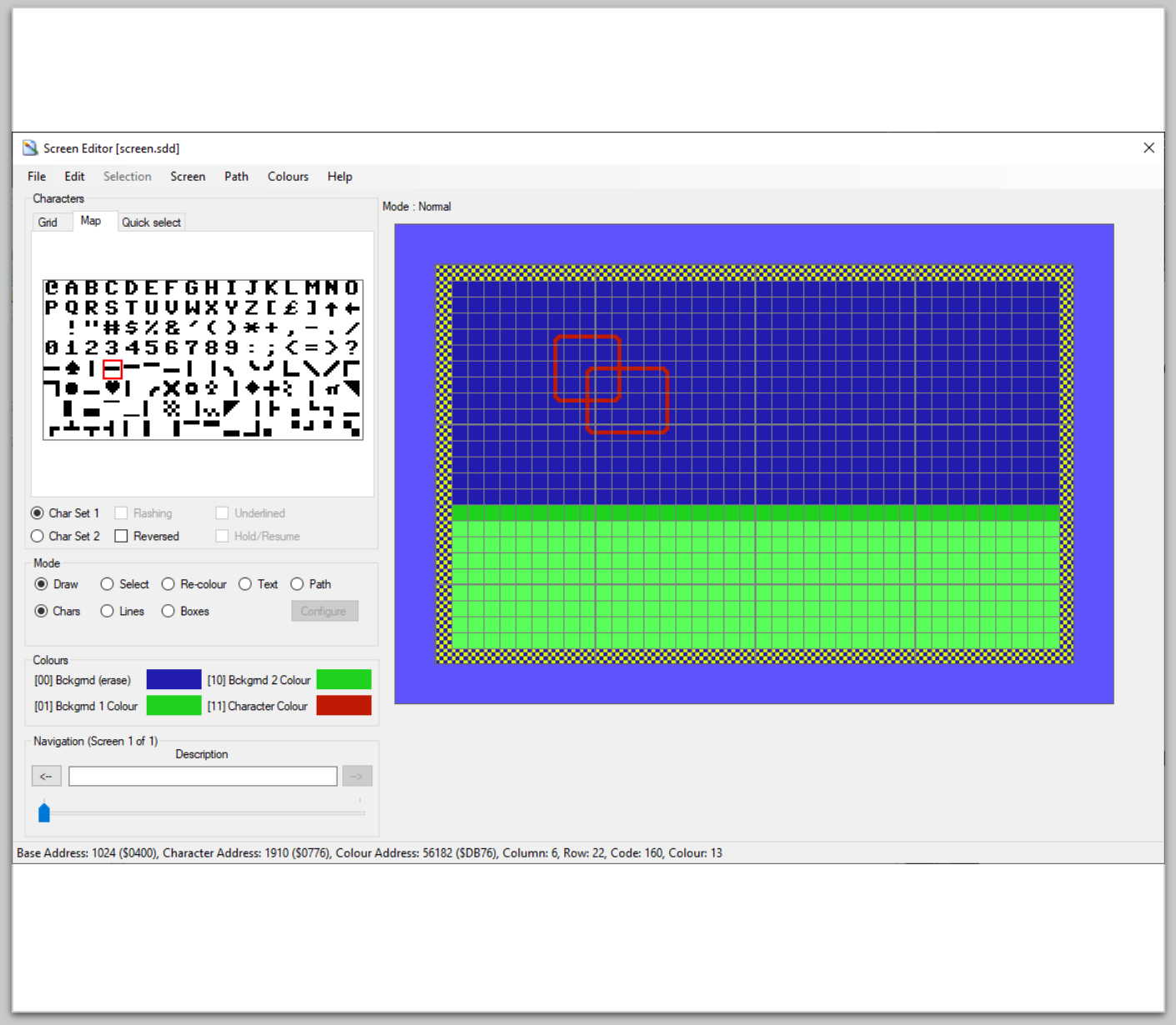
Code Editor Features

- Auto Numbering
- Auto Complete
- Closing Quotes and Parenthesis
- White space
- Block Comment / Indent
- Listing Comments / Comment Blocks
- Regions
- Screen Code Builder
- Renumbering tool
- Multiple Files

```
5 rem BASIC test program
10 print chr$(147)
15 print "{white}"
20 print "hello vcf west"
30 print

#region !- waiting to press a key
50   print "press <any key> to continue"
60   get a$: if a$ = "" then 60
70   print "{clear}"
#endregion#endregion

!-======================
!-Print some characters
!-======================
100 for i = 65 to 80
105     print tab(-64+i);
110     print chr$(i)
120 next i

130 end
```

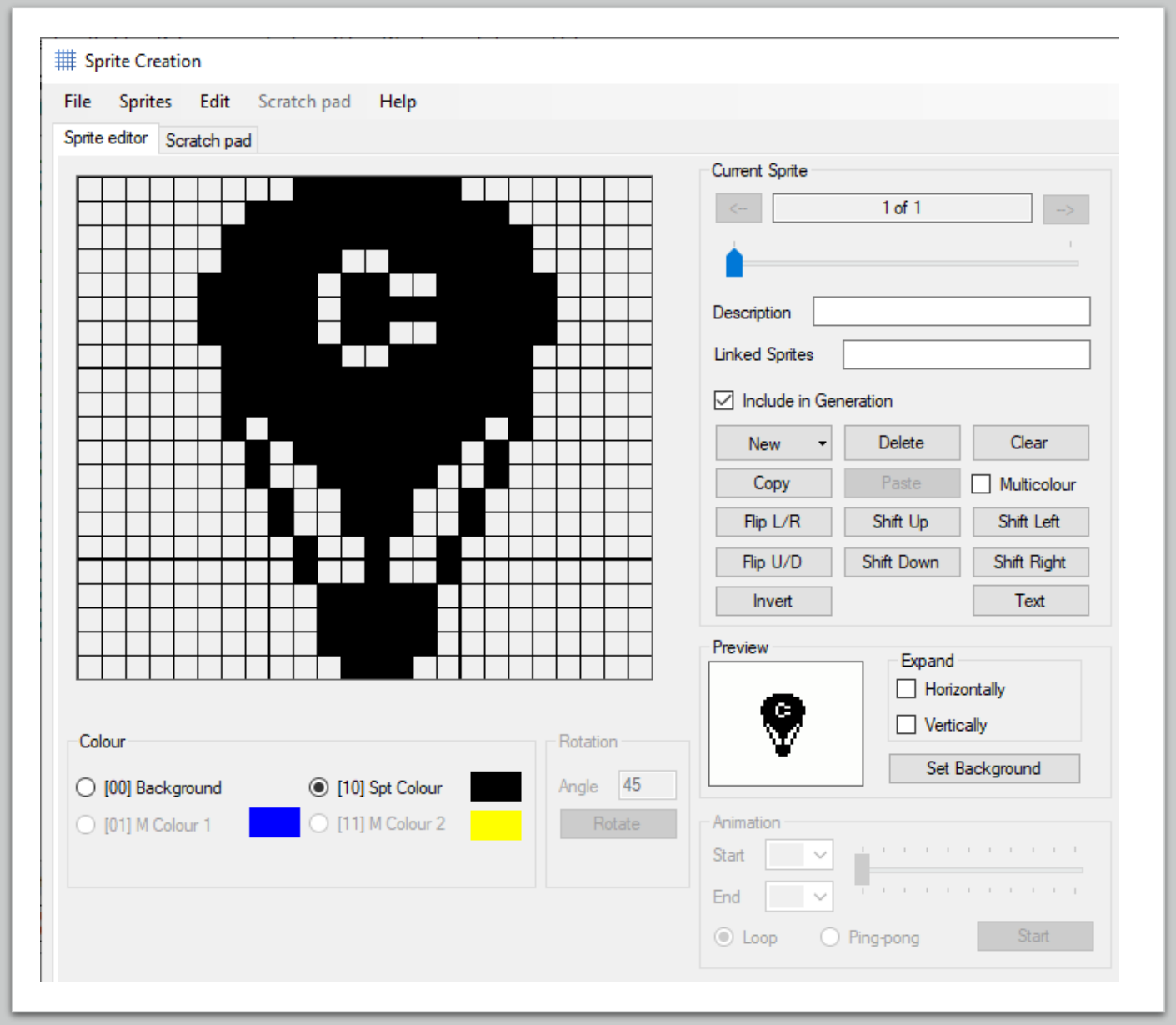
Screen Editor Features

- Draw Mode
- Background / Character Colors
- Line and Box Mode
- Text Mode
- Grid / Map / Quick Select
- Export to Code



Sprite Editor Features

- Import From Source
- Flip Left / Right
- Flip Up / Down
- Shift Left / Right
- Shift Up / Down
- Scratch Pad
- Export To Source



Assembly Features

- 3-pass Assembler
- Labels
- Variables
- Conditionals
- Macros
- Generate a BASIC Loader
- Generate SYS Call

```
1
2  *=$0810
3
4  clear    JSR      $E544
5
6  start    LDA      #02
7           STA      $d020
8           STA      53281
9
10
11          LDX      #65      ; ASCII A
12
13 LOOP     TXA
14          JSR      $E716
15          INX
16          CPX      #91
17          BNE      LOOP
18
19 exit      RTS
```

What did we See? What's Left?

- Git integration
- Sprite Editor
- Character Editor
- Screen Designer
- SID tool
- Screen Code Builder
- Memory Viewer
- Assembler/Disassembler

- Program Import/Export
- Code Formatting
- Renumbering Tool
- Auto Code Formatting
- BASIC Constants
- Renumbering
- Multiple Source Files
- MDI Interface

Next Steps on Your Journey

DOWNLOAD THE TOOLS

CHECK OUT THE HELP FILE

CHECK OUT THE VIDEOS FROM OLDSKOOLCODER

EXPERIMENT AND

HAVE FUN

Thank You for Listening

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