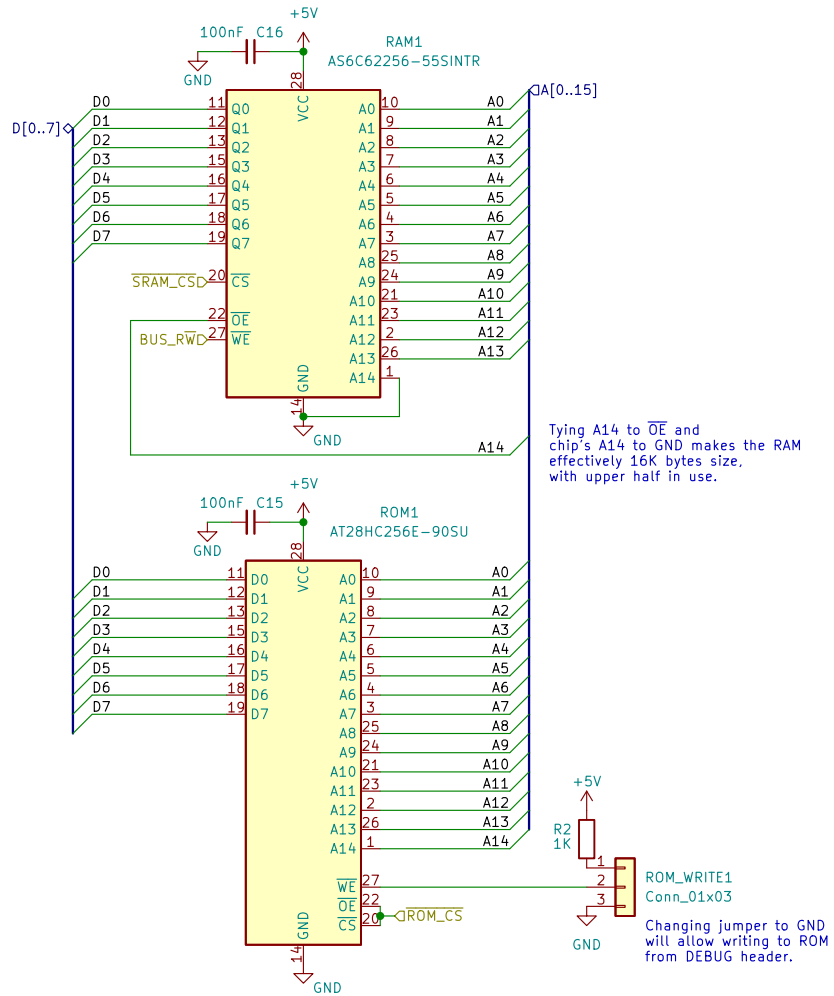


System Memory

RAM: 0x0000 - 0x3FFF

ROM: 0x8000 - 0xFFFF



zrthxn

Sheet: /Memory Unit/
File: memory.kicad_sch

Title: 8puter

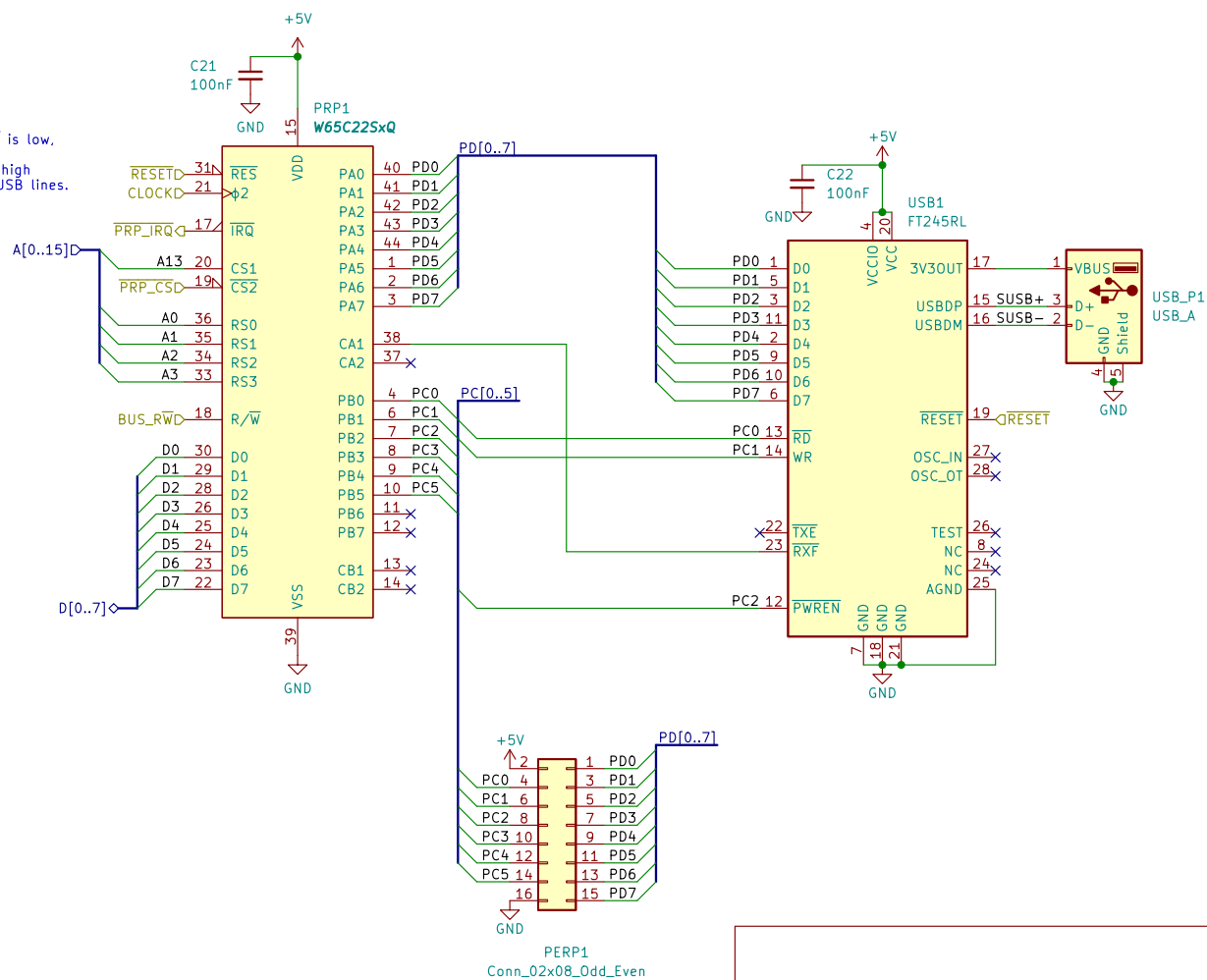
Size: A4 Date: 6.0.4-1.fc35
KiCad E.D.A. eeschema

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 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

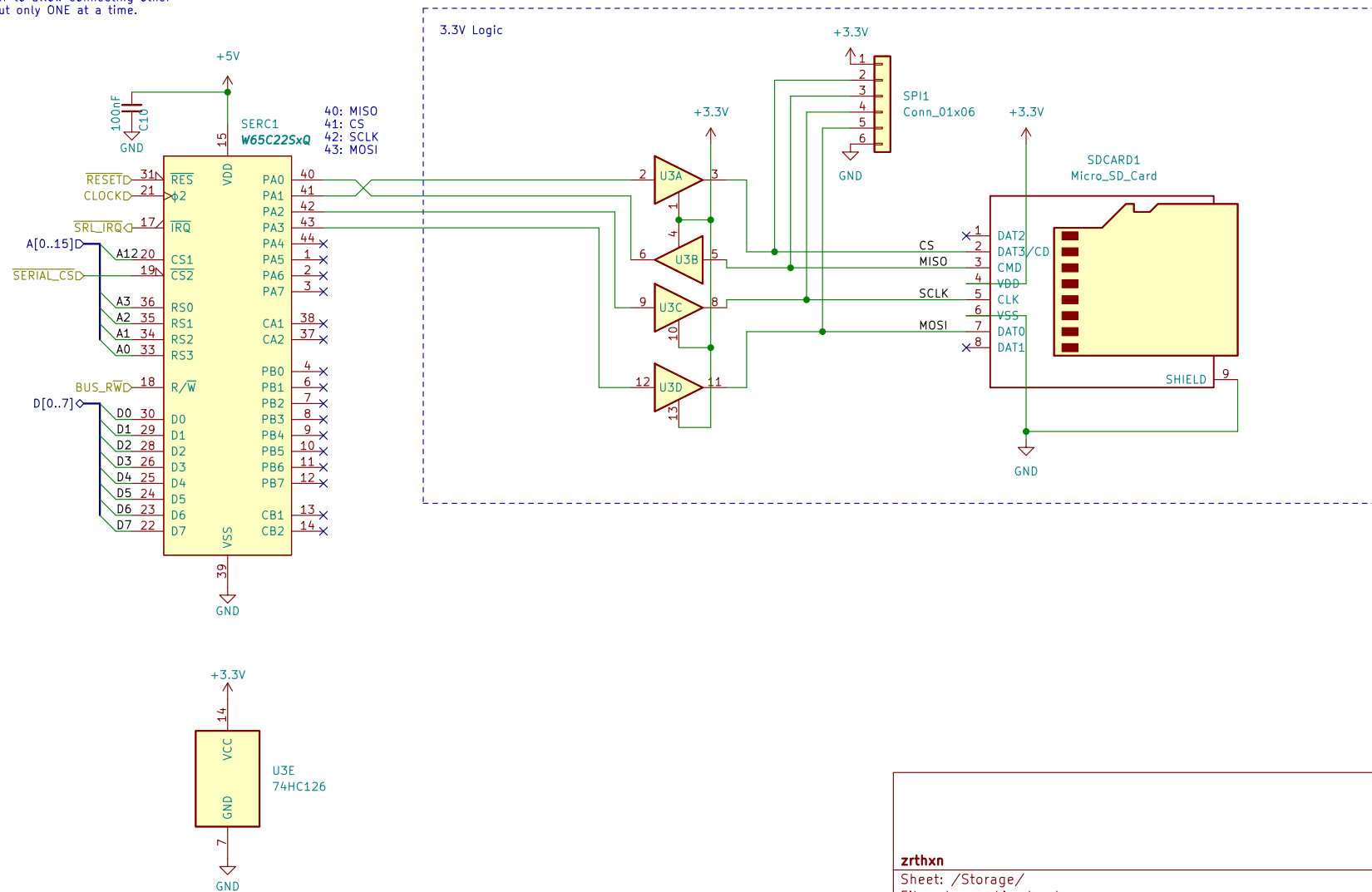
Size: A4	Date:
KiCad E.D.A. eeschema 6.0.4-1.fc35	

Size: A4	Date:	Rev: 1.0
KiCad E.D.A. eeschema 6.0.4-1.fc35		Id: 3/7

SPI SD Card Interface

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.



zrthxn

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

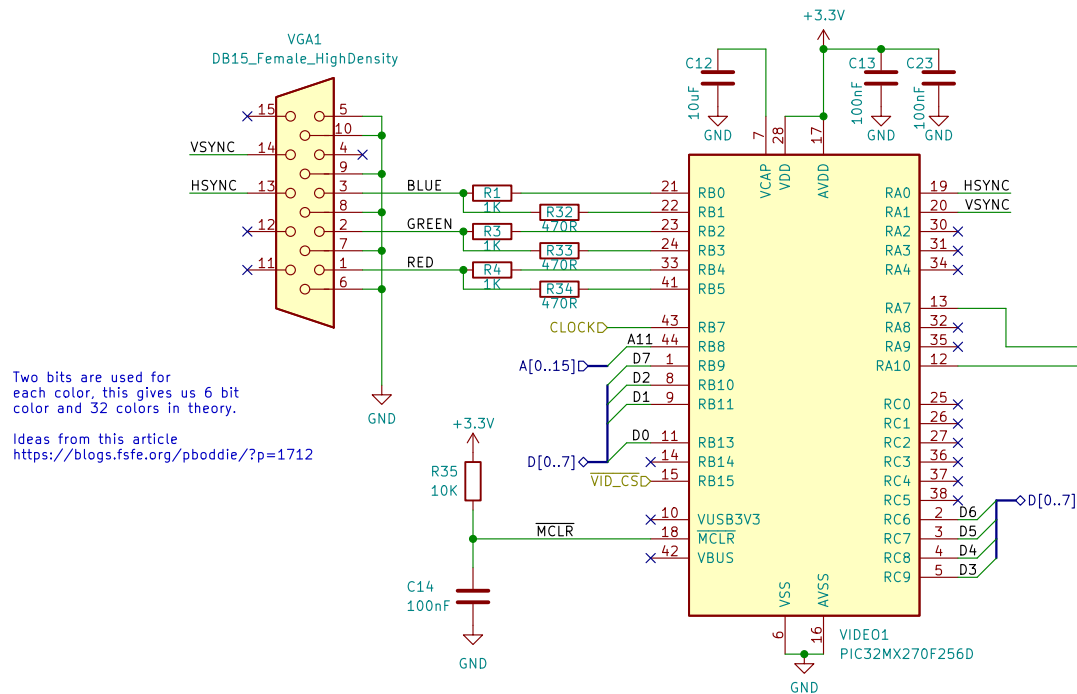
Video Controller

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.



zrthxn

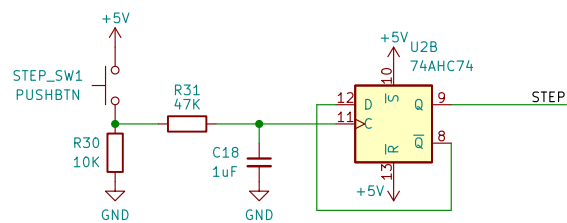
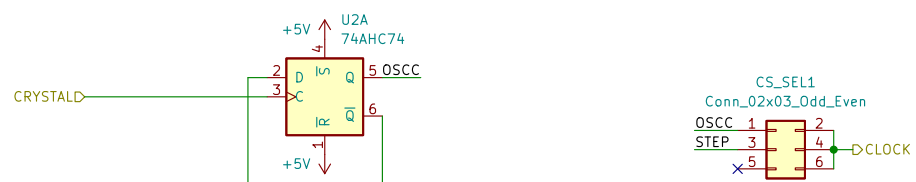
Sheet: /Video/
 File: video.kicad_sch

Title: 8puter

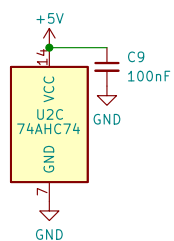
Size: A4 Date:
 KiCad E.D.A. eeschema 6.0.4-1.fc35

Rev: 1.0
 Id: 5/7

Clock Source Select



Clicking the button will take us to the next HALF clock cycle.



zrthxn

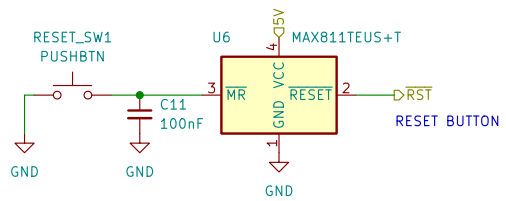
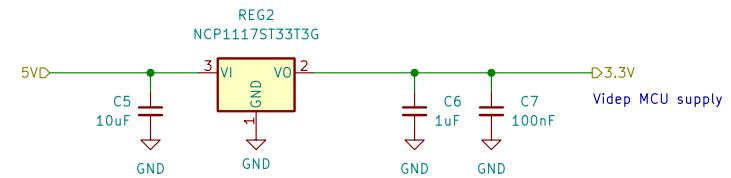
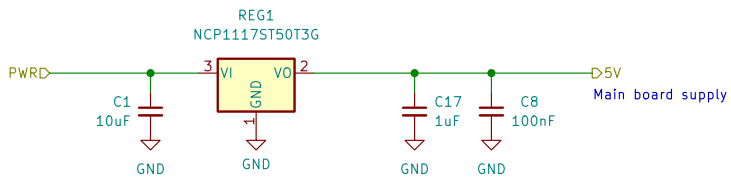
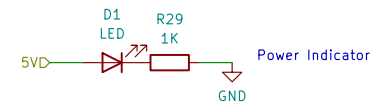
Sheet: /Clock/
File: clock.kicad_sch

Title: 8puter

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

Rev: 1.0
Id: 6/7

Power Delivery



zrthxn	
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	