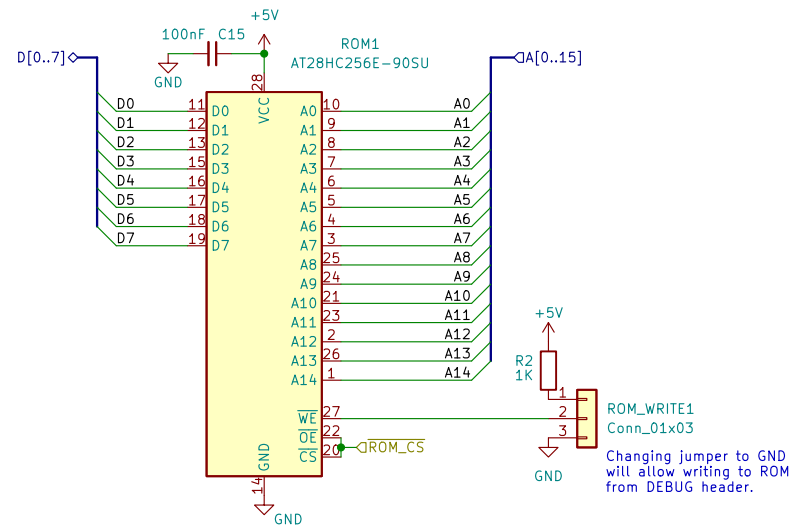
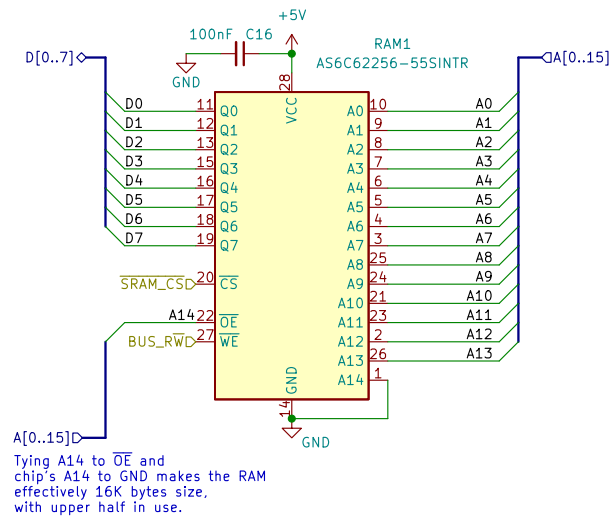




## System Memory

RAM: 0x0000 - 0x3FFF

ROM: 0x8000 - 0xFFFF



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Open Source Hardware Project  
<https://github.com/zrthxn/8puter>  
zrthxn

Sheet: /Memory Unit/  
File: memory.kicad\_sch

### Title: 8puter

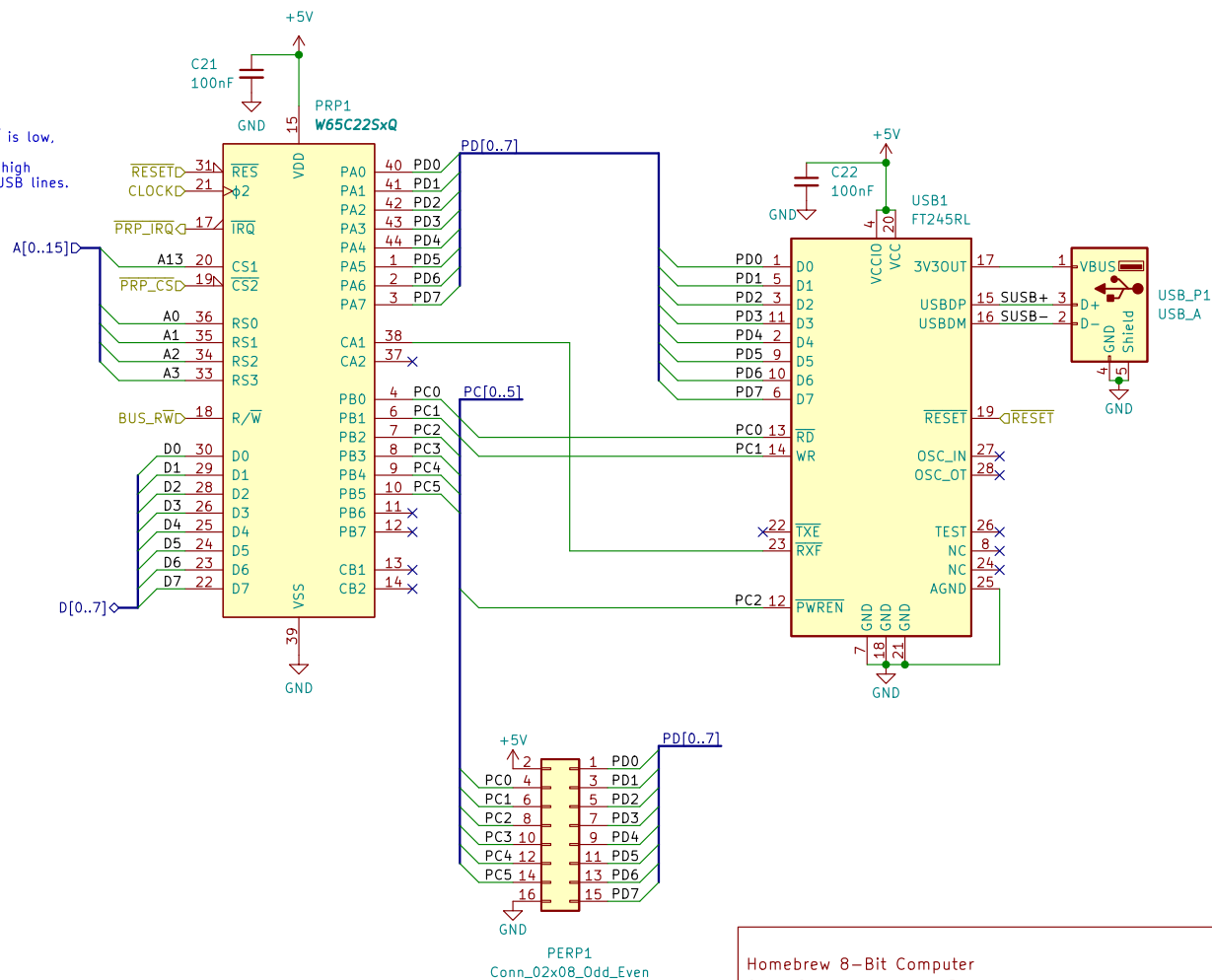
Size: A4 Date:  
KiCad E.D.A. eeschema 6.0.4-1.fc35

Rev: 1.0  
Id: 2/7

0x6000 – 0x600F

Controller's  $\overline{RD}$  (PC0) is set low.  
USB data is shifting onto PORT A.  
Controller pulls  $\overline{RXF}$  low, PORT A is latched  
onto DATA bus and IRQ is set.

When the VIA's both CS are active and  $\text{BUS\_RW}$  is low, it latches DATA bus onto PORT A. On the next clock edge, controller's WR is set high and it starts transmitting from PORT A to the USB lines. Then WR is set low again.



Sheet: /Peripheral Handler/  
File: peripheral.kicad\_sch

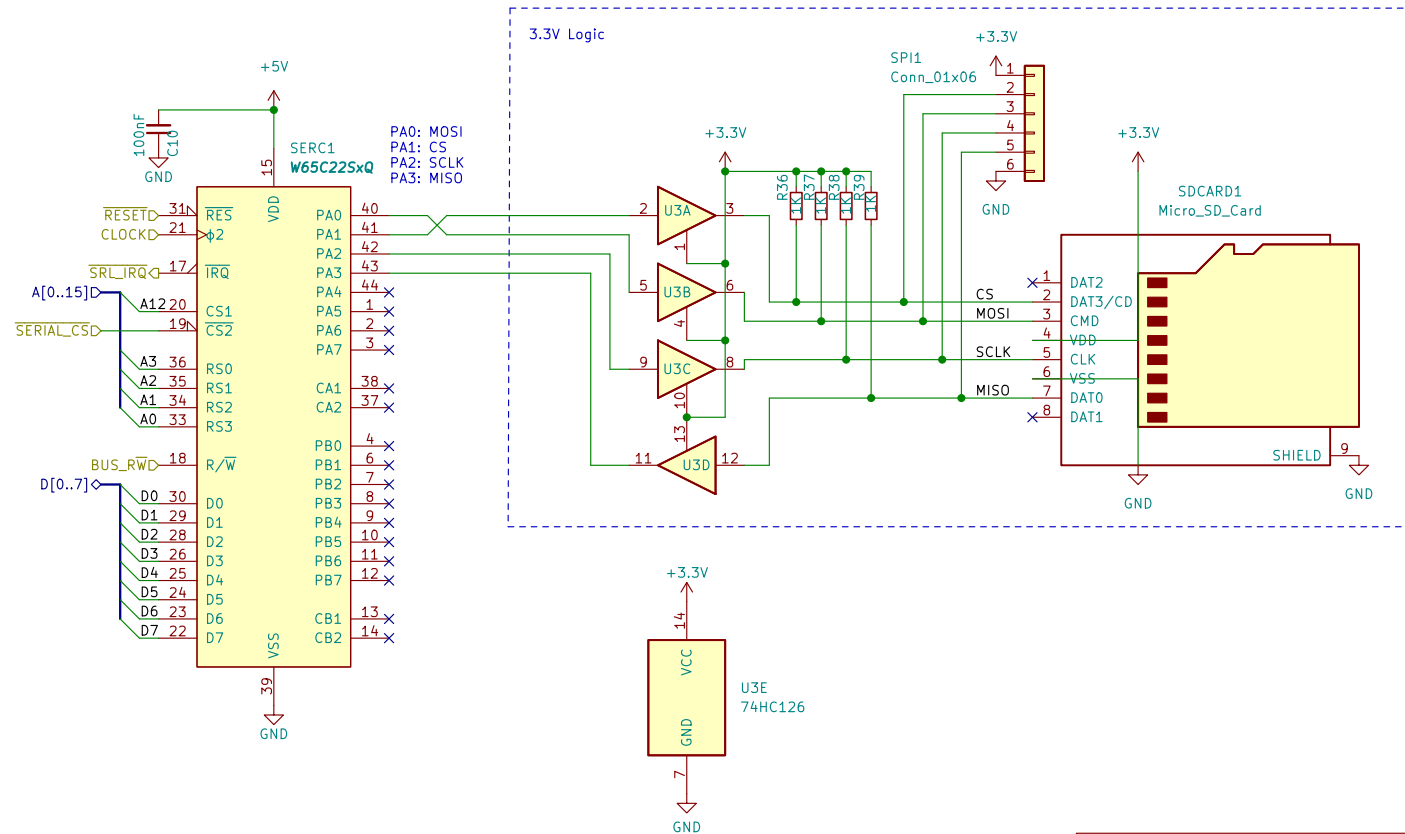
**Title:** 8puter

|                                    |       |
|------------------------------------|-------|
| Size: A4                           | Date: |
| KiCad E.D.A. eeschema 6.0.4-1.fc35 |       |

Rev: 1.0  
Id: 3/7

0x5000 – 0x500F

Serial SPI Interface will be used to interact primarily with SD cards. There is also a SPI Header to allow connecting other devices but only ONE at a time.



Sheet: /Storage/  
File: storage.kicad\_sch

**Title:** 8puter

|                                    |       |
|------------------------------------|-------|
| Size: A4                           | Date: |
| KiCad E.D.A. eeschema 6.0.4-1.fc35 |       |

Rev: 1.0  
Id: 4/7

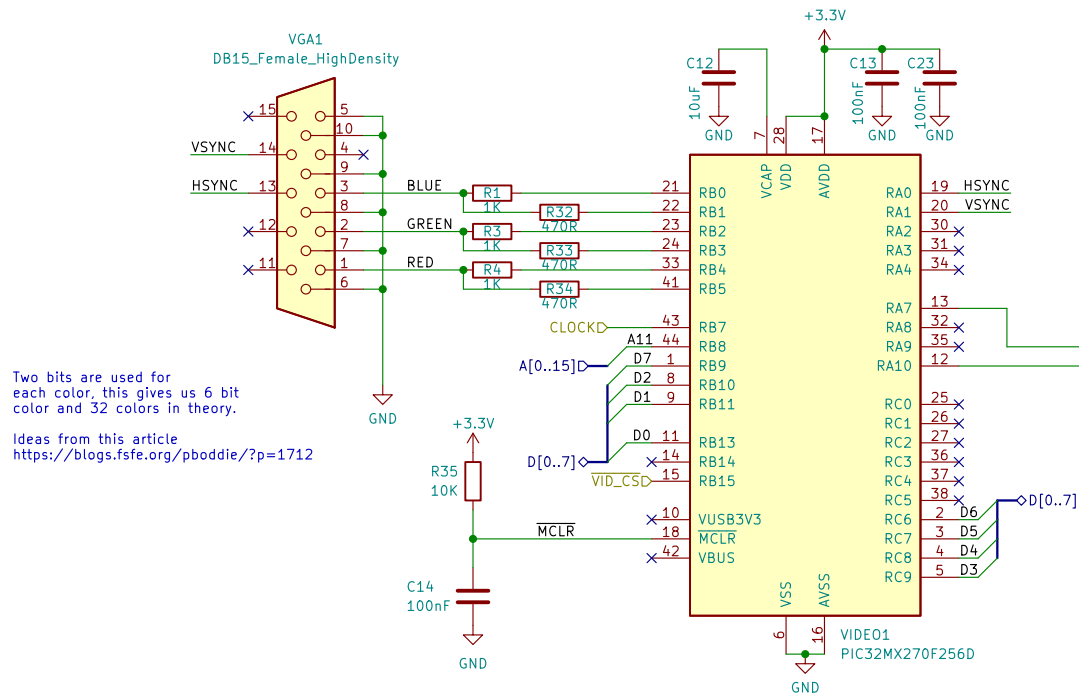
## Video Controller

0x4800 – 0x480F

Video will be generated using a microcontroller which is fast enough to generate the VGA timing signals.

CPU will send a single byte to the MCU which can be a char code or index of glyph, and the MCU just generates the video signal.

This setup is limited in generating graphics but it avoids having to keep a large framebuffer in system memory.



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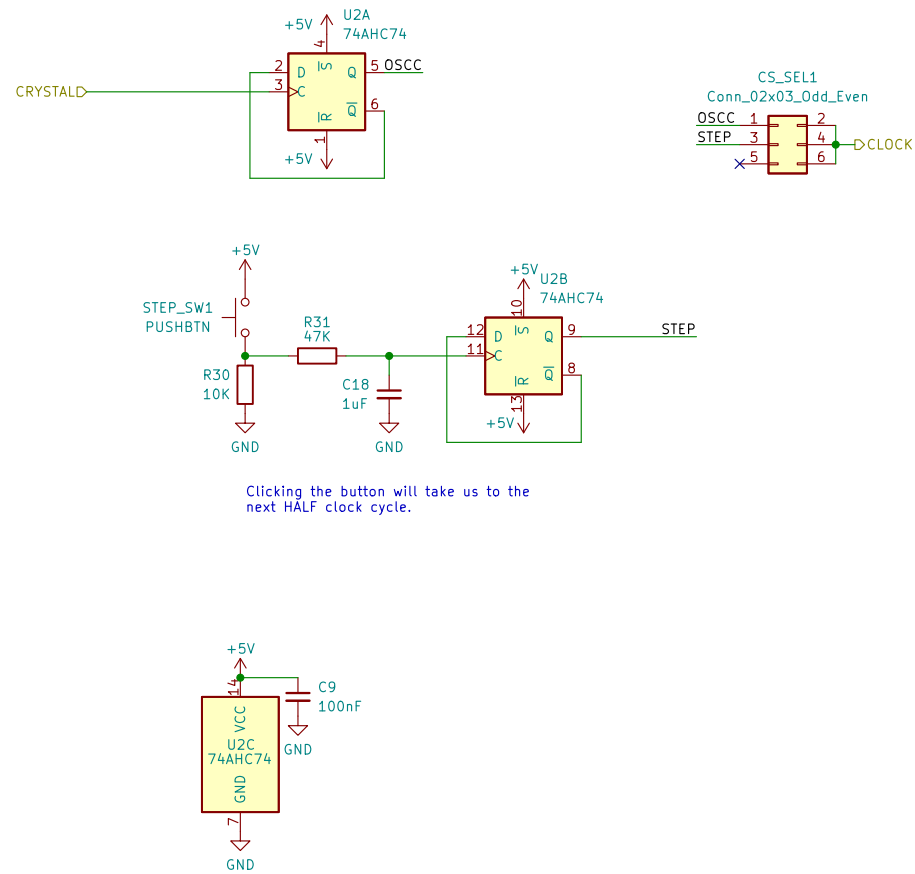
Sheet: /Video/  
 File: video.kicad\_sch

**Title: 8puter**

Size: A4 Date:  
 KiCad E.D.A. eeschema 6.0.4-1.fc35

**Rev: 1.0**  
 Id: 5/7

## Clock Source Select



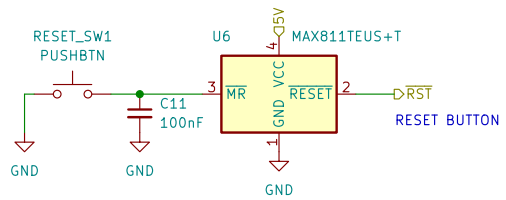
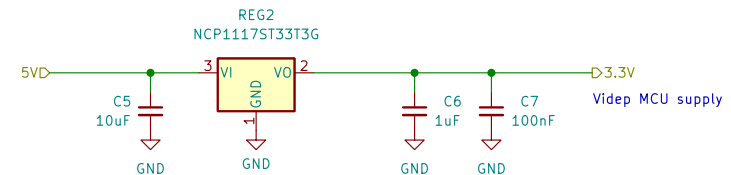
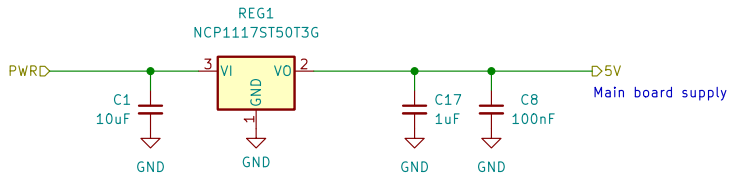
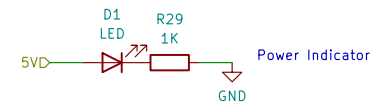
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<https://github.com/zrthxn/8puter>  
**zrthxn**

Sheet: /Clock/  
File: clock.kicad\_sch

**Title: 8puter**

|                                    |       |                 |
|------------------------------------|-------|-----------------|
| Size: A4                           | Date: | <b>Rev: 1.0</b> |
| KiCad E.D.A. eeschema 6.0.4-1.fc35 |       | Id: 6/7         |

Power Delivery



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Sheet: /Power/  
File: power.kicad\_sch

**Title: 8puter**

Size: A4      Date:      KiCad E.D.A.    eeschema 6.0.4-1.fc35

**Rev: 1.0**  
Id: 7/7