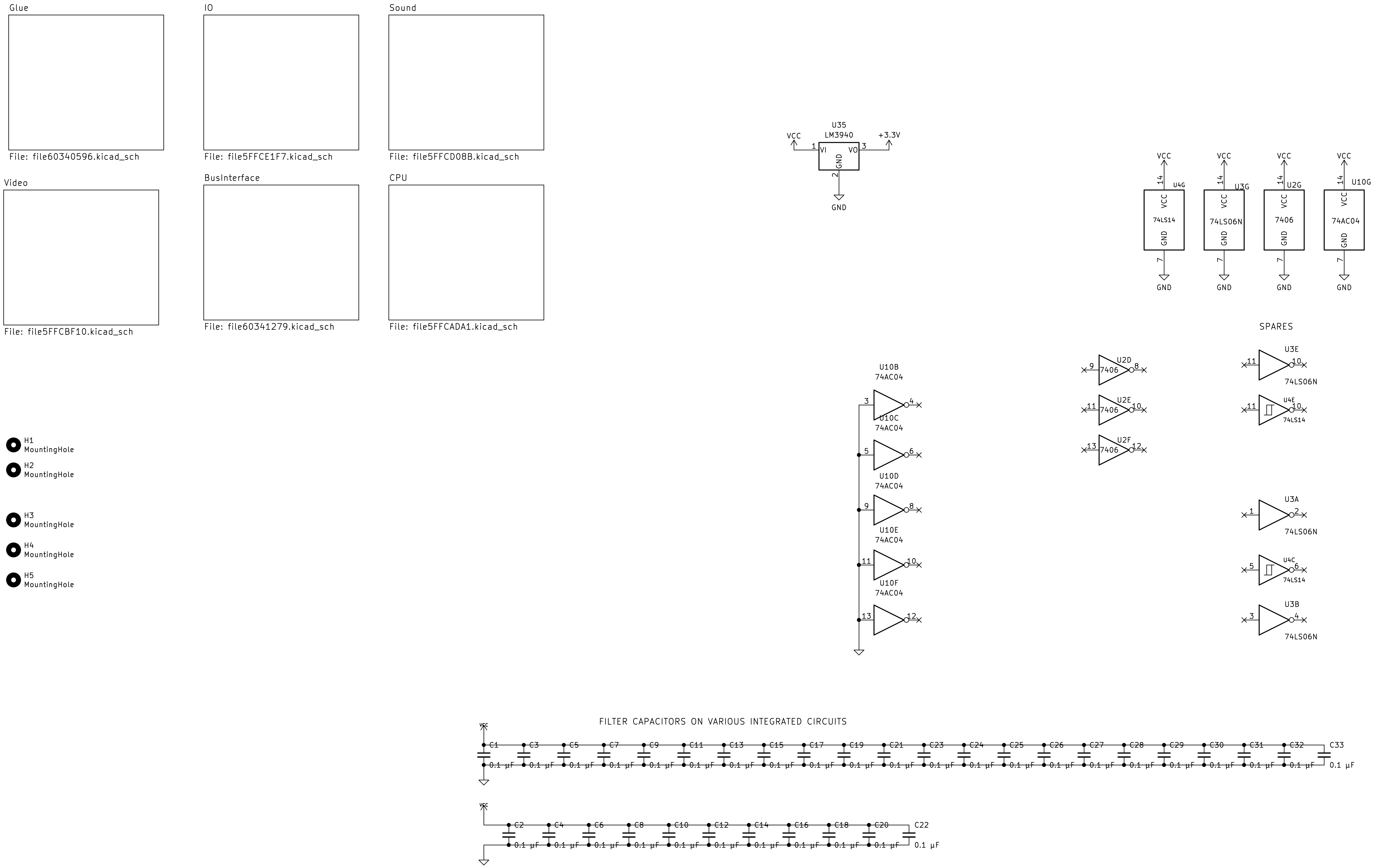
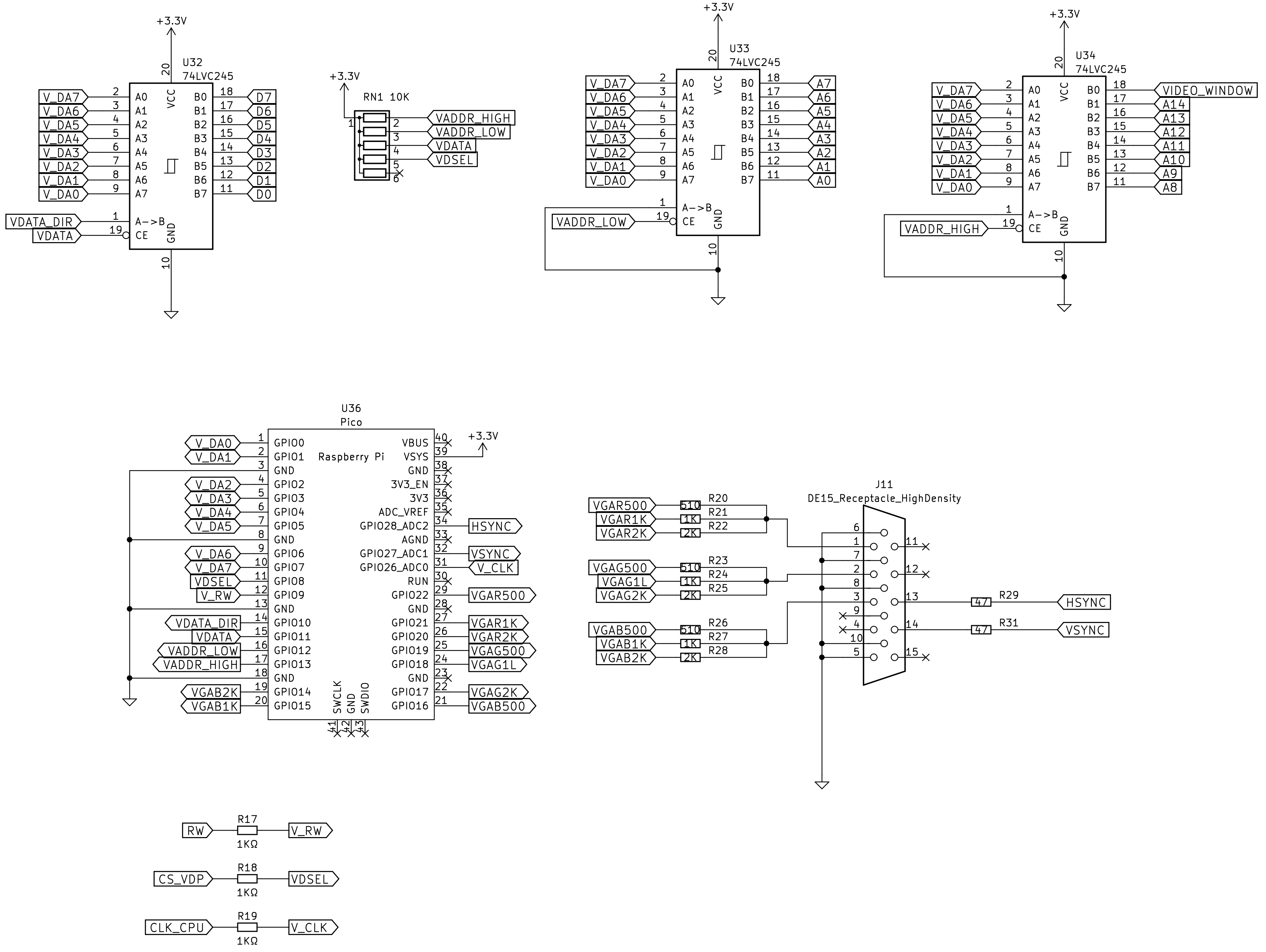
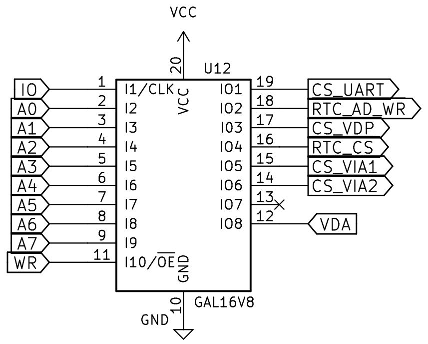
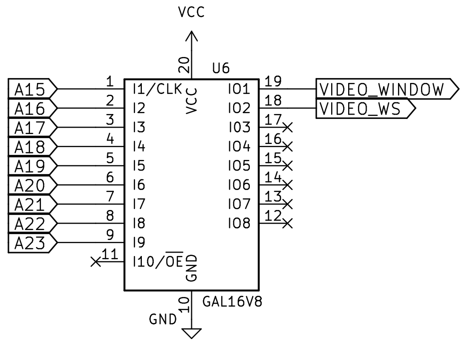

Glue
File: file60340596.kicad_sch
IO
File: file5FFCE1F7.kicad_sch
Sound
File: file5FFCD08B.kicad_sch
Video
File: file5FFCBF10.kicad_sch
BusInterface
File: file60341279.kicad_sch
CPU
File: file5FFCADA1.kicad_sch
U35
LM3940
VCC
1
VI
VO
3
+3.3V
GND
2
GND
VCC
14
U4G
VCC
74LS14
GND
7
GND
VCC
14
U3G
VCC
74LS06N
GND
7
GND
VCC
14
U2G
VCC
7406
GND
7
GND
VCC
14
U10G
VCC
74AC04
GND
7
GND
SPARES
U10B
74AC04
3
4
U10C
74AC04
5
6
U10D
74AC04
9
8
U10E
74AC04
11
10
U10F
74AC04
13
12
9
U2D
7406
8
11
U2E
7406
10
13
U2F
7406
12
U3E
11
10
74LS06N
11
U4E
10
74LS14
U3A
1
2
74LS06N
5
U4C
6
74LS14
U3B
3
4
74LS06N
H1
MountingHole
H2
MountingHole
H3
MountingHole
H4
MountingHole
H5
MountingHole
FILTER CAPACITORS ON VARIOUS INTEGRATED CIRCUITS
VCC
C1 0.1 µF
C3 0.1 µF
C5 0.1 µF
C7 0.1 µF
C9 0.1 µF
C11 0.1 µF
C13 0.1 µF
C15 0.1 µF
C17 0.1 µF
C19 0.1 µF
C21 0.1 µF
C23 0.1 µF
C24 0.1 µF
C25 0.1 µF
C26 0.1 µF
C27 0.1 µF
C28 0.1 µF
C29 0.1 µF
C30 0.1 µF
C31 0.1 µF
C32 0.1 µF
C33 0.1 µF
VCC
C2 0.1 µF
C4 0.1 µF
C6 0.1 µF
C8 0.1 µF
C10 0.1 µF
C12 0.1 µF
C14 0.1 µF
C16 0.1 µF
C18 0.1 µF
C20 0.1 µF
C22 0.1 µF

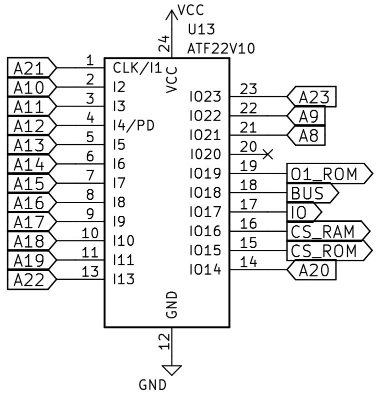
VIDEO



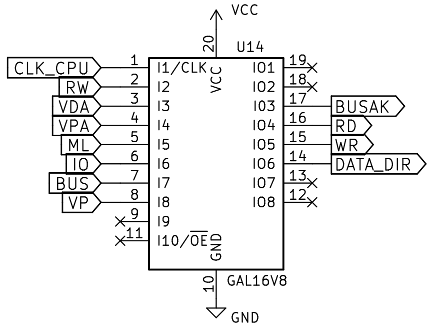
+3.3V
U32
74LVC245
VCC
GND
A0 A1 A2 A3 A4 A5 A6 A7
B0 B1 B2 B3 B4 B5 B6 B7
A->B
CE
V_DA7
V_DA6
V_DA5
V_DA4
V_DA3
V_DA2
V_DA1
V_DA0
D7
D6
D5
D4
D3
D2
D1
D0
VDATA_DIR
VDATA
RN1 10K
VADDR_HIGH
VADDR_LOW
VDATA
VDSEL
U33
74LVC245
A7
A6
A5
A4
A3
A2
A1
A0
VADDR_LOW
U34
74LVC245
VIDEO_WINDOW
A14
A13
A12
A11
A10
A9
A8
VADDR_HIGH
U36
Pico
Raspberry Pi
GPIO0 GPIO1 GND GPIO2 GPIO3 GPIO4 GPIO5 GND GPIO6 GPIO7 GPIO8 GPIO9 GND GPIO10 GPIO11 GPIO12 GPIO13 GND GPIO14 GPIO15
VBUS VSYS GND 3V3_EN 3V3 ADC_VREF GPIO28_ADC2 AGND GPIO27_ADC1 GPIO26_ADC0 RUN GPIO22 GND GPIO21 GPIO20 GPIO19 GPIO18 GND GPIO17 GPIO16
SWCLK GND SWDIO
V_DA0
V_DA1
V_DA2
V_DA3
V_DA4
V_DA5
V_DA6
V_DA7
VDSEL
V_RW
VDATA_DIR
VDATA
VADDR_LOW
VADDR_HIGH
VGAB2K
VGAB1K
HSYNC
VSYNC
V_CLK
VGAR500
VGAR1K
VGAR2K
VGAG500
VGAG1L
VGAG2K
VGAB500
J11
DE15_Receptacle_HighDensity
VGAR500
VGAR1K
VGAR2K
R20 R21 R22
510 1K 2K
VGAG500
VGAG1L
VGAG2K
R23 R24 R25
VGAB500
VGAB1K
VGAB2K
R26 R27 R28
R29
47
R31
HSYNC
VSYNC
RW
R17
1KΩ
V_RW
CS_VDP
R18
1KΩ
VDSEL
CLK_CPU
R19
1KΩ
V_CLK

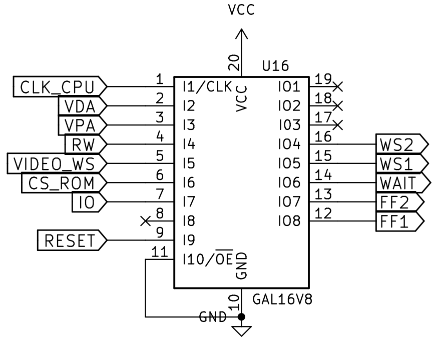


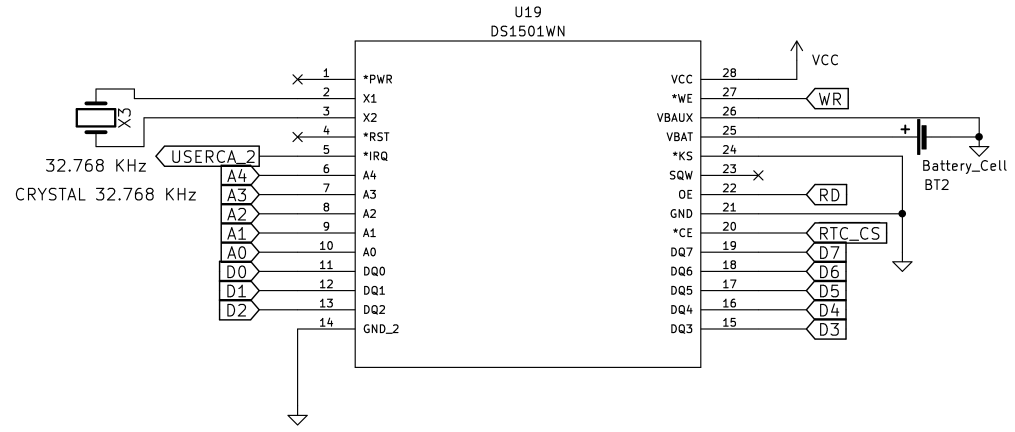


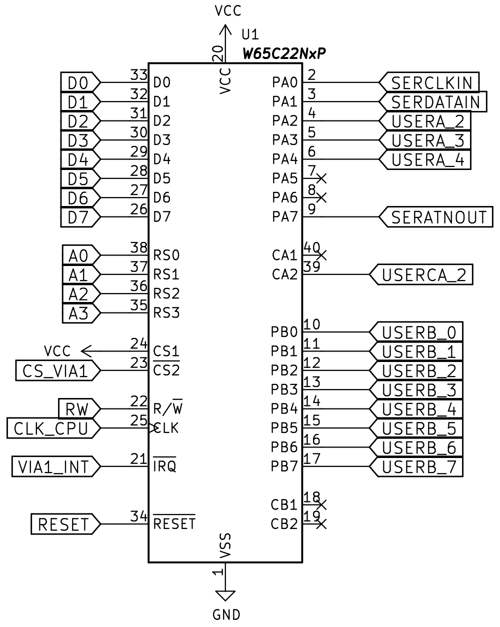


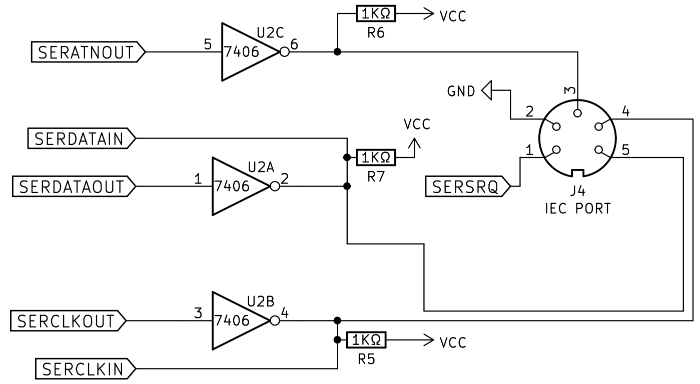
System can be ran with Wait State Generator (U16) out of system
Video and IO are 2 wait states
ROM is 1 wait state



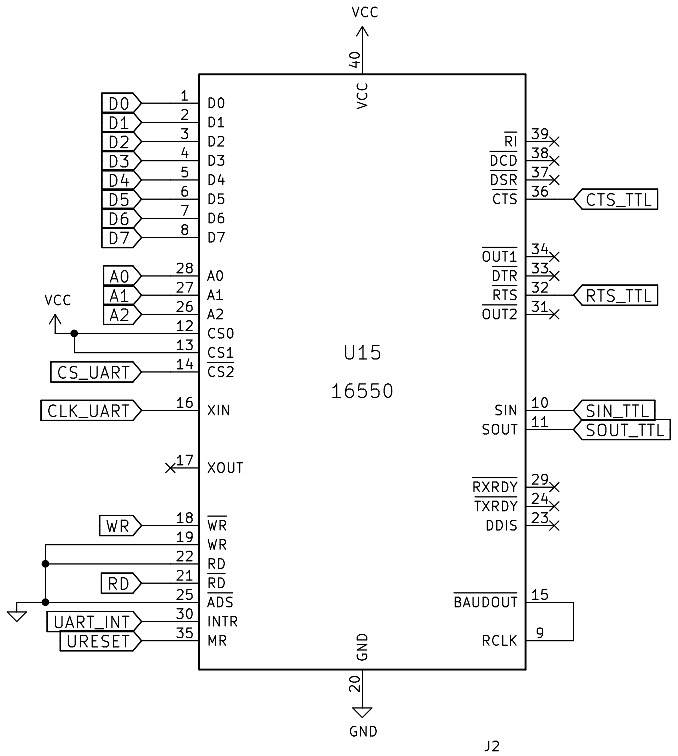


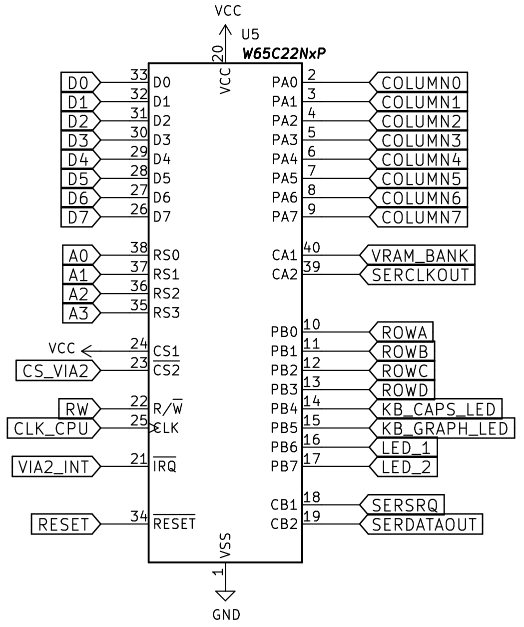


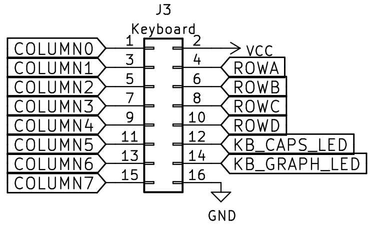


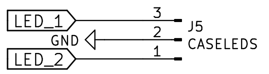


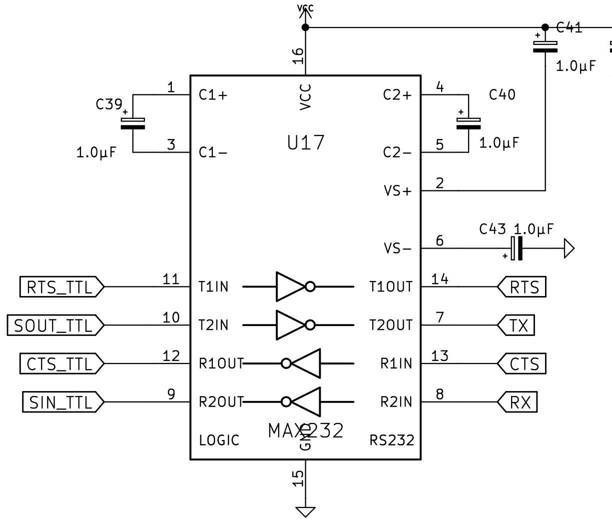
SERIAL IO

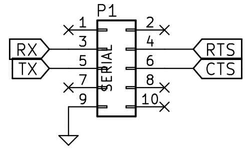


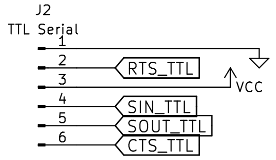




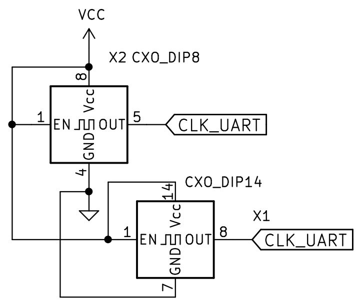


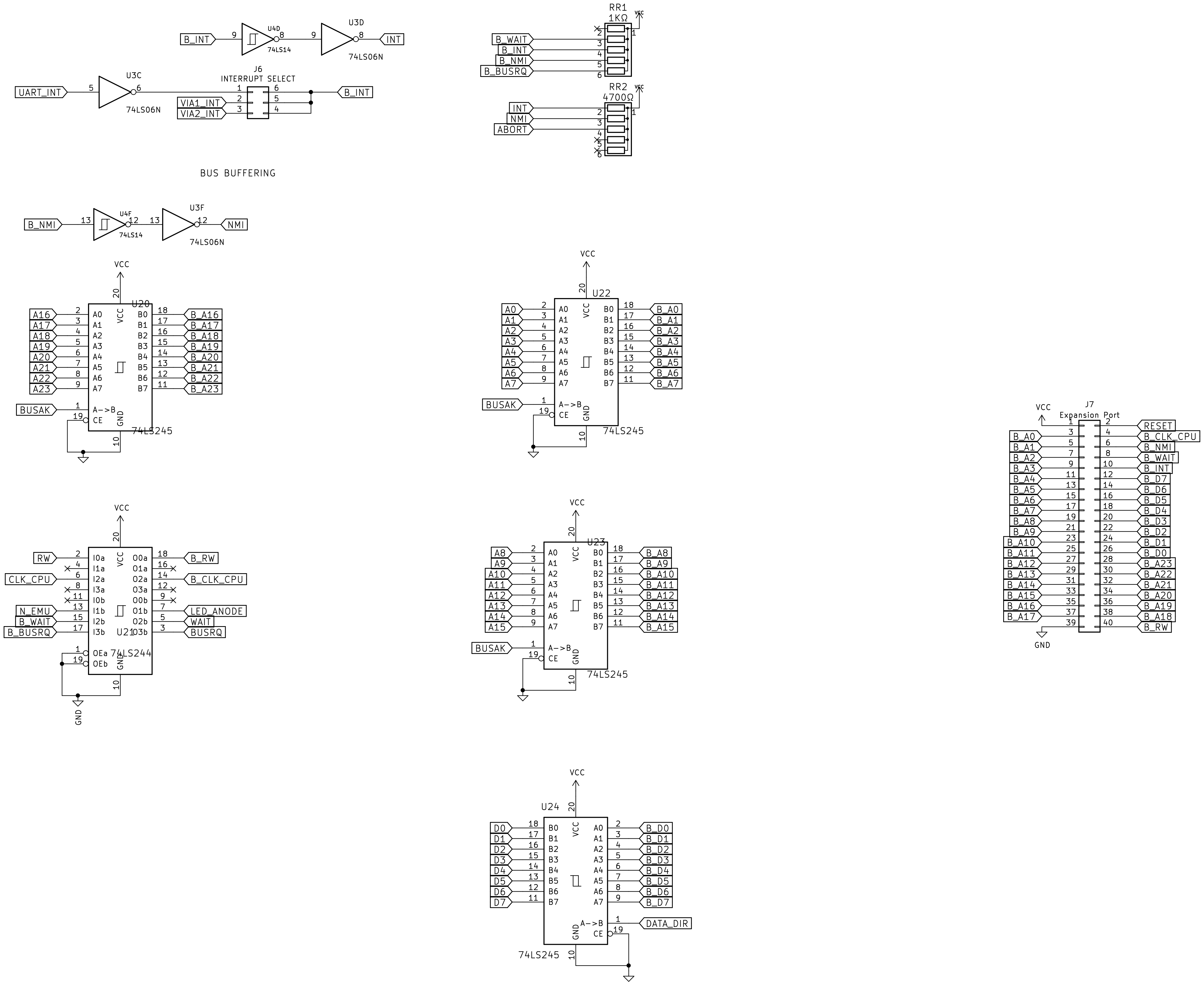


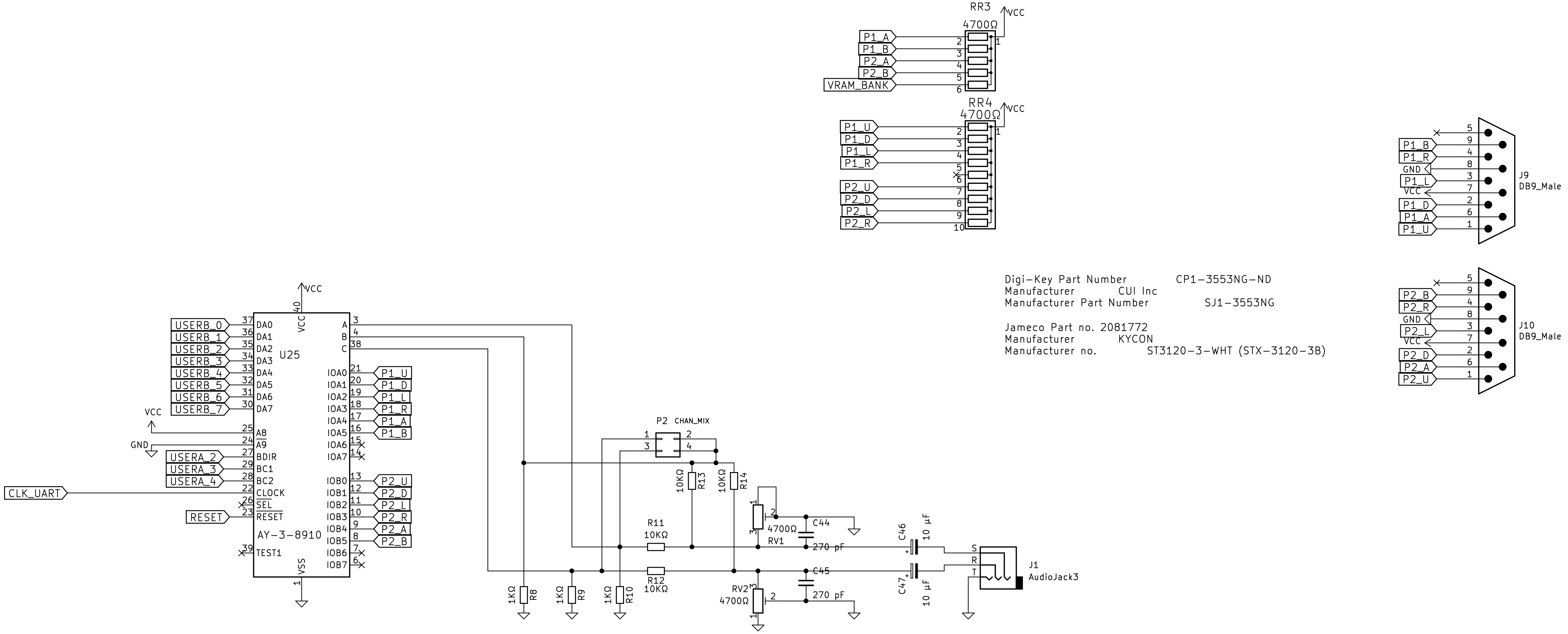




TTL SERIAL TO
USB CONNECTOR




BUS BUFFERING
B_INT
U4D
74LS14
U3D
74LS06N
INT
UART_INT
U3C
74LS06N
J6
INTERRUPT SELECT
VIA1_INT
VIA2_INT
B_INT
RR1
1KΩ
B_WAIT
B_INT
B_NMI
B_BUSRQ
RR2
4700Ω
INT
NMI
ABORT
VCC
B_NMI
U4F
74LS14
U3F
74LS06N
NMI
U20
74LS245
A16
A17
A18
A19
A20
A21
A22
A23
B_A16
B_A17
B_A18
B_A19
B_A20
B_A21
B_A22
B_A23
BUSAK
A->B
CE
GND
U22
74LS245
A0
A1
A2
A3
A4
A5
A6
A7
B_A0
B_A1
B_A2
B_A3
B_A4
B_A5
B_A6
B_A7
BUSAK
U21
74LS244
RW
CLK_CPU
N_EMU
B_WAIT
B_BUSRQ
B_RW
B_CLK_CPU
LED_ANODE
WAIT
BUSRQ
GND
U23
74LS245
A8
A9
A10
A11
A12
A13
A14
A15
B_A8
B_A9
B_A10
B_A11
B_A12
B_A13
B_A14
B_A15
BUSAK
U24
74LS245
D0
D1
D2
D3
D4
D5
D6
D7
B_D0
B_D1
B_D2
B_D3
B_D4
B_D5
B_D6
B_D7
DATA_DIR
J7
Expansion Port
VCC
RESET
B_CLK_CPU
B_NMI
B_WAIT
B_INT
B_D7
B_D6
B_D5
B_D4
B_D3
B_D2
B_D1
B_D0
B_A23
B_A22
B_A21
B_A20
B_A19
B_A18
B_RW
B_A0
B_A1
B_A2
B_A3
B_A4
B_A5
B_A6
B_A7
B_A8
B_A9
B_A10
B_A11
B_A12
B_A13
B_A14
B_A15
B_A16
B_A17
GND



Digi-Key Part Number CP1-3553NG-ND
Manufacturer CUI Inc
Manufacturer Part Number SJ1-3553NG

Jameco Part no. 2081772
Manufacturer KYCON
Manufacturer no. ST3120-3-WHT (STX-3120-3B)

CPU, CLOCK, AND MEMORY