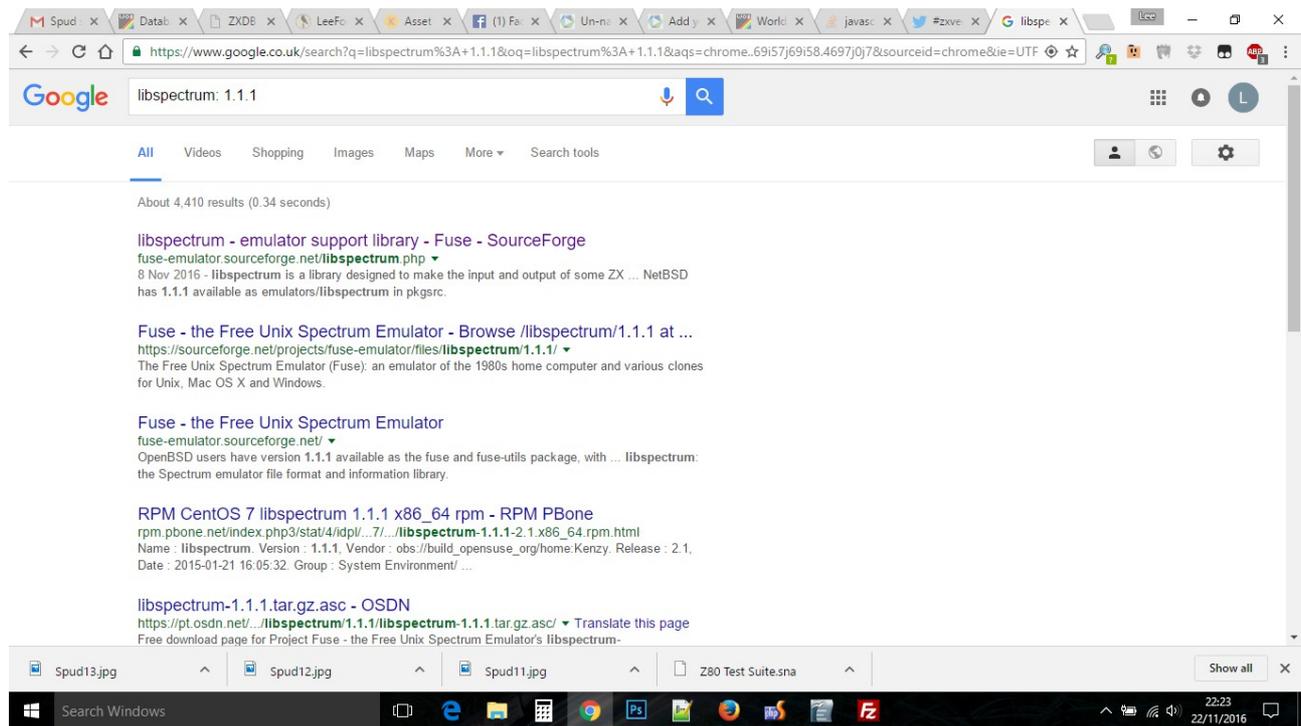


A search on google clearly shows this to be one of the main libraries used by Fuse for various systems.



The first page on google links to the libspectrum documents, and clearly states it is released under the GPL.

This leads me to assume the Vega is running a version of Fuse. So, I will continue under that assumption.

We can also assume that the version of Fuse used is prior to 2017 as this is a long time after the last Vega firmware was released. This is important.

This gets a bit complicated, but bear with me as the importance will be apparent.

The Z80 has a series of 16bit registers that are easily accessible. These can then be split into two 8bit registers. For example, AF can be split into A & F.

There are several that can be used, AF, BC, DE & HL. There are also other registers – index registers (IX, IY), stack pointer (SP), program counter (PC) and the interrupt register (IR).

There is one final register which we are focusing on here (WZ). This is also called MEMPTR, and is used as a temporary holder for instructions. Fuse, prior to 2017, didn't support MEMPTR.

In order to back up my claim, I performed a series of tests. There is a spectrum program that can be executed to perform a series of tests on the Z80 chip on the physical machine. This program is used by emulator authors to perform tests to ensure the accuracy of the emulator. Almost all emulators fail some tests, and all fail differently. For example, EmuZWin fails with the following:-

```
RLC/RRC          : 10AB passed
RL/RR           : E221 passed
SLA/SRA        : DEF9 passed
SLL/SRL        : 5FDD passed
RLD/RRD        : 7997 passed
LD A, I/R       : 220C passed
BIT n, (HL)     : D277 failed
                - expected 6208
BIT n, (IX+d)   : 4AD9 passed
BIT n, (IY+d)   : 3A82 passed
LDI            : 9D4F failed
                - expected 4487
LDD            : B114 failed
                - expected 7F0E
LDIR          : 9ACC passed
LDDR          : CE51 passed
CPI          : 01BA failed
                - expected 55DB
CPD          : 408C failed
                - expected AC82
INI          : F25D passed
IND          : F25D failed

scroll?
```

FUSE for windows (and all other systems) fails 3 specific tests.

```
RLC/RRC          : 10AB Passed
RL/RR           : E221 Passed
SLA/SRA        : DEFA Passed
SLL/SRL        : 5FDD Passed
RLD/RRD        : 7997 Passed
LD A, I/R       : 220C Passed
BIT n, (HL)     : 79D0 failed
                 - expected 6208
BIT n, (IX+d)   : 4AD9 Passed
BIT n, (IY+d)   : 3A82 Passed
LDI             : 4487 Passed
LDD             : 7F0E Passed
LDIR           : 9ACC Passed
LDDR           : CE51 Passed
CPI            : 55DB Passed
CPD            : AC82 Passed
INI            : F25D Passed
IND            : 4A02 Passed
OUTI           : 8B66 Passed
OUTD           : 1156 Passed
DD CB (00-FF)  ROM : D9EB Passed
DD CB (00-FF)  RAM : 90C0 Passed

scroll?
```

```

LDH      : 4487  passed
LDH      : 7F0E  passed
LDHR     : 9A0C  passed
LDHR     : 0E51  passed
CPH      : 55DB  passed
CPH      : A082  passed
INH      : F25D  passed
INH      : 4A02  passed
OUTH     : 8B66  passed
OUTD     : 1156  passed
DD  CB   (00-FF)  ROM : D9EB  passed
DD  CB   (00-FF)  RAM : 90C0  passed
FD  CB   (00-FF)  ROM : D9EB  passed
FD  CB   (00-FF)  RAM : 90C0  passed
CB   (00-FF)      ROM : 4731  passed
CB   (00-FF)      RAM : 15AE  passed
CB   (00-FF)  5+3  ROM : 4BB1  failed
- expected 4D19
CB   (00-FF)  5+3  RAM : 1B1E  failed
- expected 1B66

All tests finished - press a key

```


At this point, I am now convinced that the Vega either runs Fuse, or is extremely similar to Fuse. I would be confident to say as such in court.

However, I have spoken to Philip about this, and he is convinced the emulator isn't Fuse, which throws a different light on the subject. I have asked around for several independent opinions on this, based on the results, and overwhelmingly there is an agreement that this appears to be Fuse in use.

Given what Philip has to say however, I can't say one way or the other whether this is Fuse or not, so if asked in court, I would have to say "inconclusive".

I've deliberately kept this document as non-technical as possible for ease of understanding, however a technical breakdown of terms, and in particular MEMPTR can be provided for independent expert witnesses.