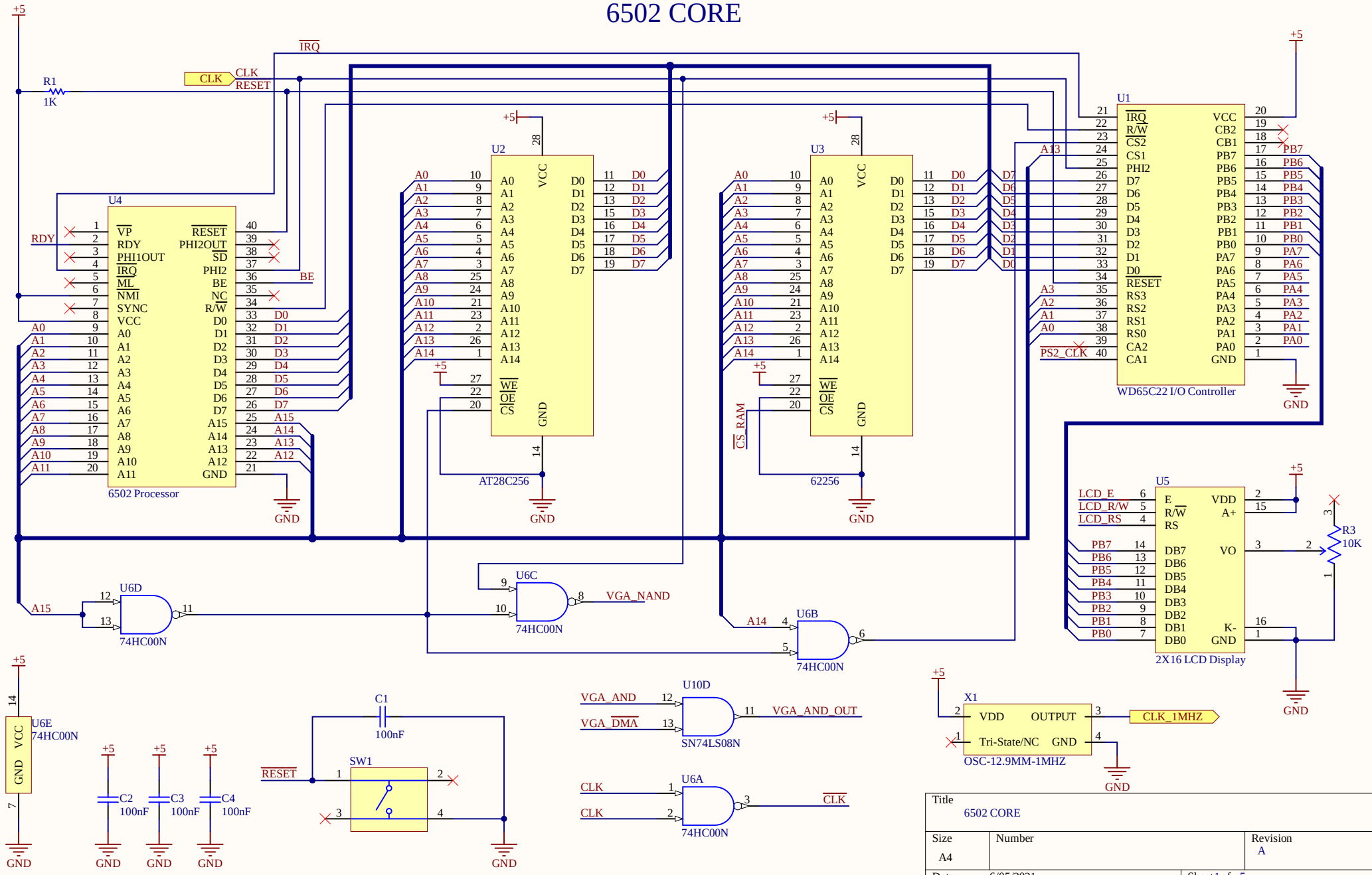
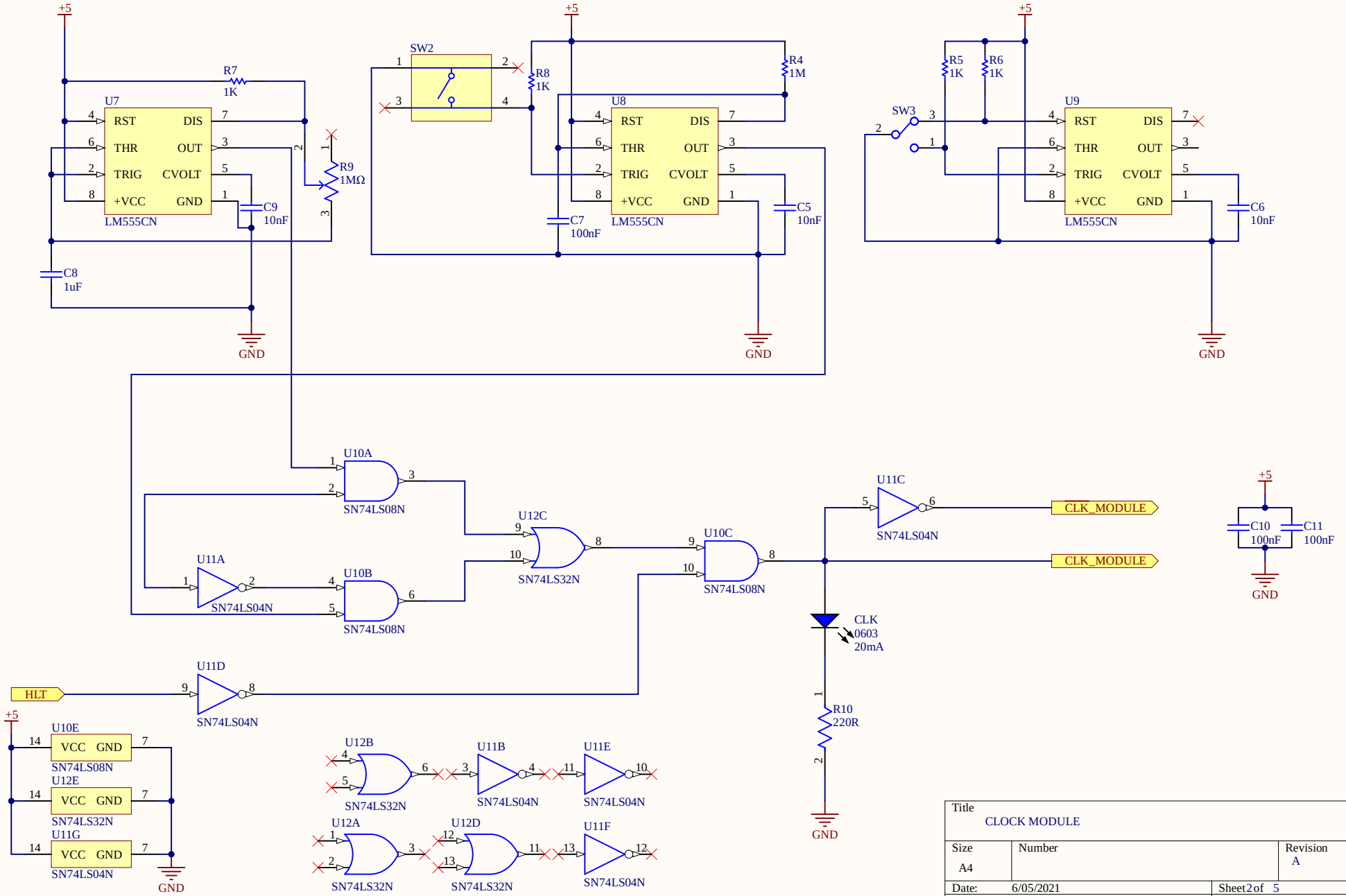
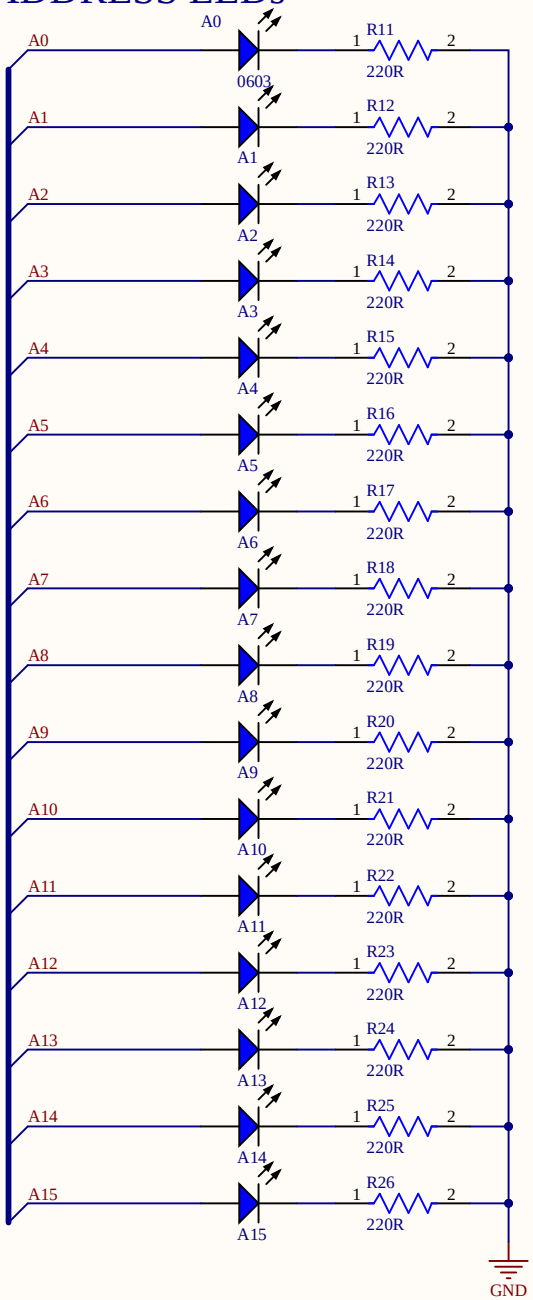

6502 CORE
+5
IRQ
CLK
RESET
R1
1K
U4
6502 Processor
U2
AT28C256
U3
62256
CS_RAM
U1
WD65C22 I/O Controller
PS2_CLK
U5
2X16 LCD Display
LCD_E
LCD_R/W
LCD_RS
R3
10K
U6D
74HC00N
U6C
VGA_NAND
U6B
U6E
C1
100nF
C2
C3
C4
SW1
U10D
VGA_AND
VGA_DMA
VGA_AND_OUT
SN74LS08N
U6A
X1
OSC-12.9MM-1MHZ
CLK_1MHZ
GND
Title
6502 CORE
Size
A4
Number
Revision
A
Date:
6/05/2021
Sheet 1 of 5
File:
C:\Users\..\65c02.SchDoc
Drawn By:
MING JIE

555 CLOCK GENERATOR

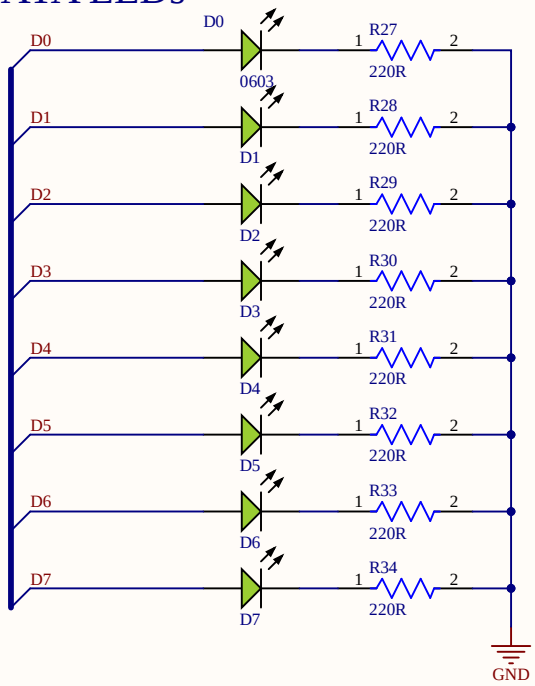


Title	CLOCK MODULE	
Size: A4	Number:	Revision: A
Date: 6/05/2021		Sheet 2 of 5
File: C:\Users\..\clock_module.SchDoc		Drawn By: MING JIE

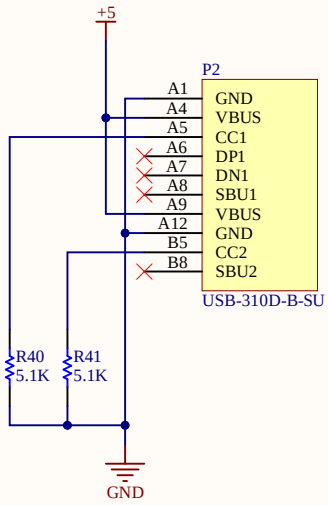
ADDRESS LEDs



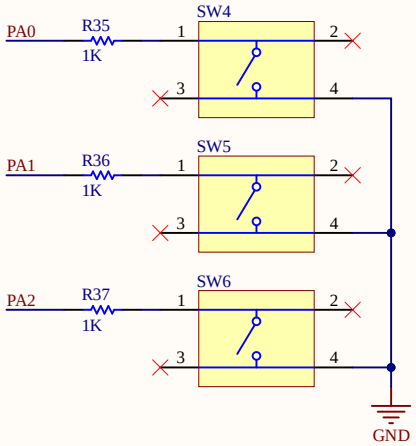
DATA LEDs

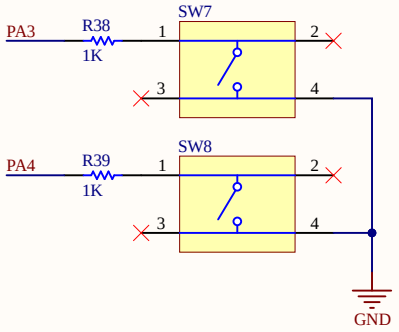


POWER



ADDRESS BUTTONS





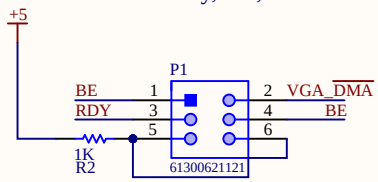
Title: LEDs AND BUTTONs		
Size: A4	Number:	Revision: A
Date: 6/05/2021		Sheet 3 of 5
File: C:\Users\..\address_LEDs.SchDoc		Drawn By: MING JIE

CONFIGURATION HEADERS

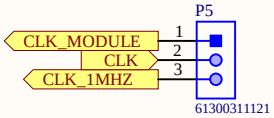
6502 CONTROL

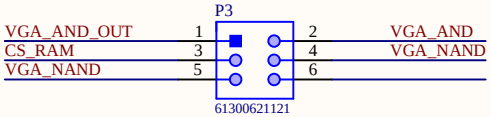
For VGA, use 1-3, 2-4 connections

For 6502 only, 3-5,4-6



For manual clock, use 1-2

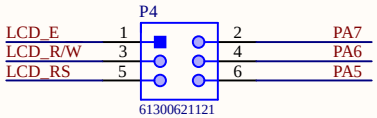




6522 CONTROL

For 6502 only, 1-2, 3-4, 5-6

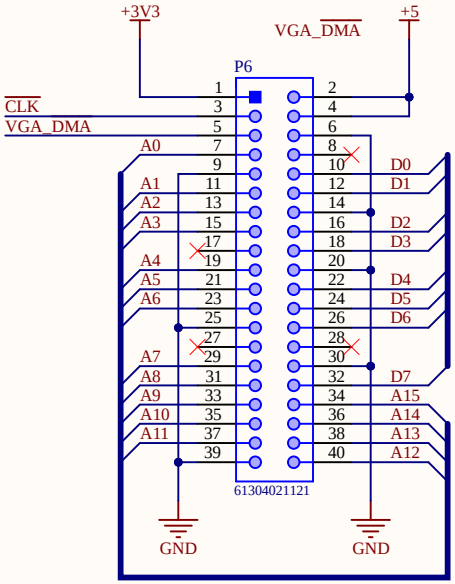
For PS2, leave open



VGA BACKPLANE

Compatible with RPI GPIO

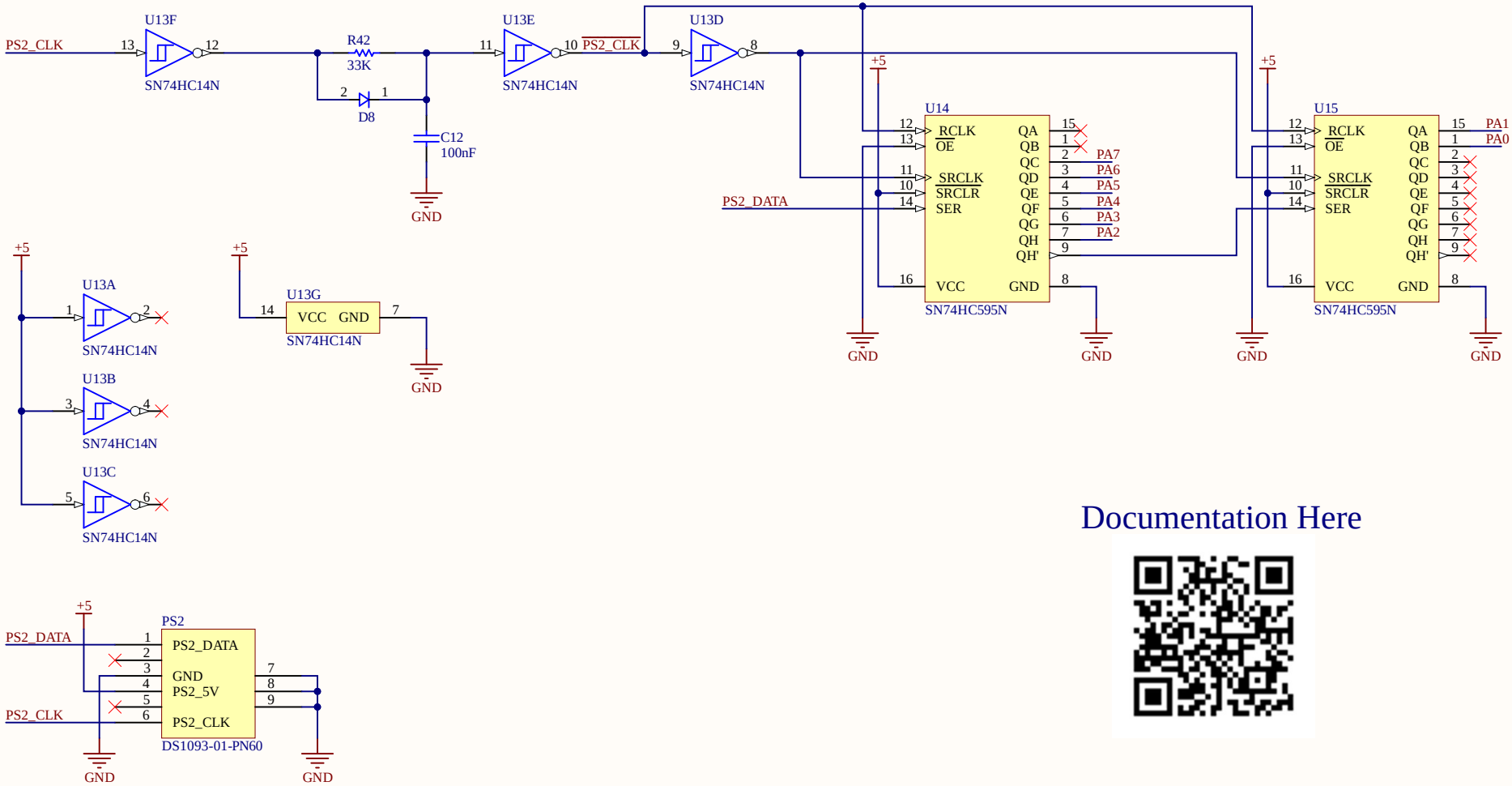
Use RPI to probe address and data bus, be careful with 5V logic levels



Title: CONFIGURATION HEADERS		
Size: A4	Number:	Revision: A
Date: 6/05/2021		Sheet 4 of 5
File: C:\Users\..\config_headers.SchDoc		Drawn By: MING JIE

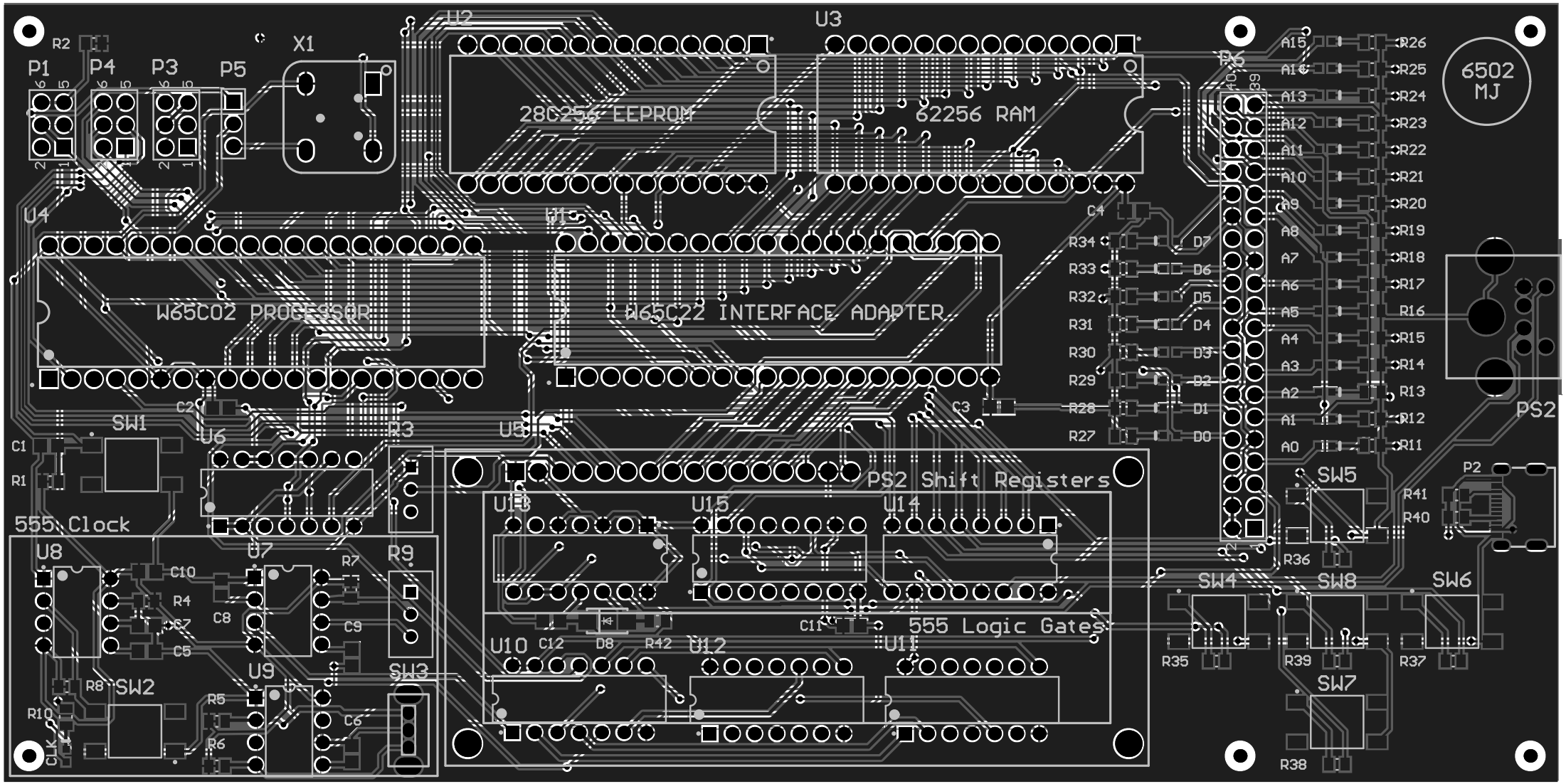
PS2 INTERFACE

Ignore START(1), PARITY(10), STOP(11) bit
Send 8 DATA bits to 65C22



Documentation Here

Title: PS2 INTERFACE		
Size: A4	Number:	Revision: A
Date: 6/05/2021		Sheet 5 of 5
File: C:\Users\..\ps2_interface.SchDoc		Drawn By: MING JIE


6502
MJ
28C256 EEPROM
62256 RAM
W65C02 PROCESSOR
W65C22 INTERFACE ADAPTER
PS2 Shift Registers
555 Logic Gates
555 Clock
P1
P4
P3
P5
X1
U2
U3
U4
U1
U6
U5
U8
U7
U9
U13
U15
U14
U10
U12
U11
SW1
SW2
SW3
SW4
SW5
SW6
SW7
SW8
PS2
P2
R2
R1
R3
R9
R4
R5
R6
R7
R8
R10
C1
C2
C3
C4
C5
C6
C7
C8
C9
C10
C11
C12
D8
R42
R27
R28
R29
R30
R31
R32
R33
R34
D0
D1
D2
D3
D4
D5
D6
D7
R11
R12
R13
R14
R15
R16
R17
R18
R19
R20
R21
R22
R23
R24
R25
R26
R35
R36
R37
R38
R39
R40
R41
A0
A1
A2
A3
A4
A5
A6
A7
A8
A9
A10
A11
A12
A13
A14
A15
CLK

Comment	Description	Designator	Footprint	LibRef	Quantity
19-217/BHC-ZL1M2RY/3T	Chip LED, Blue, 5 V, 25 mA, -40 to 85 degC, 2-Pin SMD (0603), RoHS, Tape and Reel	A0, A1, A2, A3, A4, A5, A6, A7, A8, A9, A10, A11, A12, A13, A14, A15, CLK	EVRL-0603-2_V	CMP-2100-03577-1	17
GRM21BR71H104KA01L	Chip Capacitor, 0.1 uF, +/- 10%, 50 V, -55 to 125 degC, 0805 (2012 Metric), RoHS, Tape and Reel	C1, C2, C3, C4, C7, C10, C11, C12	CAPC2013X135X45ML10T25	CMP-2100-03644-1	8
GRM216R71H103KA01D	Chip Capacitor, 10 nF, +/- 10%, 50 V, -55 to 125 degC, 0805 (2012 Metric), RoHS, Tape and Reel	C5, C6, C9	CAPC2013X70X45ML10T25	CMP-2000-05013-1	3
GRM216R61E105KA12D		C8	CAPC2013X70X45NL10T25	CMP-2007-00957-1	1
19-217/GHC-YR1S2/3T	Green 520~535nm 0603 Light Emitting Diodes (LED) RoHS	D0, D1, D2, D3, D4, D5, D6, D7	EVRL-0603-2_V	CMP-2100-03580-1	8
Diode, General Purpose	General Purpose Diode, SMT, DO-214	D8	DO-214AC/SMA	C95872	1
61300621121	THT Vertical Pin Header WR-PHD, Pitch 2.54 mm, Dual Row, 6 pins	P1, P3, P4	61300621121	CMP-1502-01072-1	3
USB-310D-B-SU	USB Type C Receptacle	P2	USB-C-THT	USB-310D-B-SU	1
61300311121	THT Vertical Pin Header WR-PHD, Pitch 2.54 mm, Single Row, 3 pins	P5	61300311121	CMP-1502-01062-1	1
61304021121	THT Vertical Pin Header WR-PHD, Pitch 2.54 mm, Dual Row, 40 pins	P6	61304021121	CMP-1502-01135-1	1
DS1093-01-PN60	PS2 Port	PS2	PS2_PORT	PS2_CONN	1
CRCW08051K00FKEA		R1, R2, R5, R6, R7, R8, R35, R36, R37, R38, R39	RESC2013X50X30NL20T20	CMP-1013-00510-2	11
3296W-1-103RLF	TRIMMER 10K OHM 0.5W PC PIN TOP	R3	FP-3296W-MFG	CMP-07234-000024-1	1
CRCW08051M00JNEA		R4	RESC2013X50X30NL20T20	CMP-2001-03632-1	1
3296W-1-105LF	TRIMMER 1M OHM 0.5W PC PIN TOP	R9	FP-3296W-MFG	CMP-2000-05583-2	1
CRCW0805220RFKEA	RES Thick Film, 220Ω, 1%, 0.125W, 100ppm/°C, 0805	R10, R11, R12, R13, R14, R15, R16, R17, R18, R19, R20, R21, R22, R23, R24, R25, R26, R27, R28, R29, R30, R31, R32, R33, R34	FP-CRCW0805-e3-MFG	CMP-2001-03682-2	25
0805W8F5101T5E	5.1kΩ ±1% 0.125W ±100ppm/°C 0805 Chip Resistor - Surface Mount RoHS	R40, R41	RESC2013X50X30NL20T20	CMP-1013-00510-2	2
0805W8F3302T5E	33K, 0805 Chip Resistor, UniOhm	R42	RESC2013X50X30NL20T20	CMP-1013-00510-2	1
K2-1102SP-C4SC-04	Swicth, SPST, 24 V, -35 to 85 degC, 4-Pin SMD, RoHS, Tape and Reel	SW1, SW2, SW4, SW5, SW6, SW7, SW8	TECO-FSM4JSMA_V	CMP-2000-05602-2	7
SS-12D02-VG4	SPDT, Korean Hroparts Elec SS-12D02-VG4	SW3	5_2-54mm_SPDT	SS-12D02-VG4	1
WD65C22 I/O Controller	WD65C22 PDIP-40, I/O Controller	U1	PDIP_40	WD65C22	1
AT28C256	Paged Parallel EEPROM AT28C256	U2	DIP_28	AT28C256	1
62256	32K x 8, SRAM	U3	DIP_28	62256	1
6502 Processor	WDC 6502 PDIP-40	U4	PDIP_40	WDC65C02	1
2X16 LCD Display	2X16 LCD Display, Parallel input	U5	LCD_2x16	LCM1602C	1
74HC00N	Quad 2-input NAND gate, CMOS, 2 to 6 V, -40 to 125 degC, 14-Pin DIP (SOT27-1), RoHS, Bulk	U6	NXP-SOT27-1-14	CMP-0976-00001-1	1
LM555CN	Timer, 8-pin MDIP	U7, U8, U9	N08E	CMP-0056-00017-2	3
SN74LS08N	Quadruple 2-Input Positive-AND Gates, N0014A, TUBE	U10	N0014A	CMP-0777-00259-3	1
SN74LS04N	Hex inverters, N0014A, TUBE	U11	N0014A	CMP-1615-00911-2	1
SN74LS32N	Quad 2-input positive-OR gates, N0014A, TUBE	U12	N0014A	CMP-1573-00145-3	1
SN74HC14N	Hex Schmitt-Trigger Inverters, N0014A, TUBE	U13	N0014A	CMP-1615-00889-3	1
SN74HC595N	8-Bit Shift Registers With 3-State Output Registers, N0016A, TUBE	U14, U15	N0016A	CMP-0780-00137-3	2
OSC-12.9MM-1MHZ	12.9MM x 12.9MM, 1MHz Can Oscillator	X1	OSC_THT_12-9MM	OSC-12.9MM-1MHZ	1