# C64 Debugger debug symbols integration specs

*This is early draft*

### Debug symbols file format

With debug symbol the C64 Debugger can display source code in-line together with disassembled code. Debug symbols map an address with source code file line.

With compiled file \*.PRG there should be a debug symbols file located in the same path and with the same file name plus debug file extension. For example:

MYCODE.PRG - executable code file

MYCODE.DBG - debug symbols file

NOTE: What file name extension shall we use for debug symbols?

* **\*.DBG - simple, but could clash with other, unknown tools**

Other notes:

* ~~File format structure can be a JSON file type or simple approach - TBD~~
* Integer values can be in decimal or hex if in format starting with $, for example $080D

File format structure contains:

1. A target file name / path
2. Array of source file identifiers
3. Array of memory cells mapped to interval lines and columns in one of source files

File structure based on example on next pages.

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#### File format structure:

# is a comment

# target file name / path

PRG=/home/user/MYCODE.PRG

# optional MD5 hash

PRGHASH=<md5 hash of PRG file>

# files identifiers

# <integer: file id>, <string: file source path> [,]

SOURCES={

0, /home/user/path-file-0.asm~~, <md5 hash>,~~

1, /home/user/path-file-1.asm~~, <md5 hash>,~~

2, /home/user/path-file-2.asm~~, <md5 hash>~~

}

# memory map:

# <integer: start memory address>,

# <integer: end memory address inclusive>,

# <integer: file identifier>,

# <integer: start line>,

# <integer: start column>,

# <integer: end line inclusive>,

# <integer: end column inclusive>

$080D,$080F,0,25,0,25,0 # file 0, whole line 25

$0810,$0811,1,3,0,3,6 # file 1, line 3, column 0-6

$0812,$0814,1,3,7,3,12 # file 1, line 3, column 7-12

$0815,$0817,2,0,0,1,7 # file 2, whole line 0 and 1 (col. 0-7)

# <EOF>

#### 

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#### ~~Alternative HJSON file format structure~~ (not implemented yet):

{

“Target”: “/home/user/MYCODE.PRG”,

“Files”:

[

{ “FileId”: “0”, “Path”: “/home/user/path-file-0.asm” },

{ “FileId”: “1”, “Path”: “/home/user/path-file-1.asm” },

{ “FileId”: “2”, “Path”: “/home/user/path-file-2.asm” }

],

“MemoryMap”:

[

{

“AddrStart”: “$080D”,

“AddrEnd”: “$080F”,

“FileId”: “0”,

“StartLine”: “25”,

“StartColumn”: “0”,

“EndLine”: “25”,

“EndColumn”: “12”

},

{

“AddrStart”: “$0810”,

“AddrEnd”: “$0811”,

“FileId”: “1”,

“StartLine”: “3”,

“StartColumn”: “0”,

“EndLine”: “3”,

“EndColumn”: “6”

},

{

“AddrStart”: “$0812”,

“AddrEnd”: “$0814”,

“FileId”: “1”,

“StartLine”: “3”,

“StartColumn”: “7”,

“EndLine”: “3”,

“EndColumn”: “12”

},

{

“AddrStart”: “$0815”,

“AddrEnd”: “$0817”,

“FileId”: “2”,

“StartLine”: “0”,

“StartColumn”: “0”,

“EndLine”: “1”,

“EndColumn”: “7”

}

]

}