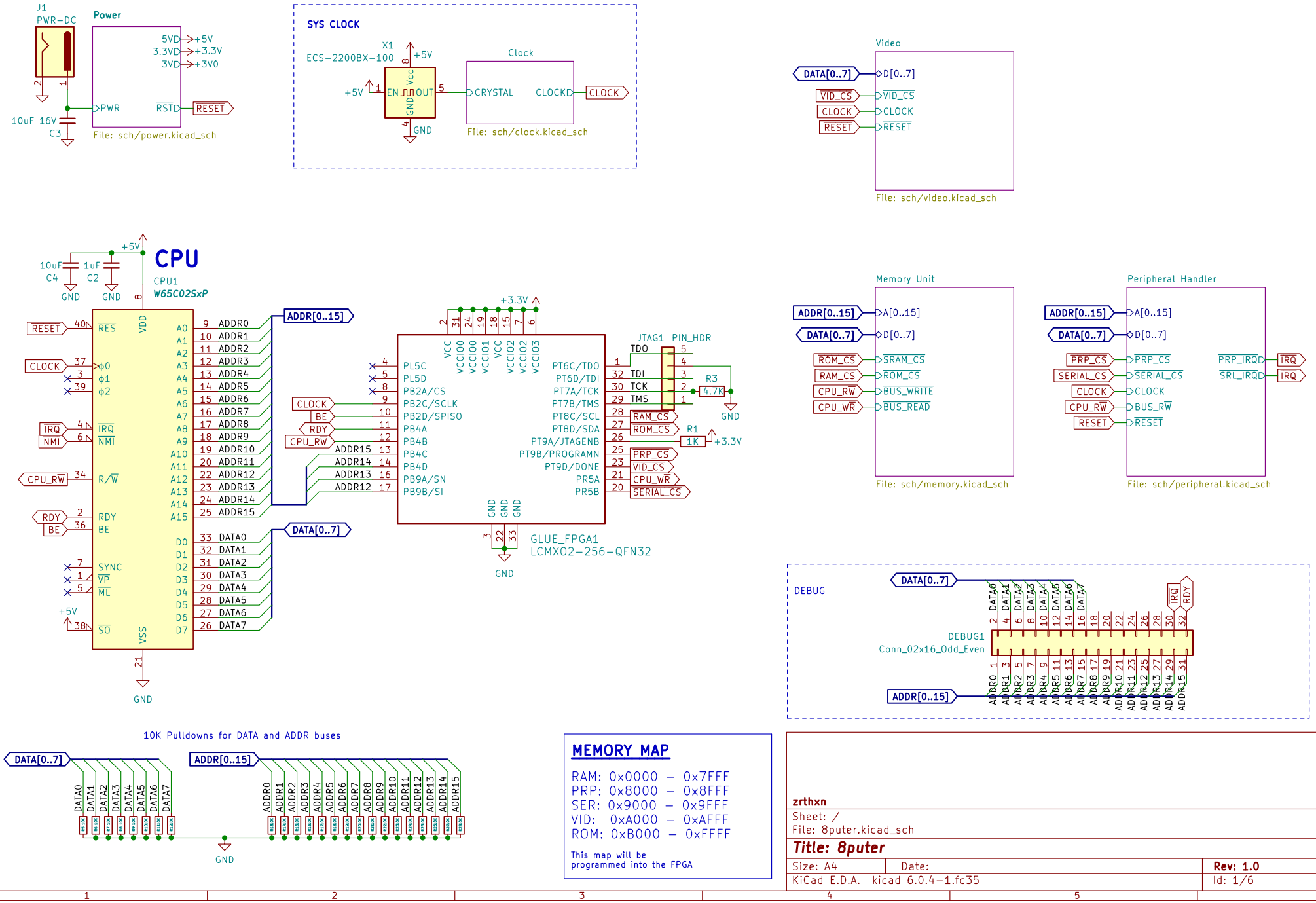
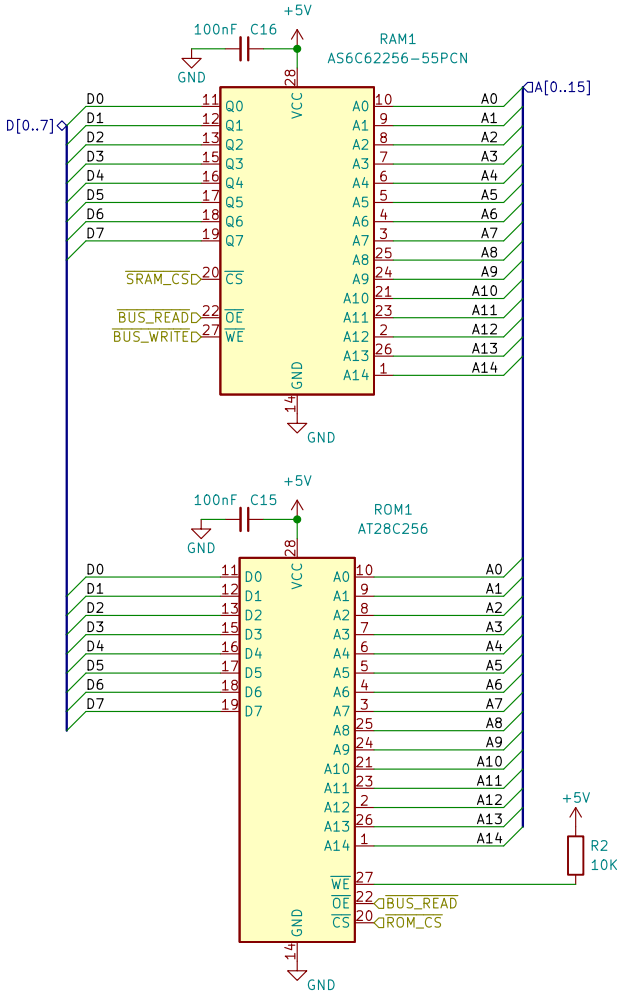

J1
PWR-DC
Power
5VD
3.3VD
3VD
+5V
+3.3V
+3V0
PWR
RST
RESET
10uF 16V
C3
File: sch/power.kicad_sch
SYS CLOCK
X1
ECS-2200BX-100
+5V
Vcc
EN
OUT
GND
Clock
CRYSTAL
CLOCKD
CLOCK
File: sch/clock.kicad_sch
Video
DATA[0..7]
D[0..7]
VID_CS
CLOCK
RESET
File: sch/video.kicad_sch
CPU
CPU1
W65C02SxP
10uF
C4
1uF
C2
GND
RESET
CLOCK
IRQ
NMI
CPU_RW
RDY
BE
SYNC
VP
ML
SO
RES
VDD
VSS
ADDR[0..15]
DATA[0..7]
+3.3V
GLUE_FPGA1
LCMXO2-256-QFN32
JTAG1 PIN_HDR
TDO
TDI
TCK
TMS
R3
4.7K
R1
1K
RAM_CS
ROM_CS
PRP_CS
VID_CS
CPU_WR
SERIAL_CS
Memory Unit
A[0..15]
SRAM_CS
BUS_WRITE
BUS_READ
File: sch/memory.kicad_sch
Peripheral Handler
PRP_IRQ
SRL_IRQ
SERIAL_CS
BUS_RW
File: sch/peripheral.kicad_sch
DEBUG
DEBUG1
Conn_02x16_Odd_Even
10K Pulldowns for DATA and ADDR buses
MEMORY MAP
RAM: 0x0000 - 0x7FFF
PRP: 0x8000 - 0x8FFF
SER: 0x9000 - 0x9FFF
VID: 0xA000 - 0xAFFF
ROM: 0xB000 - 0xFFFF
This map will be programmed into the FPGA
zrthxn
Sheet: /
File: 8puter.kicad_sch
Title: 8puter
Size: A4
Date:
Rev: 1.0
KiCad E.D.A. kicad 6.0.4-1.fc35
Id: 1/6

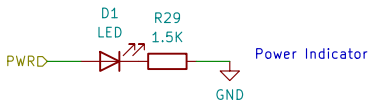
System Memory

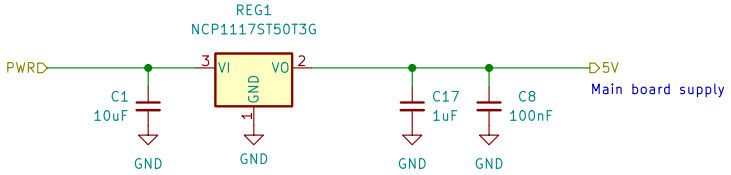


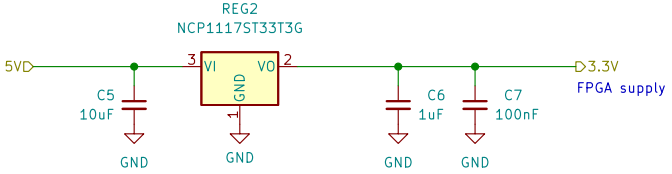
RAM: 0x0000 – 0x7FFF
ROM: 0xB000 – 0xFFFF

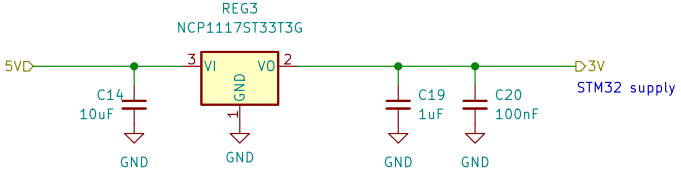
zrthxn		
Sheet: /Memory Unit/ File: memory.kicad_sch		
Title: 8puter		
Size: A4	Date:	**Rev: 1.0**
KiCad E.D.A. kicad 6.0.4-1.fc35		Id: 2/6

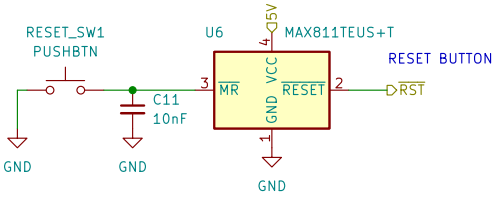
Power Delivery





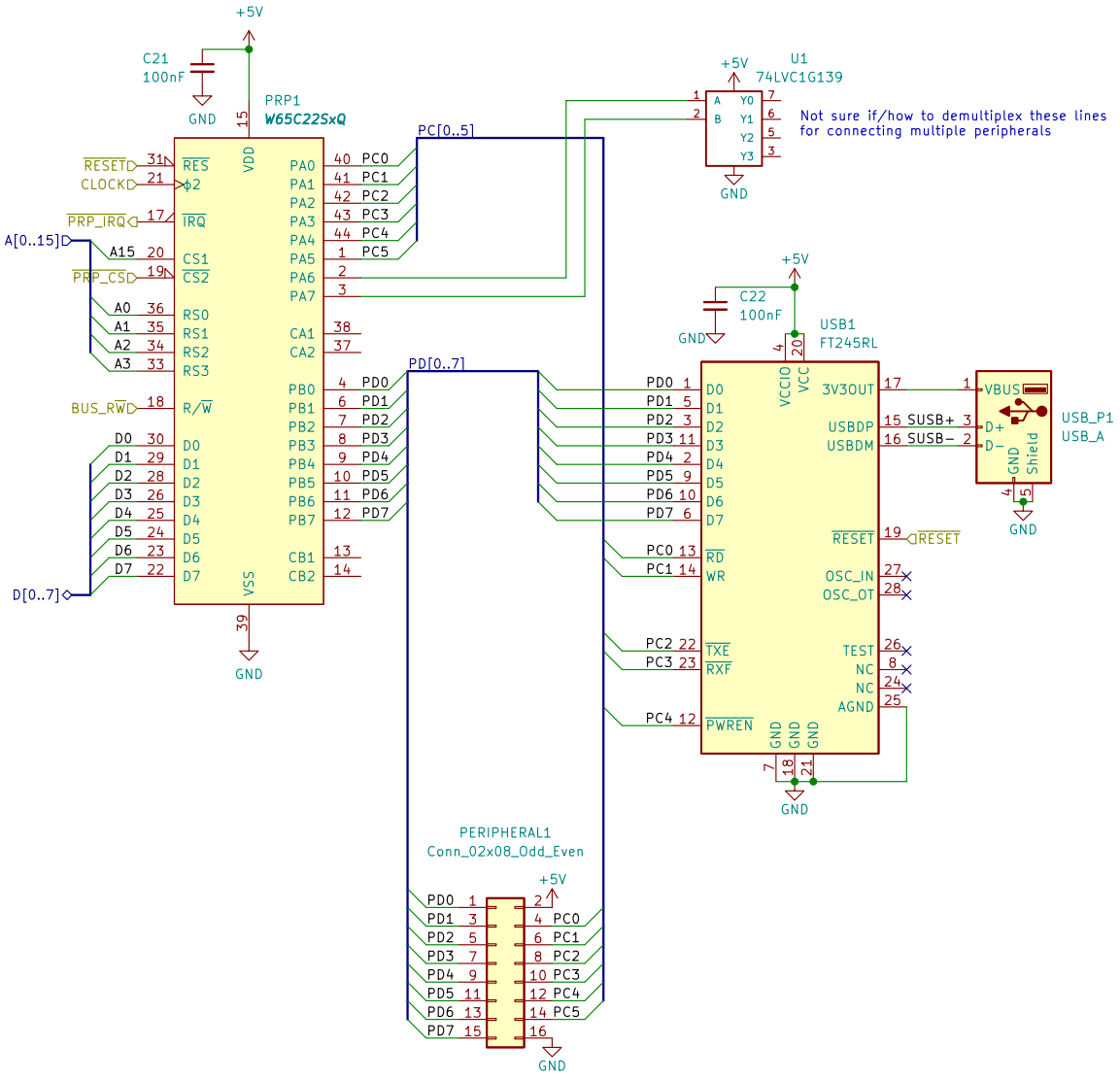


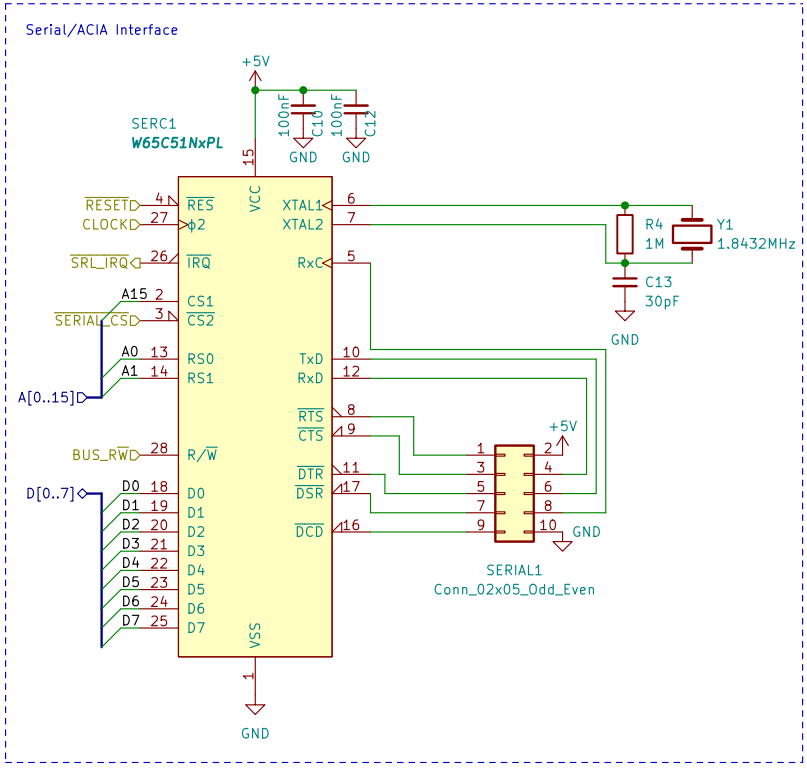




zrthxn		
Sheet: /Power/		
File: power.kicad_sch		
Title: 8puter		
Size: A4	Date:	**Rev: 1.0**
KiCad E.D.A. kicad 6.0.4-1.fc35		Id: 3/6

Peripheral and Serial Interfaces





PRP: 0x8000 – 0x8FFF
SER: 0x9000 – 0x9FFF

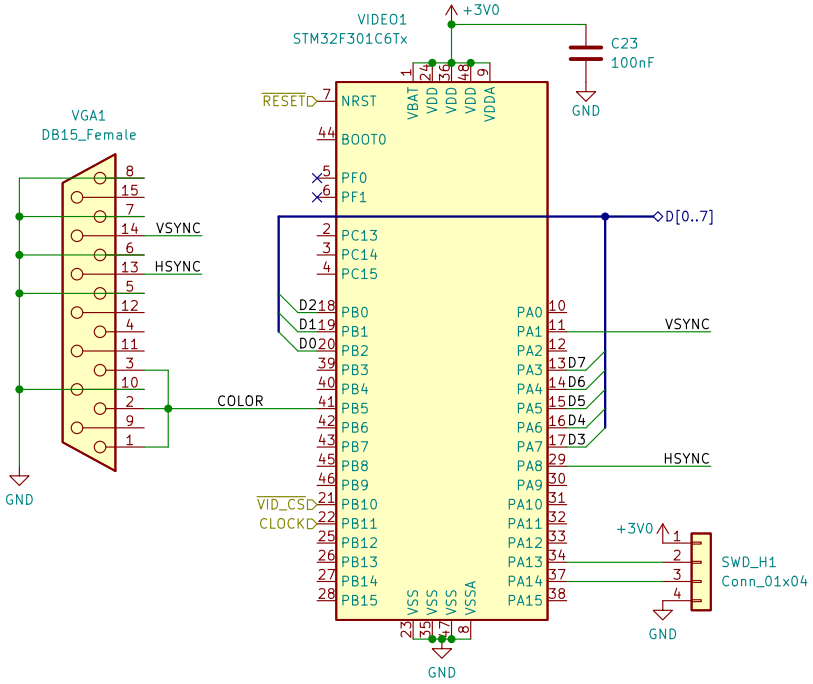
zrthxn		
Sheet: /Peripheral Handler/		
File: peripheral.kicad_sch		
Title: 8puter		
Size: A4	Date:	**Rev: 1.0**
KiCad E.D.A. kicad 6.0.4-1.fc35		Id: 4/6

Video Controller

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

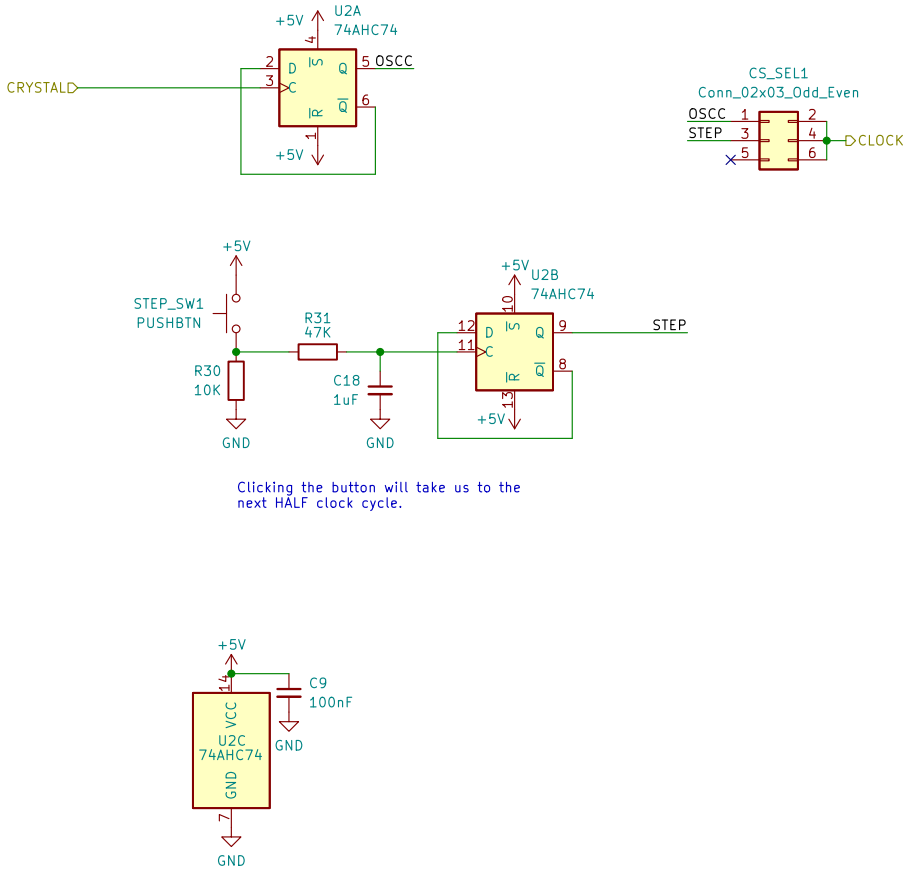
CPU will send a single byte to the MCU which can be be a char code or index of glyph, and the MCU just generates the video signal.

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



zrthxn		
Sheet: /Video/		
File: video.kicad_sch		
Title: 8puter		
Size: A4	Date:	**Rev: 1.0**
KiCad E.D.A. kicad 6.0.4-1.fc35		Id: 7/6

Clock Source Select



zrthxn		
Sheet: /Clock/		
File: clock.kicad_sch		
Title: 8puter		
Size: A4	Date:	**Rev: 1.0**
KiCad E.D.A. kicad 6.0.4-1.fc35		Id: 8/6