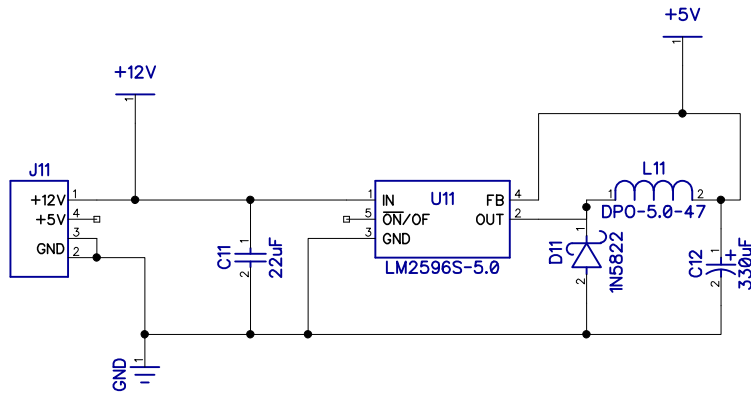


1

2

REVISIONS				
ZONE	REV	DESCRIPTION	DATE	APPROVED

12V -> 5V buck switcher with connector.
NOT hierarchical.



		SIZE	FSCM NO.	DWG NO.
		SCALE		Power regulator

1

2

1

2

REVISIONS

ZONE	REV	DESCRIPTION	DATE	APPROVED
Reset block with pullup resistor and debouncing capacitor				

The diagram shows a reset circuit. A pullup resistor R31 with a value of 10k is connected between Vdd and the input of a switch SW31. A debouncing capacitor C31 with a value of 100nF is connected between the output of the switch and Vss. The output of the switch is labeled 'Reset'.

	SIZE	FSCM NO.	DWG NO.	REV
	SCALE			Reset button

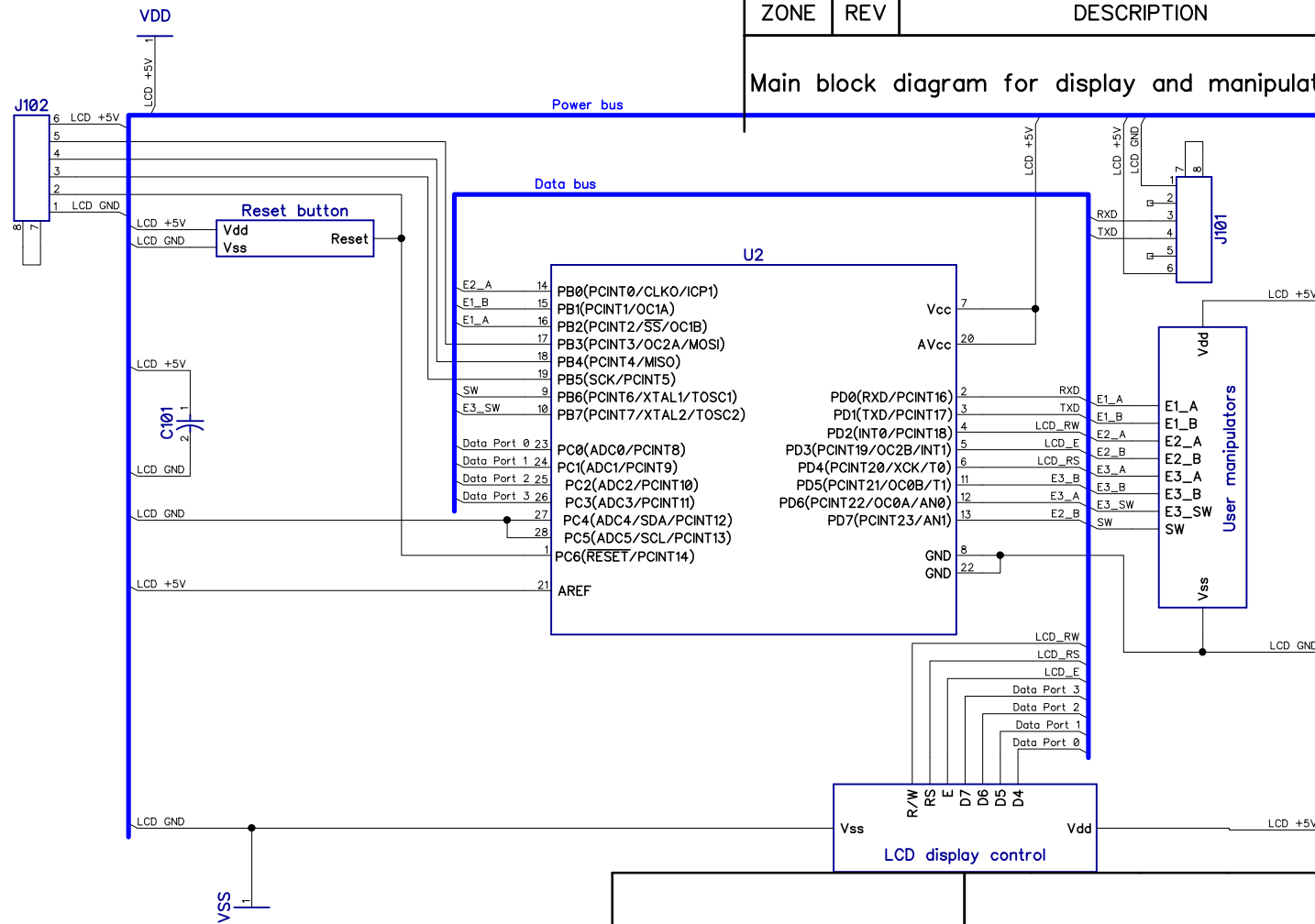
1

2

REVISIONS

ZONE	REV	DESCRIPTION	DATE	APPROVED
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Main block diagram for display and manipulators part.



1

2

SIZE	FSCM NO.	DWG NO.	REV
SCALE	LCD unit - main block		

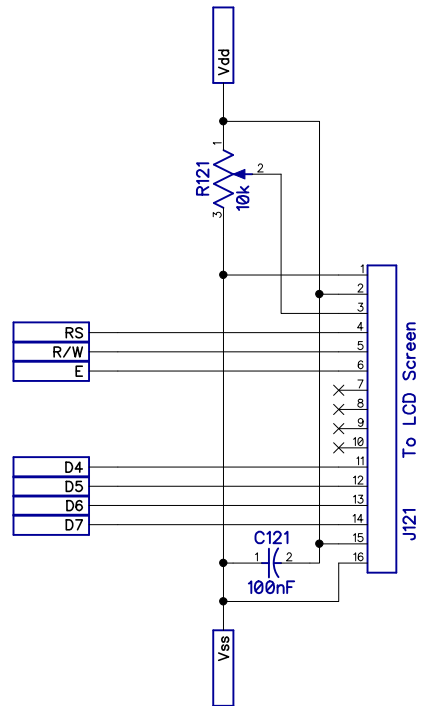
1

2

REVISIONS

ZONE	REV	DESCRIPTION	DATE	APPROVED
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3 wires interfae for LCD display.
<http://www.scienceprog.com/connect-lcd-to-atmega-using-3-wires/>



A

A

B

B

1

2

SIZE	FSCM NO.	DWG NO.	REV
SCALE	LCD display control		

1

2

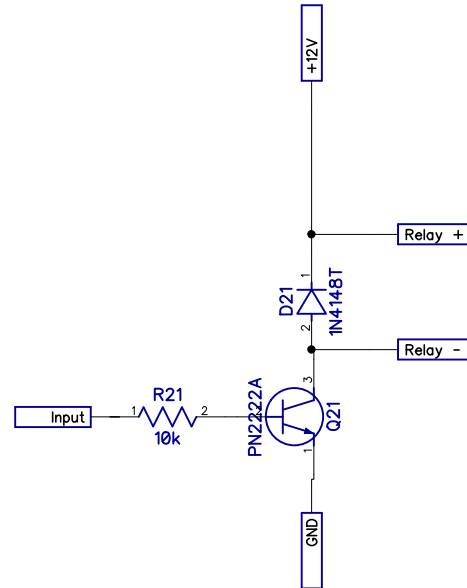
REVISIONS

ZONE	REV	DESCRIPTION	DATE	APPROVED
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Block for pump relay control signal (12V)

A

A



B

B

1

2

SIZE	FSCM NO.	DWG NO.	REV
SCALE	Vacuum pump relay signal		

1

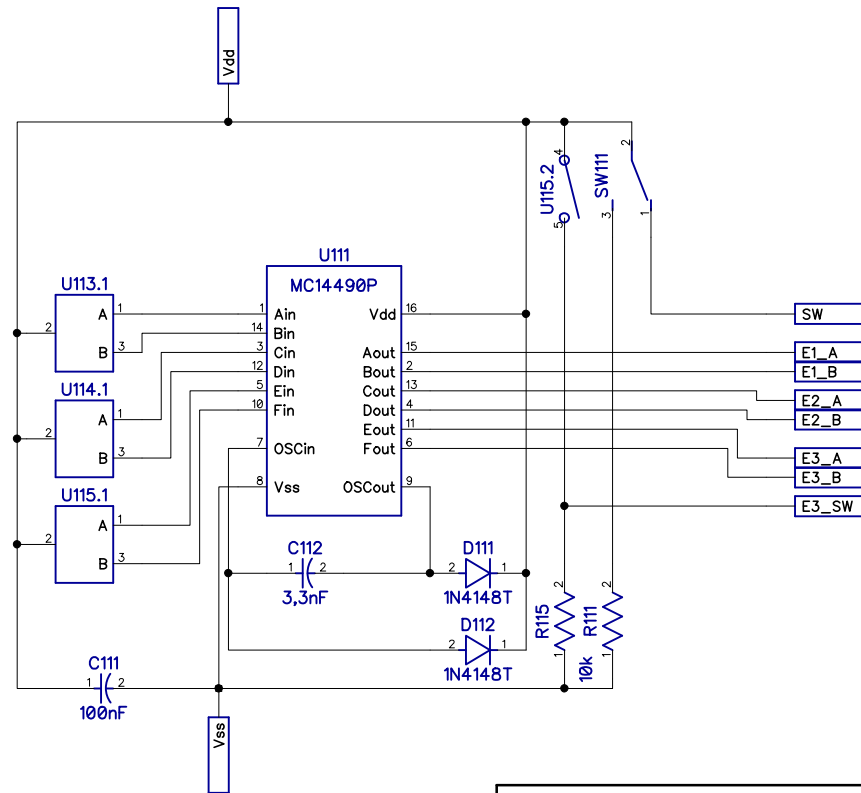
2

REVISIONS

ZONE	REV	DESCRIPTION	DATE	APPROVED
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Encoders for On/Hist, Off and Calibration, Hist mode switch and save button.

<http://playground.arduino.cc/Main/RotaryEncoders>



1

2

SIZE	FSCM NO.	DWG NO.	REV
SCALE	User manipulators		

#	RefDes	Type	Value	Quantity
1	C1	CC1206JRX7R9104	100nF	1
2	C11	TPSD226K025R0100	22uF	1
3	C12	WL1C337M0811MBB	330uF	1
4	C31, C111, C121	12065C104KAT2A	100nF	4
5	C112	CL31C332JBFNNE	3,3nF	1
6	D11	1N5822		1
7	D21, D111, D112	1N4148T		3
8	J1, J2, J11	0015244441 (Molex HDD Power)		3
9	J3, J4, J101, J102	RJ12GE-AMP		4
10	J121	PinOut 1x16		1
11	L11	DPO-5.0-47	47uH	1
12	Q21	PN2222A		1
13	R1, R2	TC0625B1003T1E	100k	2
14	R21, R31, R111, R115	TC0625B1002T1E	10k	5
15	R121	RV121NP	10k	1
16	S1	MPX4250AP		1
17	SW31	B3F-1000		2
18	SW111	HSS1260		1
19	U1, U2	ATMEGA168_PDIP		2
20	U11	LM2596S-5.0		1
21	U111	MC14490P		1
22	U113, U114, U115	EC-11SP-1-1-1-15KQ		3
				41

Cx	Main unit
C1x	Power regulator
C2x	Vacuum pump relay signal
C3x	Reset button
C10x	LCD unit - main block
C11x	User manipulators
C12x	LCD display control