

# PROOF OF CONCEPT V2.2

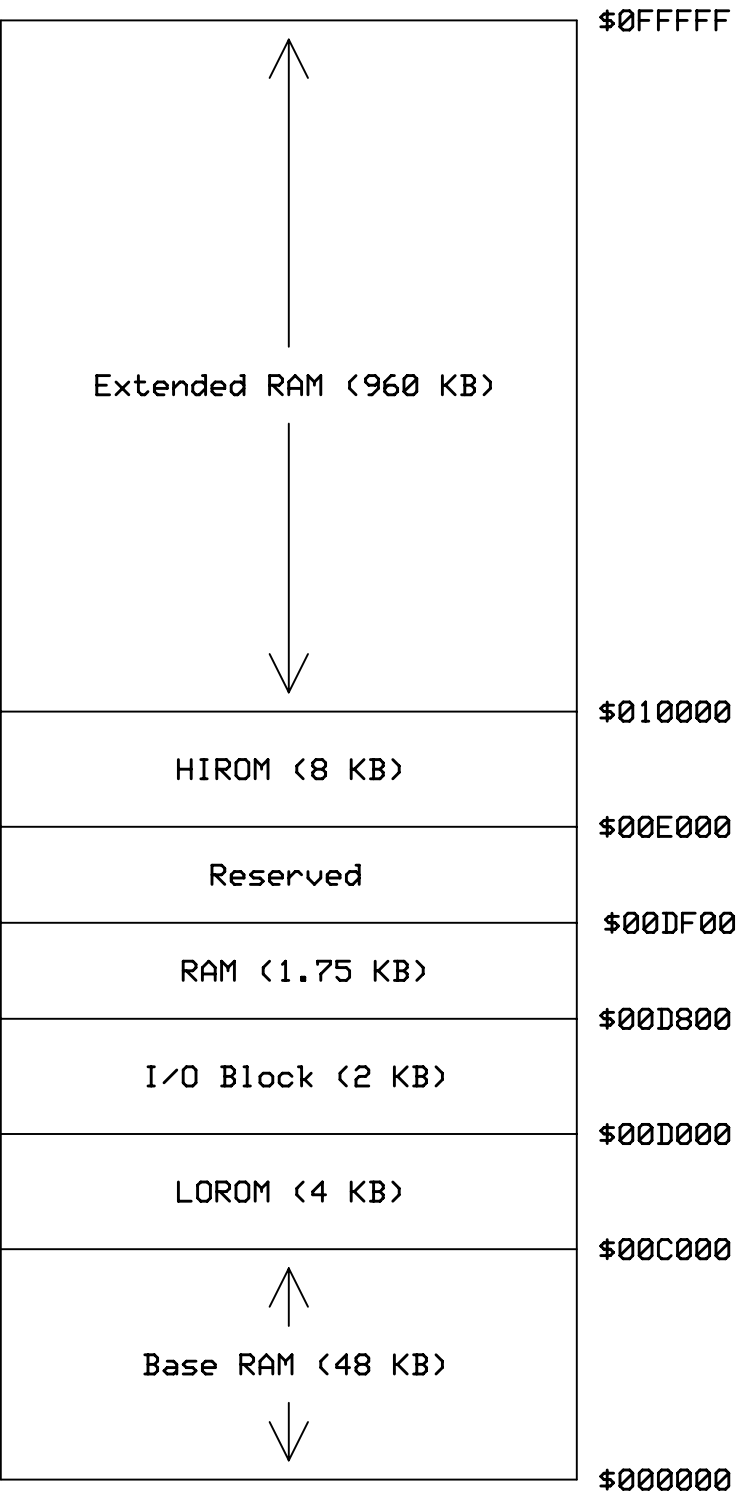
## SINGLE-BOARD COMPUTER

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One Megabyte Static RAM System

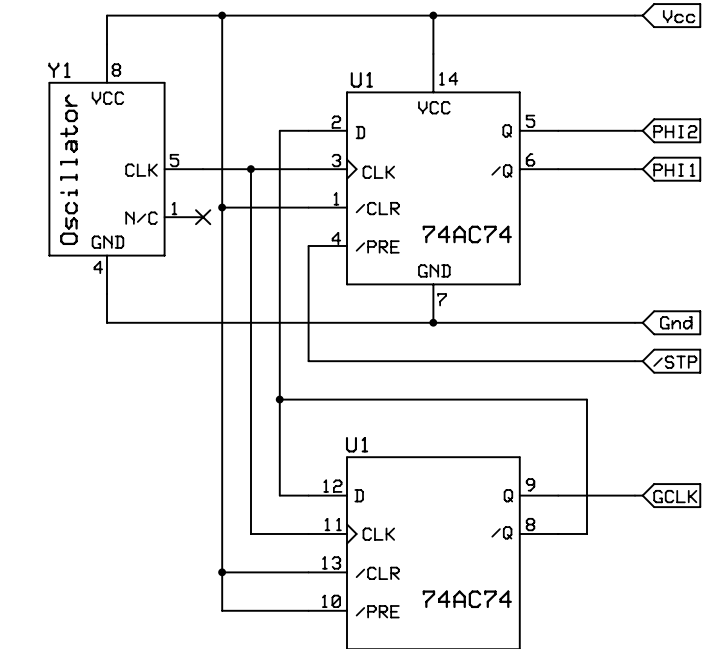
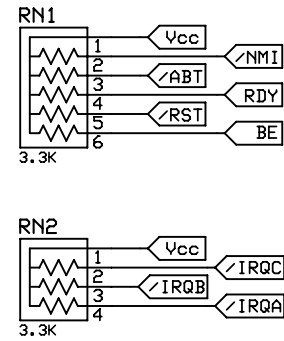
Powered by the W65C816S Microprocessor

Designed by BigDumbDinosaur

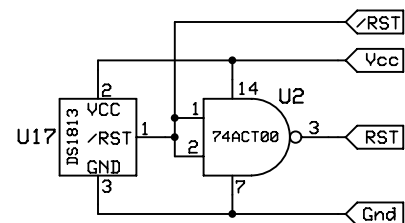


POC V2.2 MEMORY MAP																							
	00000000	00000001	00000002	00000003	00000004	00000005	00000006	00000007	00000008	00000009	0000000A	0000000B	0000000C	0000000D	0000000E	0000000F	00000010	00000011	00000012	00000013	00000014	00000015	
ADDRESS	A19	A18	A17	A16	A15	A14	A13	A12	A11	A10	A9	A8	A7	A6	A5	A4	A3	A2	A1	A0	SYMBOL	ASSIGNMENT	KB
\$000000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	BASRAM	Base RAM Start	48
\$00BFFF	0	0	0	0	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1		Base RAM End	
\$00C000	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	LOROM	Low ROM Start	4
\$00CFFF	0	0	0	0	1	1	0	0	1	1	1	1	1	1	1	1	1	1	1	1		Low ROM End	
\$00D000	0	0	0	0	1	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	IOBLK	I/O Start	2
\$00D7FF	0	0	0	0	1	1	0	1	0	1	1	1	1	1	1	1	1	1	1	1		I/O End	
\$00D800	0	0	0	0	1	1	0	1	1	0	0	0	0	0	0	0	0	0	0	0	D8RAM	D8RAM Start	1.75
\$00DEFF	0	0	0	0	1	1	0	1	1	1	1	0	1	1	1	1	1	1	1	1		D8RAM End	
\$00DF00	0	0	0	0	1	1	0	1	1	1	1	1	0	0	0	0	0	0	0	0	-----	-----	.25
\$00DFFF	0	0	0	0	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1			
\$00E000	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	HIROM	High ROM Start	8
\$00FFFF	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1		High ROM End	
\$010000	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	EXRAM	Extended RAM Start	960
\$0FFFFFF	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1		Extended RAM End	

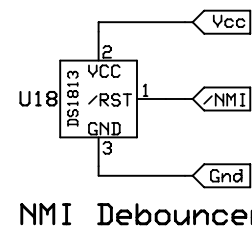
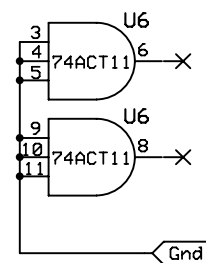
I/O BLOCK DECODING											
	8	4	2	1	0	0	0	0			
	0	0	0	0	8	4	2	1			
	0	0	0	0	0	0	0	0			
	0	0	0	0	0	0	0	0			
ADDRESS	A15	A14	A13	A12	A11	A10	A9	A8	ASSIGNMENT		SYMBOL
\$00D000	1	1	0	1	0	0	0	0	SC28L92 DUART A-B, timer A		SIOA
\$00D100	1	1	0	1	0	0	0	1	SC28L92 DUART C-D, timer B		SIOB
\$00D200	1	1	0	1	0	0	1	0	DS1511Y RTC		RTC
\$00D300	1	1	0	1	0	0	1	1	Expansion A		XIOA
\$00D400	1	1	0	1	0	1	0	0	Expansion B		XIOB
\$00D500	1	1	0	1	0	1	0	1	Expansion C		XIOC



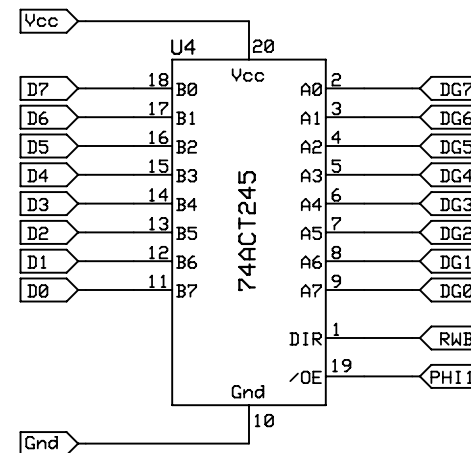
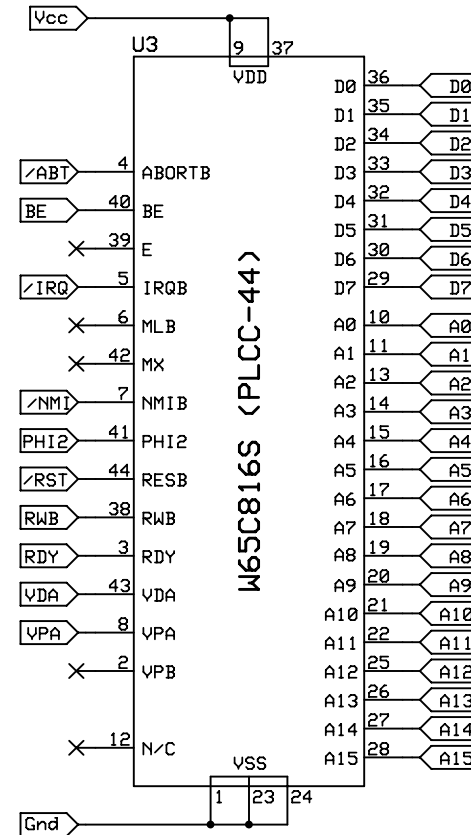
Clock Generators  
 CLK = PHI1 = PHI2 = GCLK =



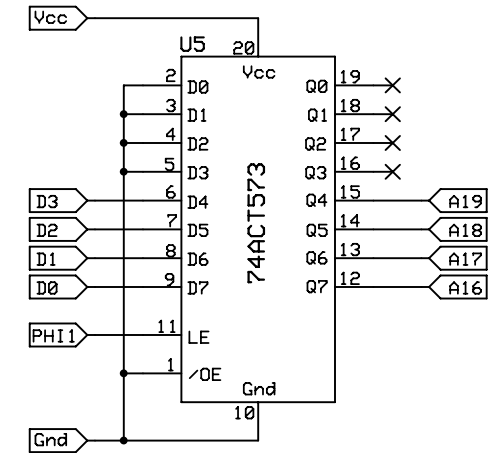
Reset Generator



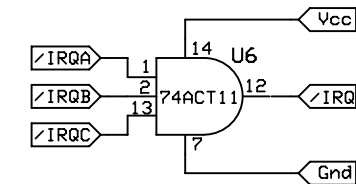
NMI Debouncer



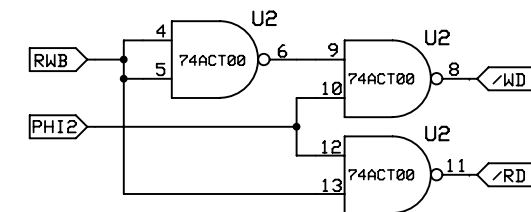
Data Bus Driver



Extended Address Generation

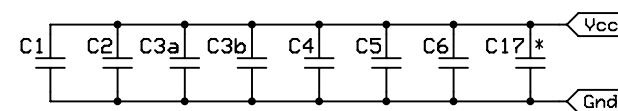


IRQ Driver



RWB	PHI2	/RD	/WD
X	L	H	H
H	H	L	H
L	H	H	L

Read/Write Logic



Decoupling Capacitors -- 0.1 uf @ 50v

\*C17 → Y1

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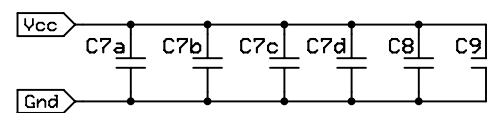
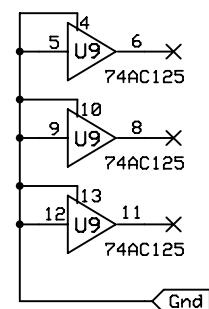
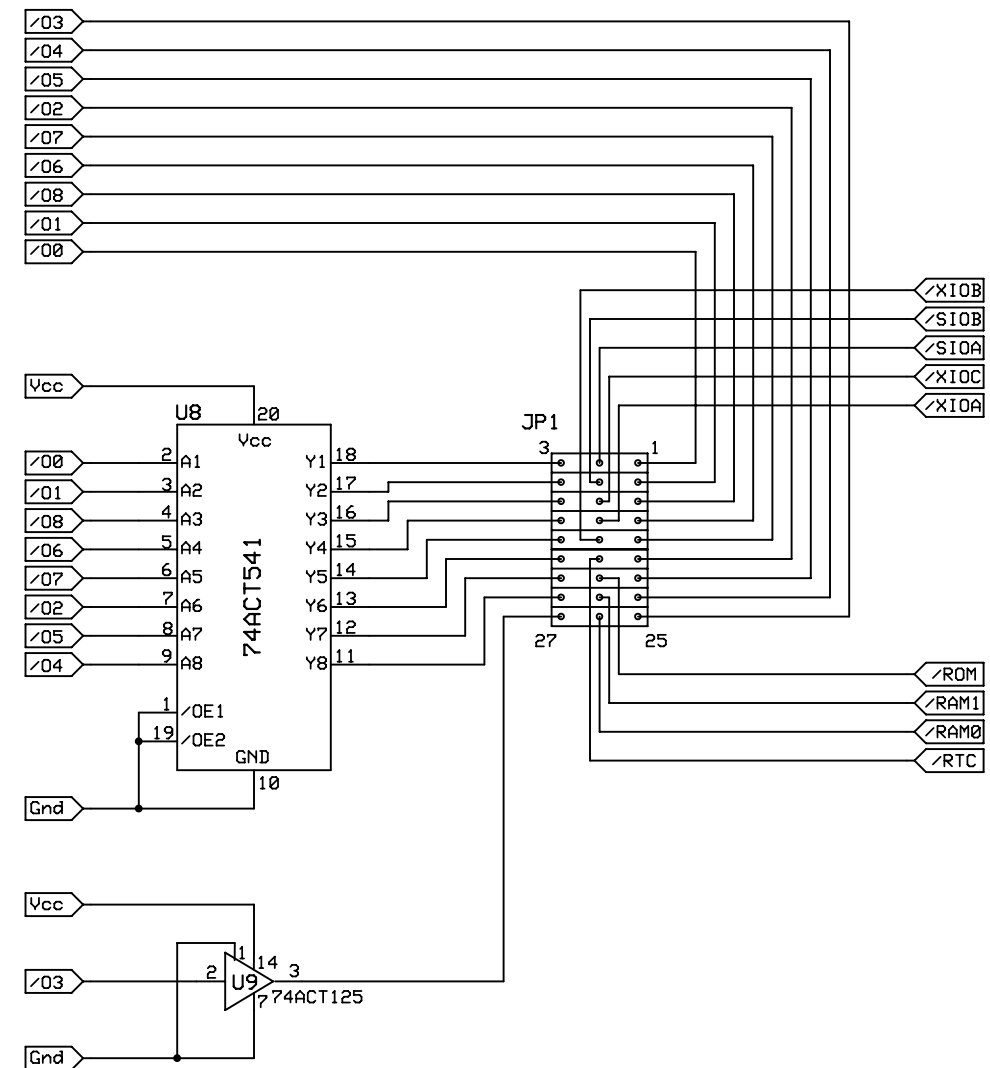
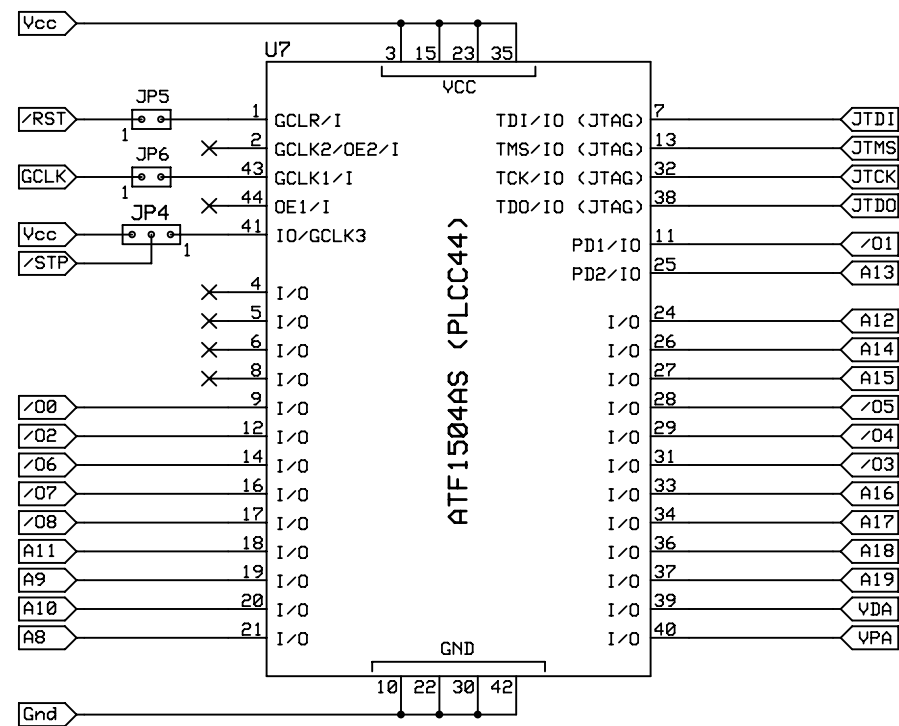
W65C816S SINGLE BOARD COMPUTER

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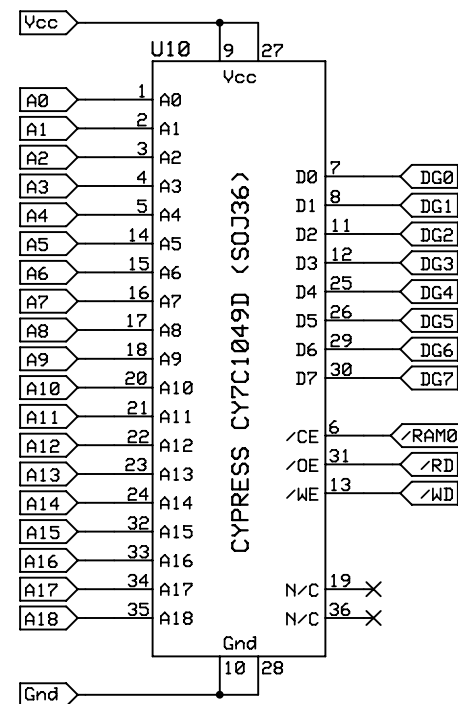
2018/07/07

Rev 2.2

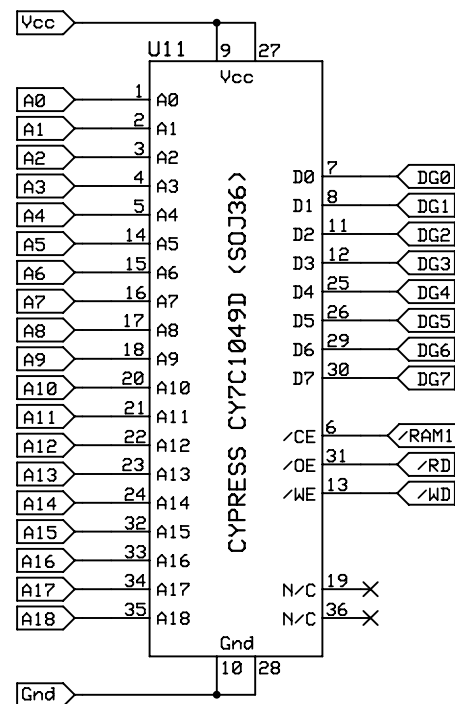
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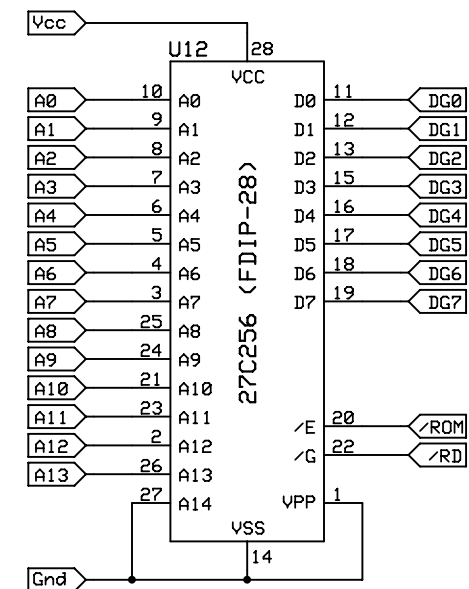
Decoupling Capacitors -- 0.1 uf @ 50v



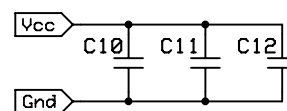
BASRAM (\$000000-\$00BFFF)  
D8RAM (\$00D800-\$00DFFF)  
EXRAM (\$010000-\$07FFFF)



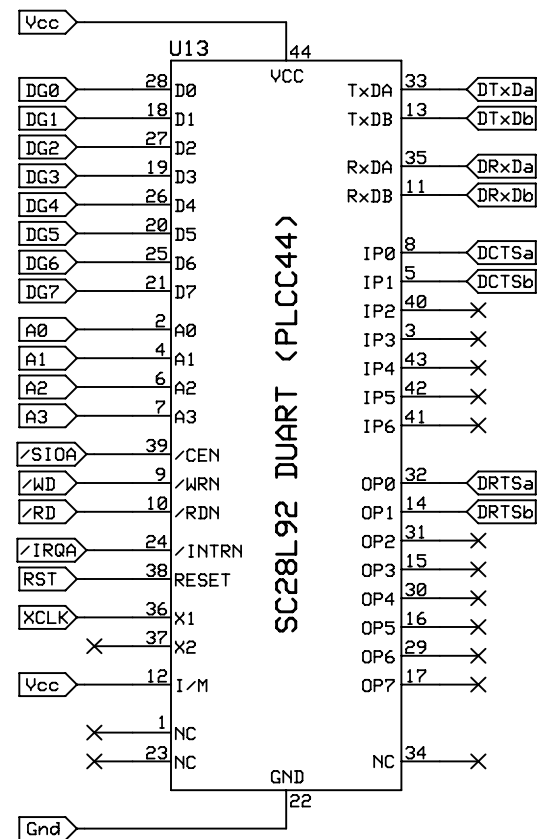
EXRAM (\$080000-\$0FFFFFF)



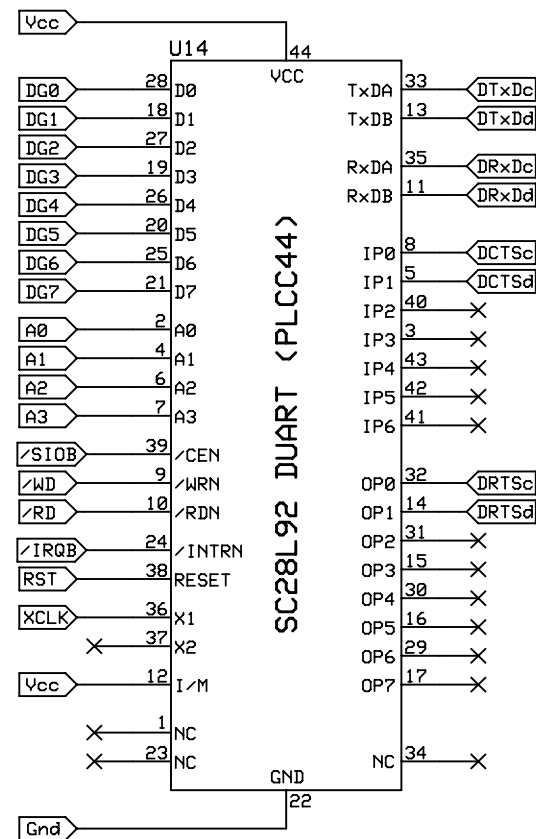
LOROM (\$00C000-\$00CFFF)  
HIROM (\$00E000-\$00FFFF)



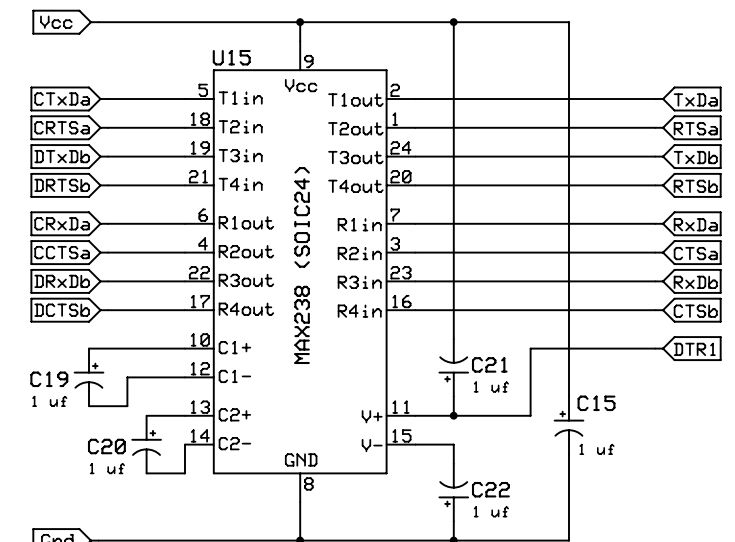
Decoupling Capacitors -- 0.1 uf @ 50v



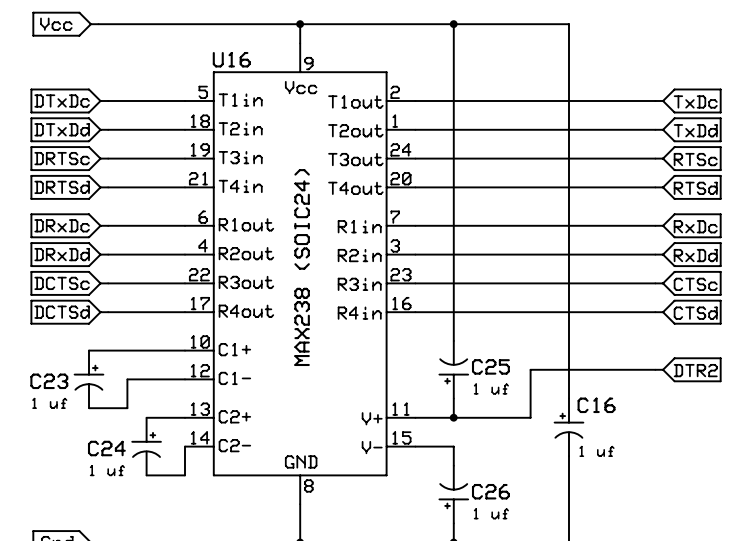
Channels A-B (\$00D000)



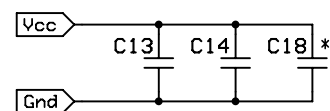
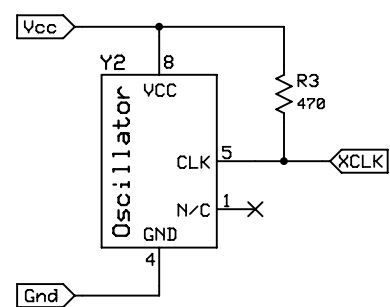
Channels C-D (\$00D100)



Channels A-B

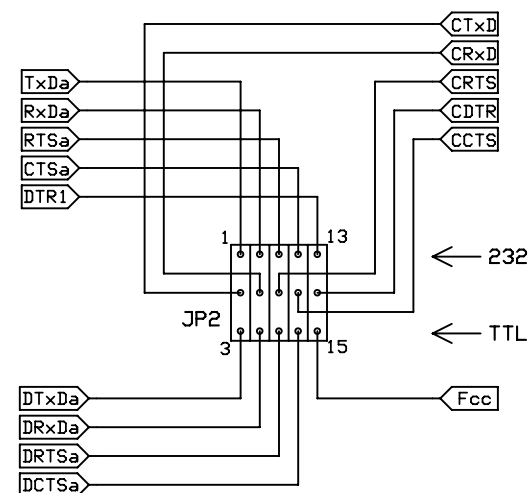


Channels C-D

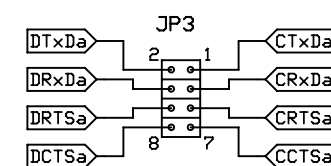


Decoupling Capacitors -- 0.1 uf @ 50v

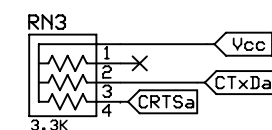
\*C18 → Y2



Console Select



TIA-232 Console Enable



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