

TO DO

- Power jumper to second board
- Pin1 markings on headers
- 10pF instead of 47/27pF on crystal circuits, along with 150 instead of 1.5k
- Cuttable connections or 0 ohm resistors for questionable tracks
- Rename both GAL's OEBs from generic to specific and verify throughout
- Triple-check decode ranges and enables
- Verify no components without LCSC equiv. part #
- Print to scale, test fit (especially TFT LCD & ZIFs)
- Review all status LEDs to confirm they are on good pins for showing status
- Verify fill on all layers & rebuild
- External transceivers and/or clock distribution ICs needed? (really long traces)

System Block Diagram

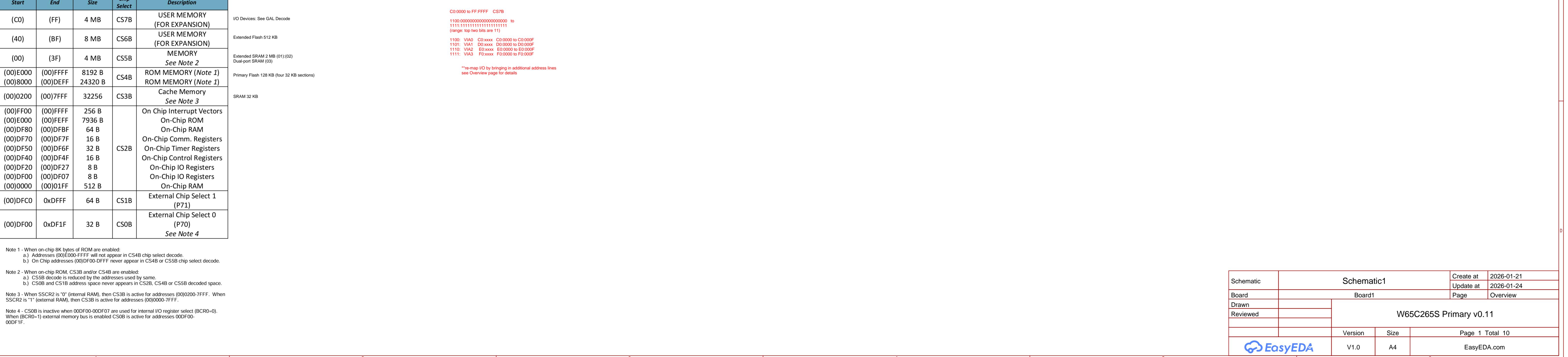
Conventions (e.g., naming)

- Signals for secondary (audio-visual co-processor) MCU prefaced with "AV_"
- Tracks more likely needing bodge on bottom layer
- Horizontal tracks - Top, InnerLower
- Vertical tracks - InnerUpper

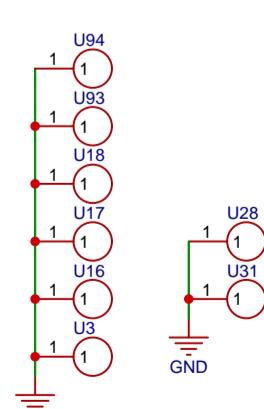
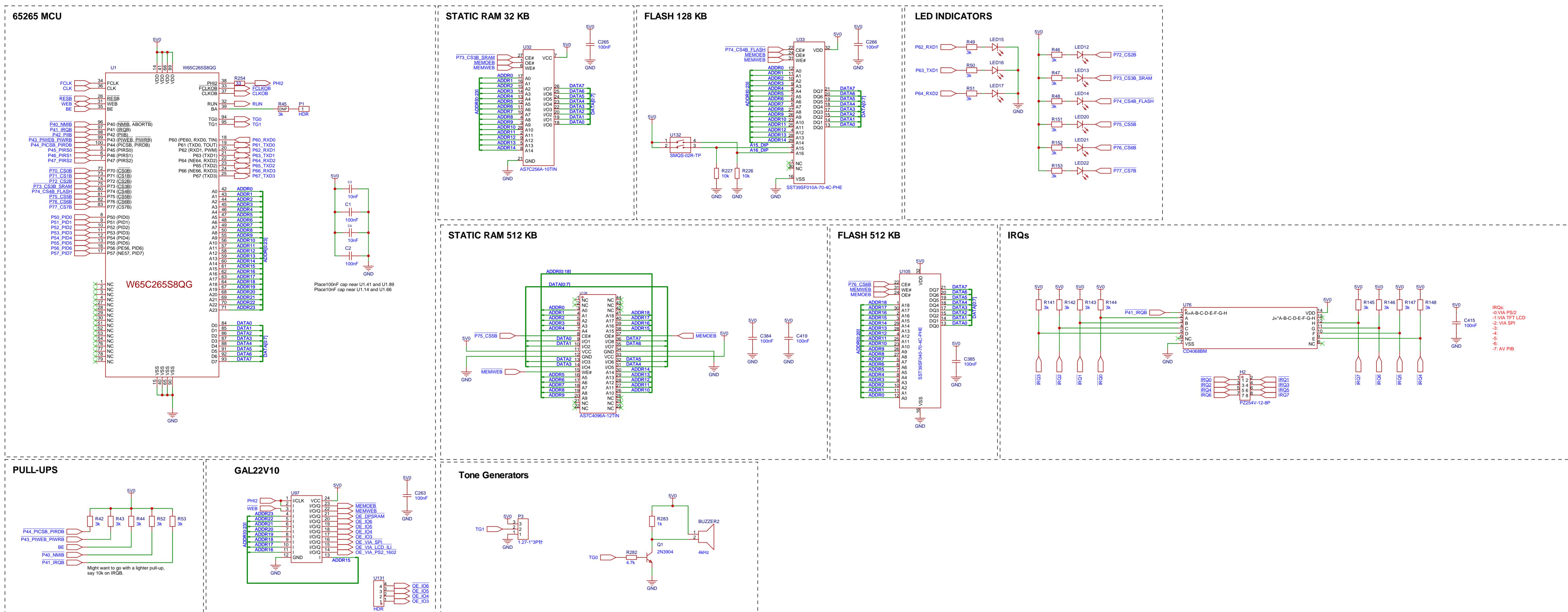
Memory Map, Native Decode

W65C265SX8 Memory Map				
Start	End	Size	Chip Select	Description
(C0)	(FF)	4 MB	CS7B	USER MEMORY (FOR EXPANSION)
(40)	(BF)	8 MB	CS6B	USER MEMORY (FOR EXPANSION)
(00)	(3F)	4 MB	CS5B	MEMORY See Note 2
(00)E000	(00)FFFF	8192 B	CS4B	ROM MEMORY (Note 1) ROM MEMORY (Note 1)
(00)8000	(00)DEFF	24320 B	CS4B	
(00)0200	(00)7FFF	32256	CS3B	Cache Memory See Note 3
(00)F000	(00)FFFF	256 B	CS2B	On Chip Interrupt Vectors
(00)E000	(00)FEFF	7936 B		On-Chip ROM
(00)DF80	(00)DFBF	64 B		On-Chip RAM
(00)DF70	(00)DF7F	16 B		On-Chip Comm. Registers
(00)DF50	(00)DF6F	32 B		On-Chip Timer Registers
(00)DF40	(00)DF4F	16 B		On-Chip Control Registers
(00)DF20	(00)DF27	8 B		On-Chip IO Registers
(00)DF00	(00)DF07	8 B		On-Chip IO Registers
(00)0000	(00)01FF	512 B		On-Chip RAM
(00)DFO0	0xFFFF	64 B	CS1B	External Chip Select 1 (P71)
(00)DF00	0xDF1F	32 B	CS0B	External Chip Select 0 (P70) See Note 4

Extended Decode (GAL)

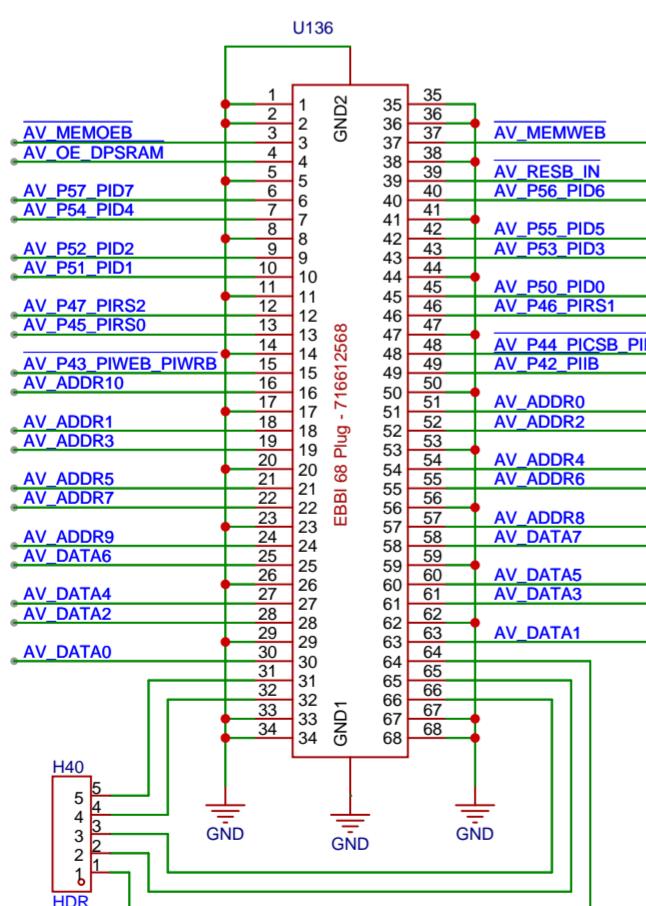
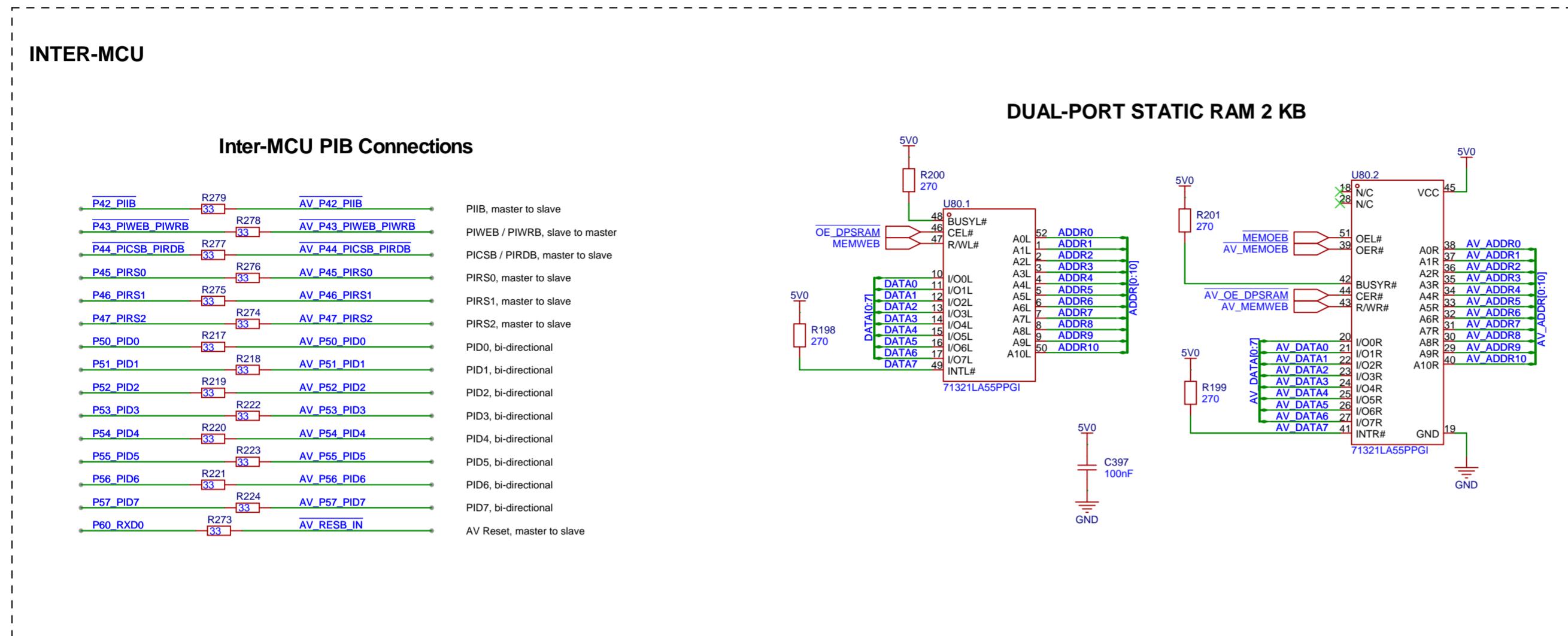


MCU (Primary)



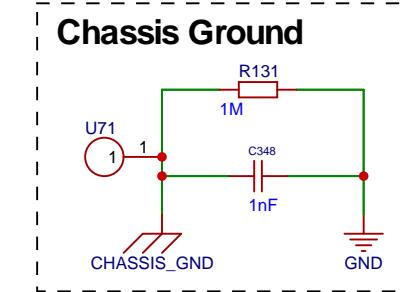
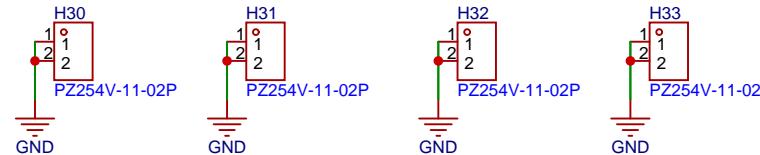
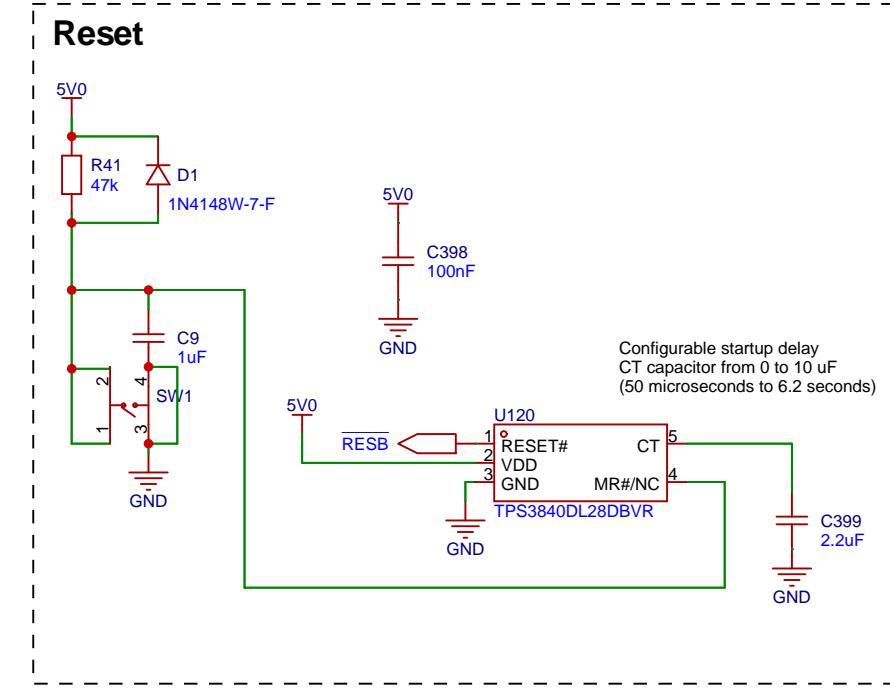
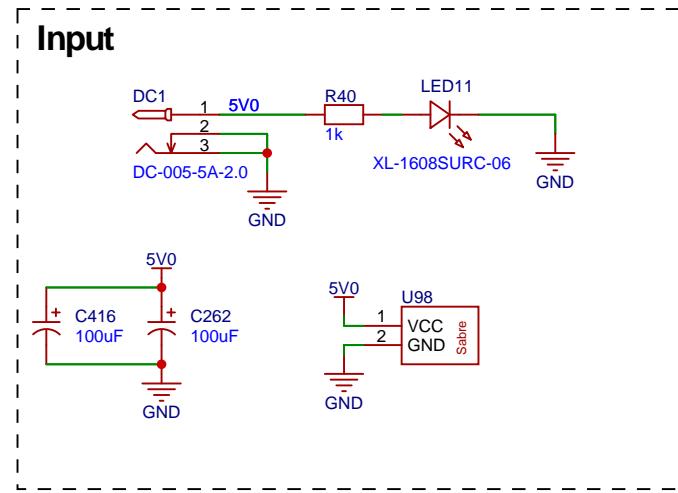
Schematic	Schematic1		Create at	2026-01-21
			Update at	2026-01-21
Board	Board1		Page	MCU Primary
Drawn			W65C265S Primary v0.11	
Reviewed				
			Page 2 Total 10	
 EasyEDA		V1.0	A4	EasyEDA.com

MCU (AV)



Schematic	Schematic1		Create at	2026-01-21
			Update at	2026-01-21
Board	Board1		Page	Interconnect
Drawn				
Reviewed			W65C265S Primary v0.11	
	Version	Size	Page 3 Total 10	
 EasyEDA	V1.0	A4	EasyEDA.com	

POWER



Schematic	Schematic1		Create at	2026-01-21
Board	Board1		Update at	2026-01-21
Drawn			Page	Power
Reviewed			W65C265S Primary v0.11	
	Version	Size	Page 4 Total 10	
 EasyEDA		V1.0	A4	EasyEDA.com

CLOCKS

1

2

3

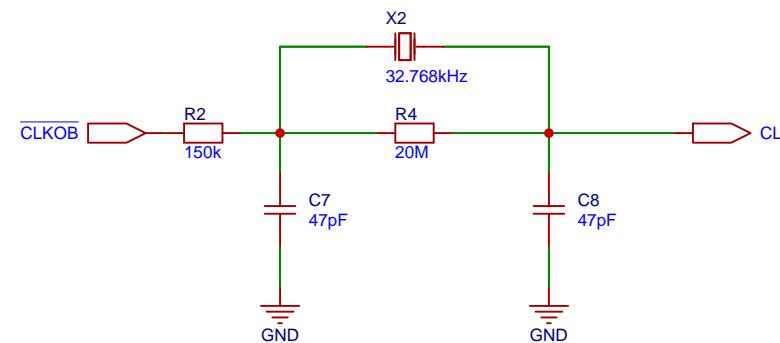
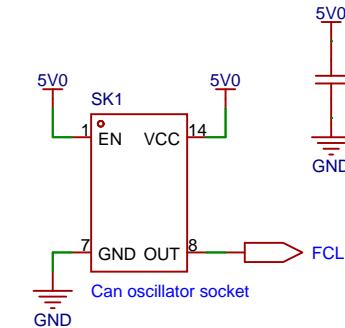
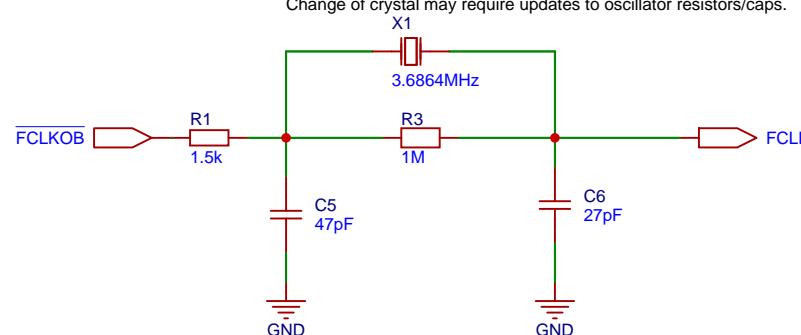
4

5

6

PRIMARY

10 MHz Crystal option:
QT49S-10.000MEEJ-T (Digikey)
Change of crystal may require updates to oscillator resistors/caps.



Schematic	Schematic1			Create at	2026-01-21
Board	Board1			Update at	2026-01-21
Drawn				Page	Clocks
Reviewed				W65C265S Primary v0.11	
	Version	Size	Page 5 Total 10		
		V1.0	A4	EasyEDA.com	

1

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3

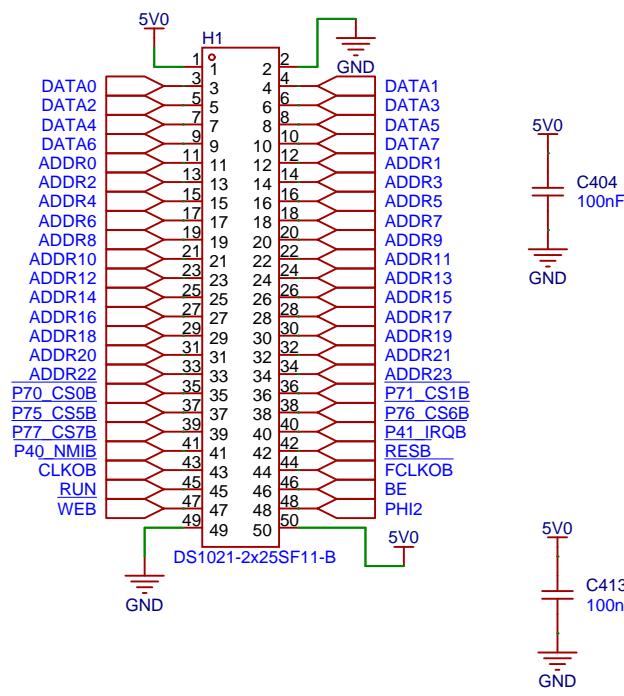
4

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EXPANSION

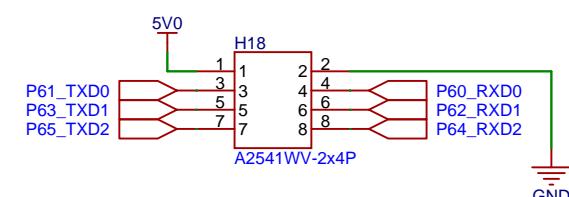
Primary XBus265



Used:

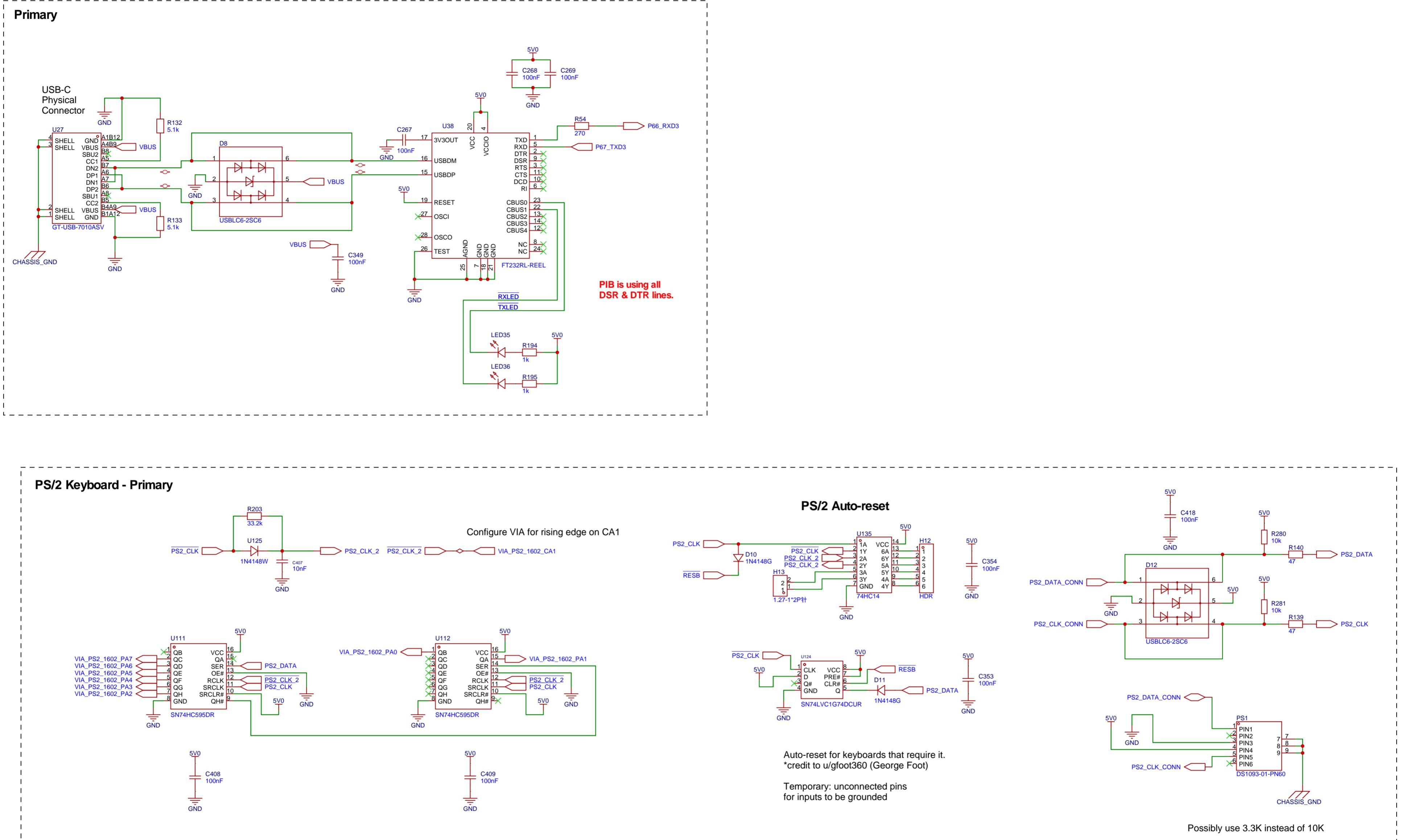
P50:56 - 1602 LCD
P51 - Available

P62 - PS2KBD DATA
P64 - PS2KBD CLK
P66 - RXD3
P67 - TXD3



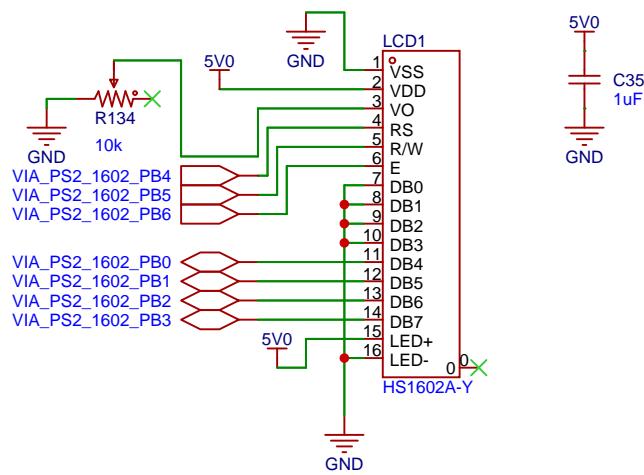
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Board	Board1			Update at	2026-01-21
Drawn				Page	Expansion
Reviewed				W65C265S Primary v0.11	
	Version	Size	Page 6 Total 10		
		V1.0	A4	EasyEDA.com	

USB SERIAL, PS/2 KEYBOARD



Schematic	Schematic1			Create at	2026-01-21	
Board	Board1			Update at	2026-01-21	
Drawn	Reviewed	W65C265S Primary v0.11			Page	Serial & PS2
		Version	Size	Page 7 Total 10		
		V1.0	A4	EasyEDA.com		

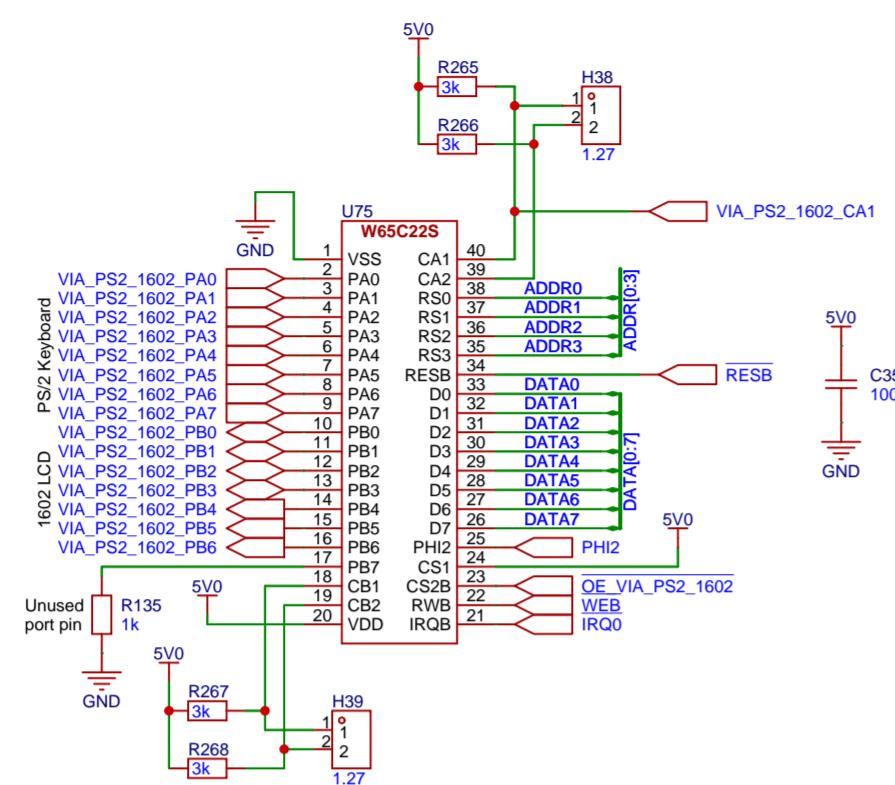
LCD 1602



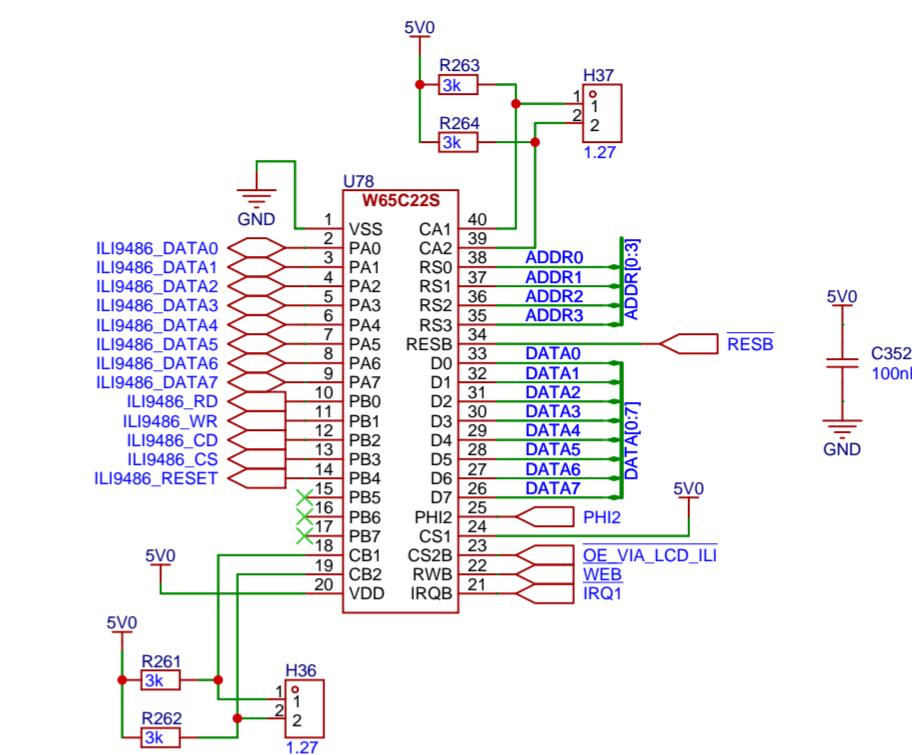
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			Update at	2026-01-21
Board	Board1		Page	LCD_1602
Drawn				
Reviewed			W65C265S Primary v0.11	
			Version	Size
			V1.0	A4
			Page 8 Total 10	
		EasyEDA.com		

VIA

PS/2 Keyboard, 1602 LCD



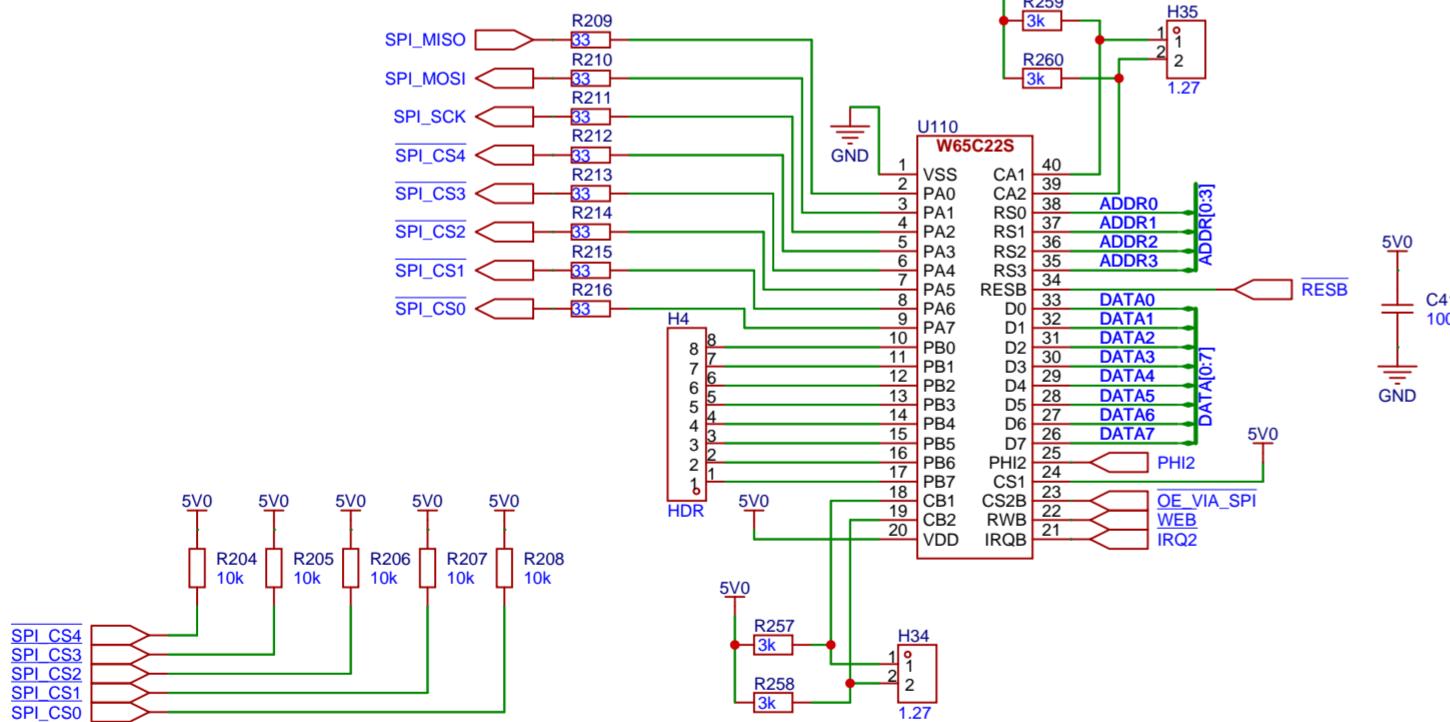
TFT LCD (ILI)



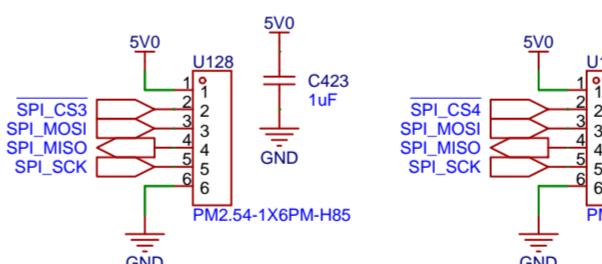
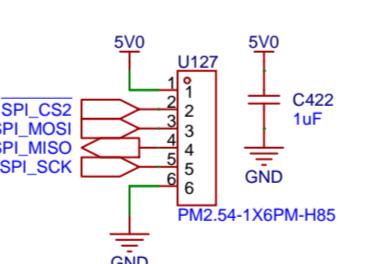
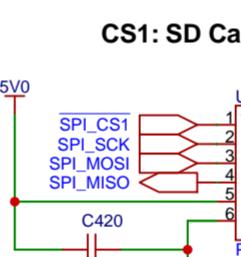
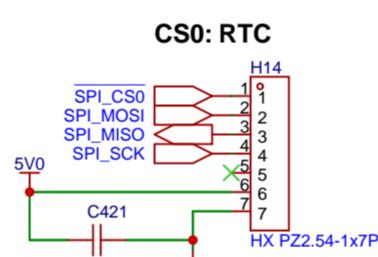
C0:0000 to FF:FFFF CS7B
1100:0000000000000000000000000000 to
1111:11111111111111111111111111
(range: top two bits are 11)

1100: VIA0 C0:xxxx C0:0000 to C0:000F
1101: VIA1 D0:xxxx D0:0000 to D0:000F
1110: VIA2 E0:xxxx E0:0000 to E0:000F
1111: VIA3 F0:xxxx F0:0000 to F0:000F

SPI, Expansion



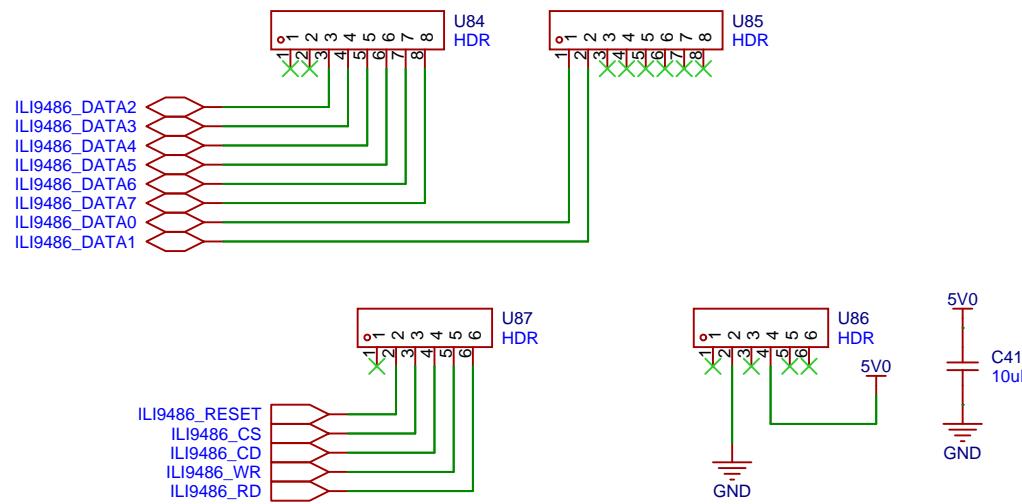
SPI CS:
-0:RTC
-1:SD Card Reader
-2:
-3:
-4:
-?



Schematic	Schematic1		Create at	2026-01-21
Board	Board1		Update at	2026-01-21
Drawn			Page	VIA & SPI
W65C265S Primary v0.11				
Reviewed			Version	Size
			Page 9 Total 10	
			V1.0	A4
			EasyEDA.com	

LCD - ILI

Arduino-style header for DIYables TFT LCD



Schematic	Schematic1		Create at	2026-01-21
			Update at	2026-01-21
Board	Board1		Page	LCD_ILI
Drawn				
Reviewed			W65C265S Primary v0.11	
	Version	Size	Page 10 Total 10	
		V1.0	A4	EasyEDA.com