

Lab01 Report

- 1) I compensate my probes in this order; First I plugged my probe to the digital oscilloscope and set to auto set. After that I observe that my probe is over compensated and in order to fix it I used with the black tool (control stick) which comes with the probe. Finally I obtained square wave graphic
- 2) I prepared my system which means signal generator is giving 5 Vp-p sinusoidal signal with a 1 kHz frequency. After that First I used positive edge triggering and I obtained fig.1

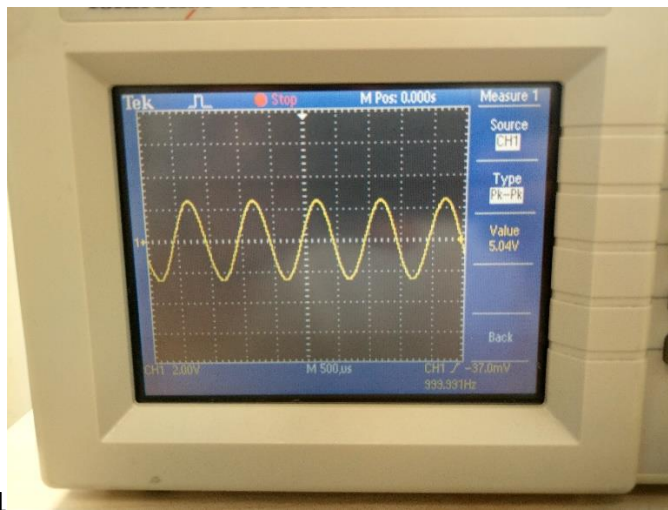


fig.1

After obtaining that I changed to negative edge triggering and I obtained fig.2

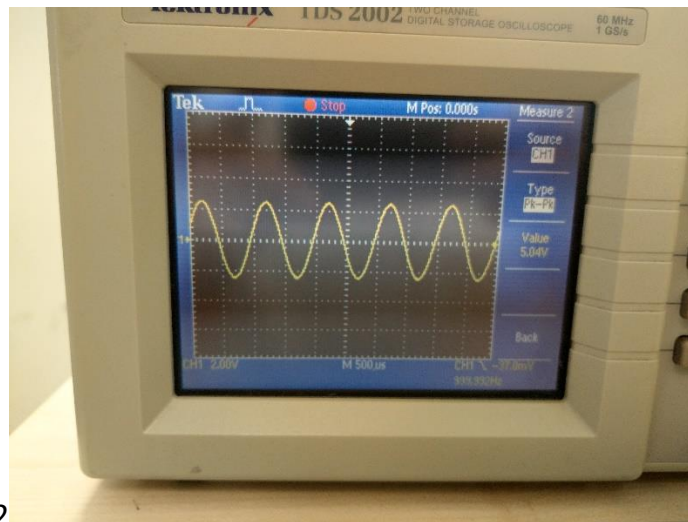


fig.2

and after observing two of them I conclude that changing negative /positive trigger mode is changing how oscilloscope is triggered in the way it is falling or rising at that point and because of that we have displayed slightly different graphics

- 3) I prepare my setup as giving 1Vp-p with 2 kHz frequency of triangular wave. After that I change the trigger level knob on the oscilloscope and I observe that when I am raising the trigger mode oscilloscope cannot display the graph because it is not reaching the trigger level and when I am decreasing the level it is displaying the graph as it should be.
- 4) I prepare my setup as giving 1Vp-p with 5 kHz frequency of square wave. Then I select all of the acquisition modes which are sample, peak detect and average modes. First I used Sample mode which showed me waveform points (fig.3). After I used peak detect mode which shows and I obtained fig.4 which showed me the stored peak point on the normal graph. And finally I used average mode and I obtained fig.5 which shows me more stable graph because it stores the average points.

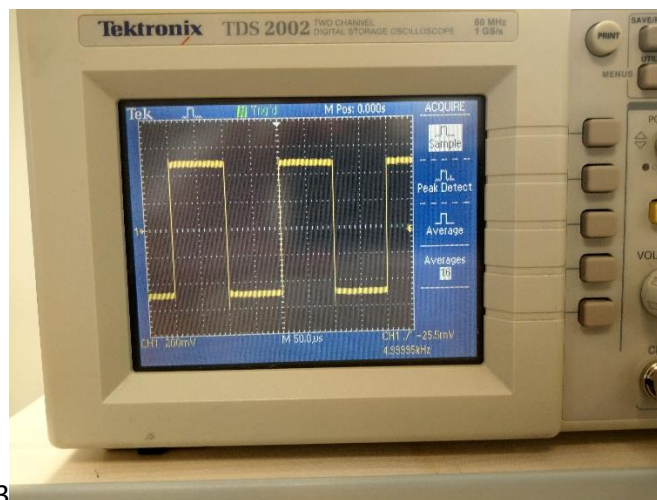


fig.3

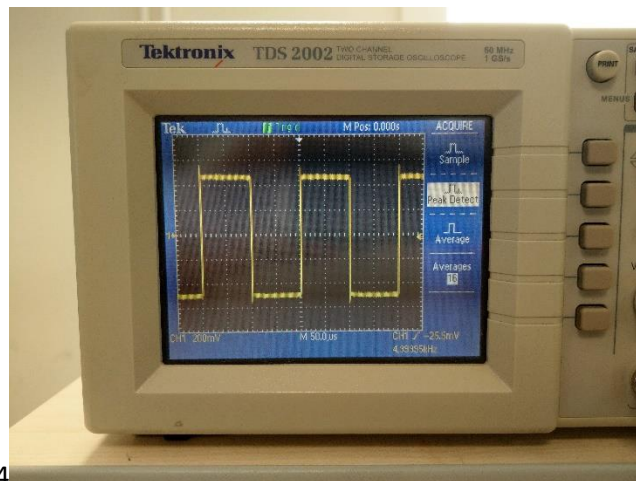


fig.4

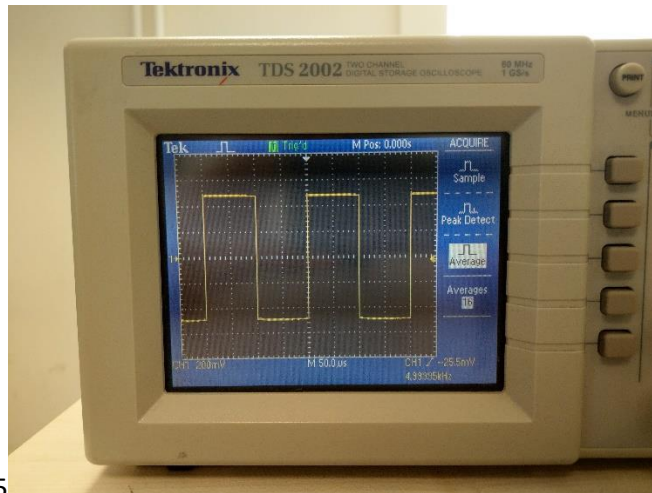


fig.5

- 5) I prepare my setup as giving 2Vp-p with 1 kHz frequency of sinusoidal wave and also I apply DC-Offset of 1 V. Then I used DC coupling and obtained fig.6 after I switch the AC coupling I obtained fig. 7. I observe that In DC coupling both of the current types is shown in the graph but in the AC coupling only AC is detecting DC is not.

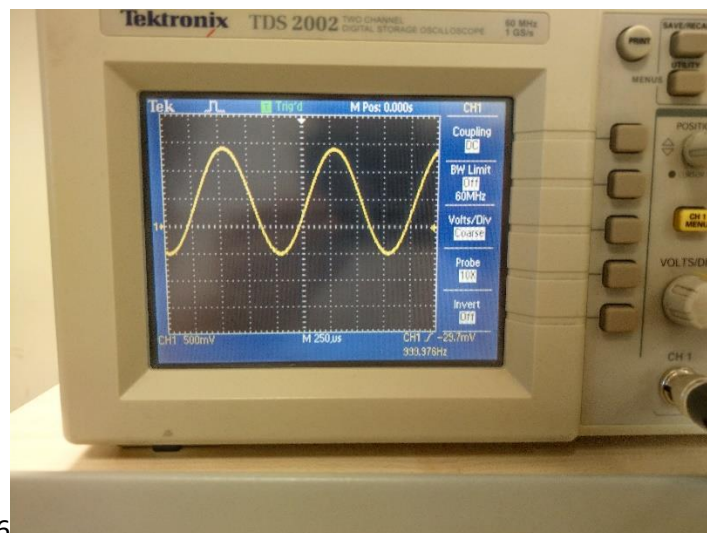


Fig.6

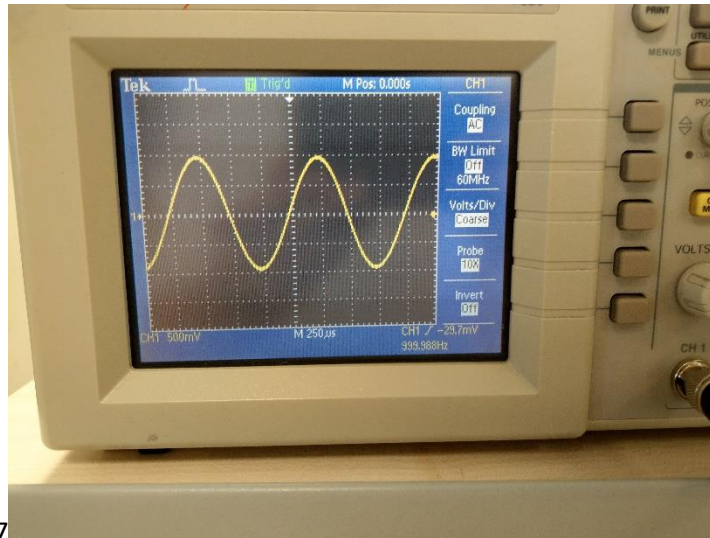


fig.7

- 6) I setup the board as it given in the assignment and I prepare my system as giving 2Vp-p with 1 kHz frequency of sinusoidal wave with DC-Offset of 0. I obtained fig.8 and I measured the time delay 36µ second and phase difference is 12 decrease. After I change to 100 Hz I obtained fig.9 and 1.6 ms time delay and 57 degree of phase difference. I observe that this circuit failed at filtering high frequency signal but do well at low frequency signals.

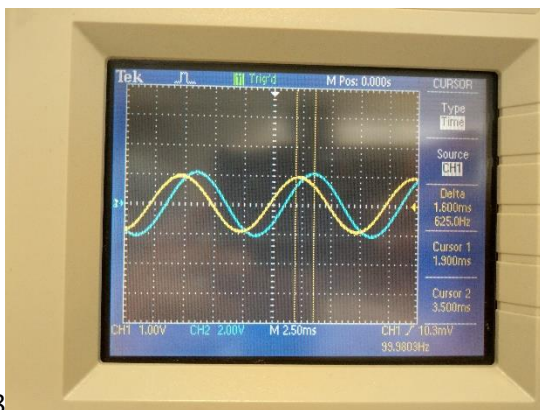


fig.8

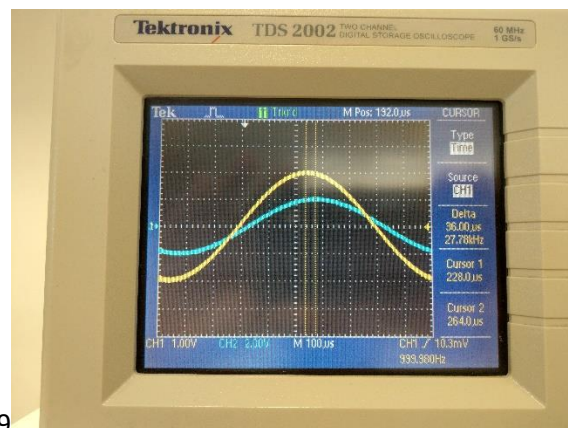


fig.9

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