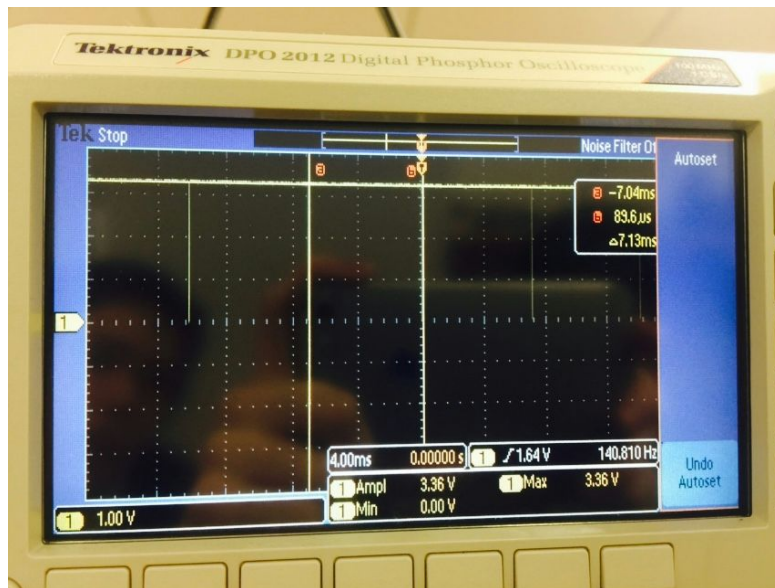


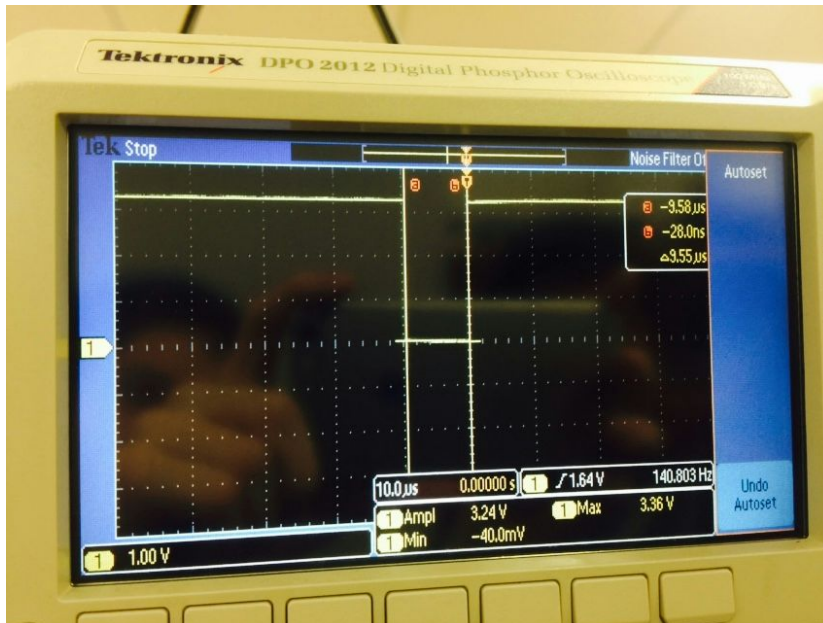
<b>University Of Texas At Austin</b>	
<b>Schematic Name:</b> EK-LM4F120XL or EK-TM4C123GXL	
<b>Name(s):</b> Timberlon Gray, Raiyan Chowdhury	
<b>Date:</b> April 10, 2016	<b>Semester:</b> Spring 2016

**Time measurements:**

**LCD Output (7.13 ms):**



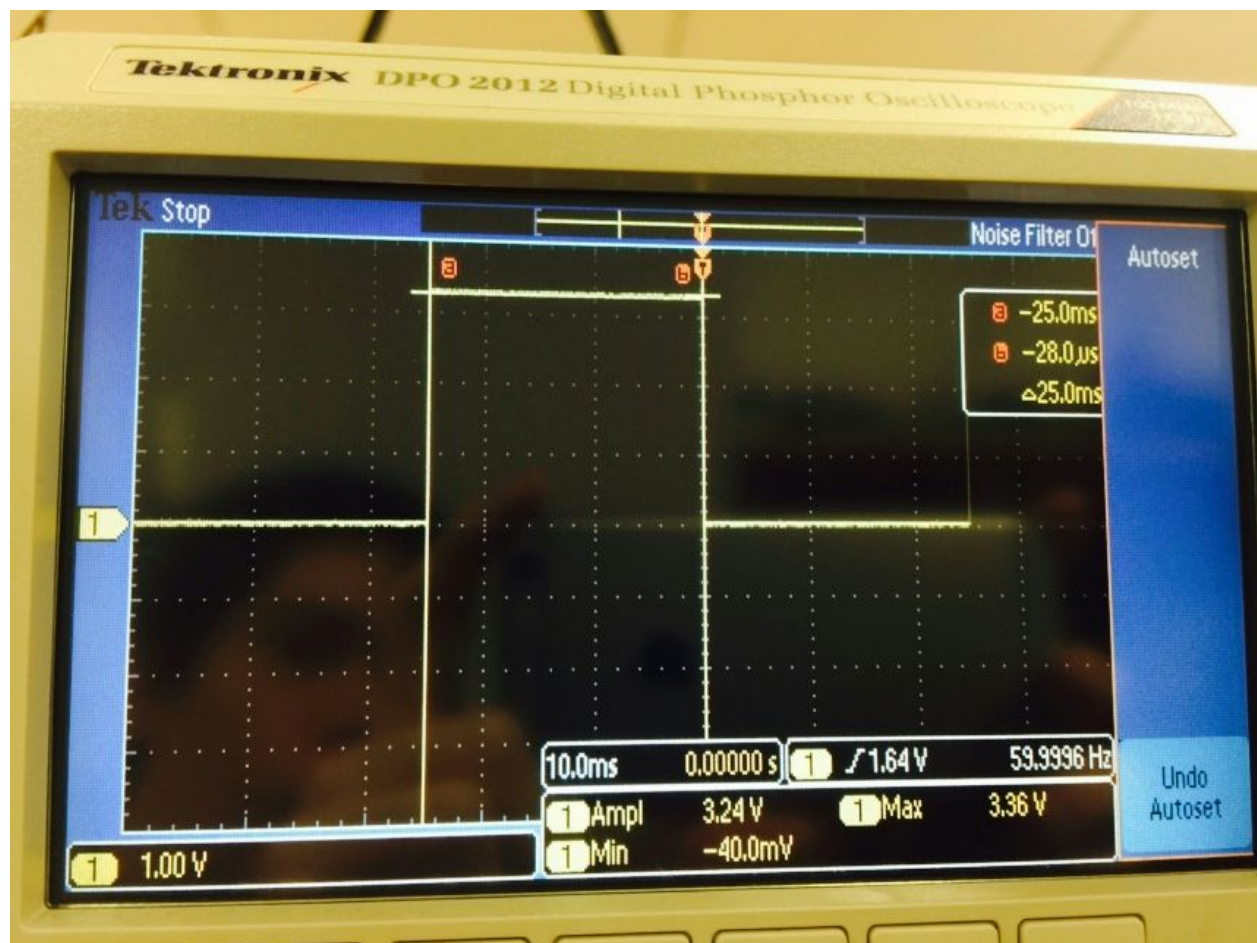
## ADC Conversion (9.55 $\mu$ s)



### Calibration Data:

Position	Analog input	ADC sample	Correct Fixed-point
0.10 cm	0.01	20	100
0.40 cm	0.41	520	400
0.80 cm	1.24	1530	800
1.20 cm	2.09	2570	1200
1.40 cm	2.5	3130	1400
1.60 cm	2.91	3645	1600
1.80 cm	3.27	4095	1800

40 Hz Sampling Rate (25 ms):



**Average accuracy (with units in cm) =**

True position $x_{ti}$	Measured Position $x_{mi}$	Error $x_{ti} - x_{mi}$
0.1	0.074	0.26
0.4	0.288	0.112
0.8	0.746	0.054
1.2	1.233	-0.033
1.8	1.891	-0.091

The number of data sets is 5

The maximum error is 0.112

The average error is 0.063