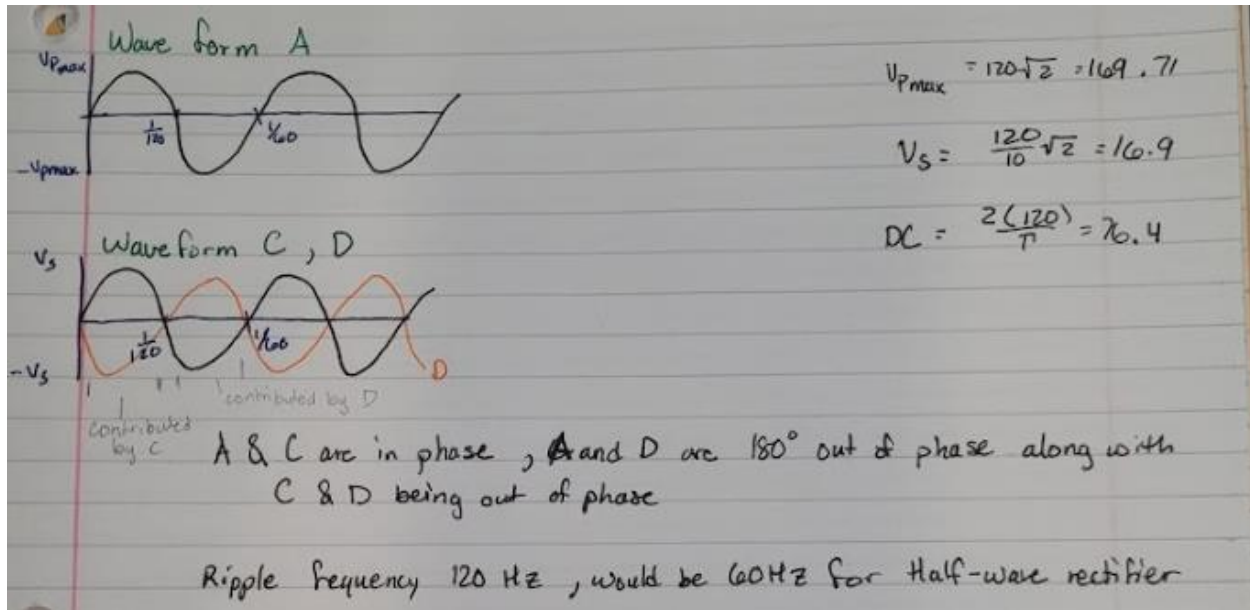


PreLab 6

6/27/22

Jaiden Gann

Theoretical:



Simulation:

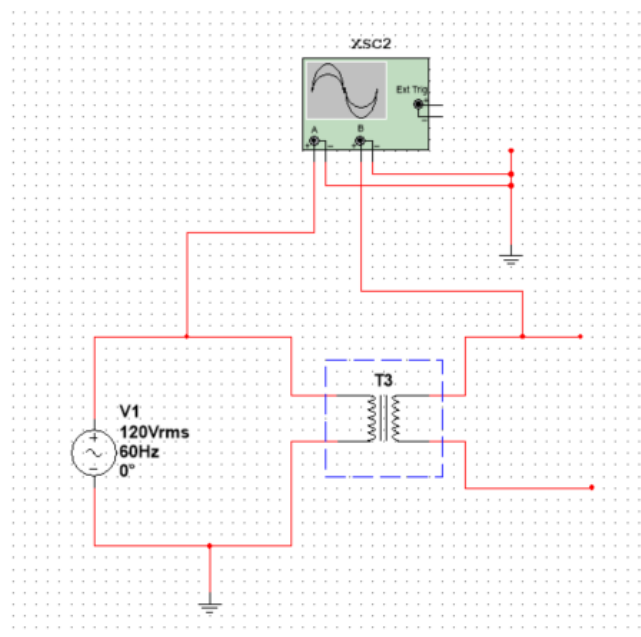


Figure 1. MultiSim Circuit of Figure 6.3

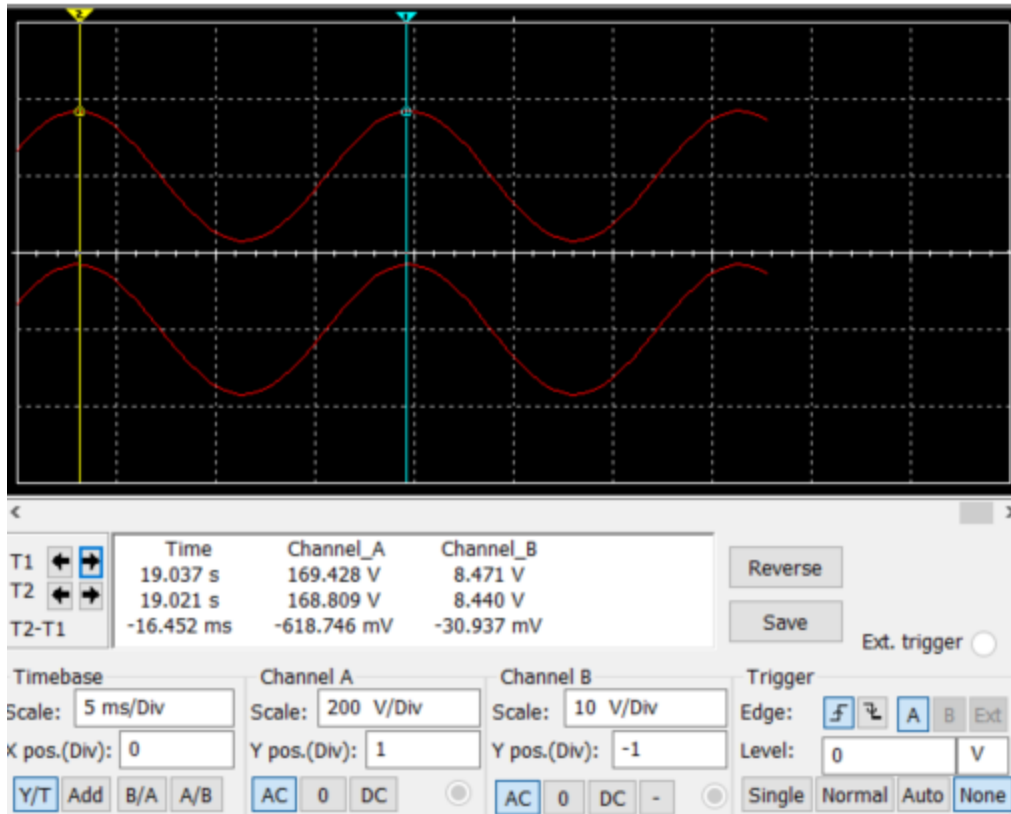


Figure 2. Node A and C

Channel A is node A and channel B is node C. The markers should be at the peak voltages for each. It didn't look like the secondary was 10x less than the primary, it looked to be more than that. They are in phase, maybe slightly off just a tad from looking at where the peak voltages line up. The frequency is around 62.5 Hz, found by doing $1/(16.452 \text{ ms})$

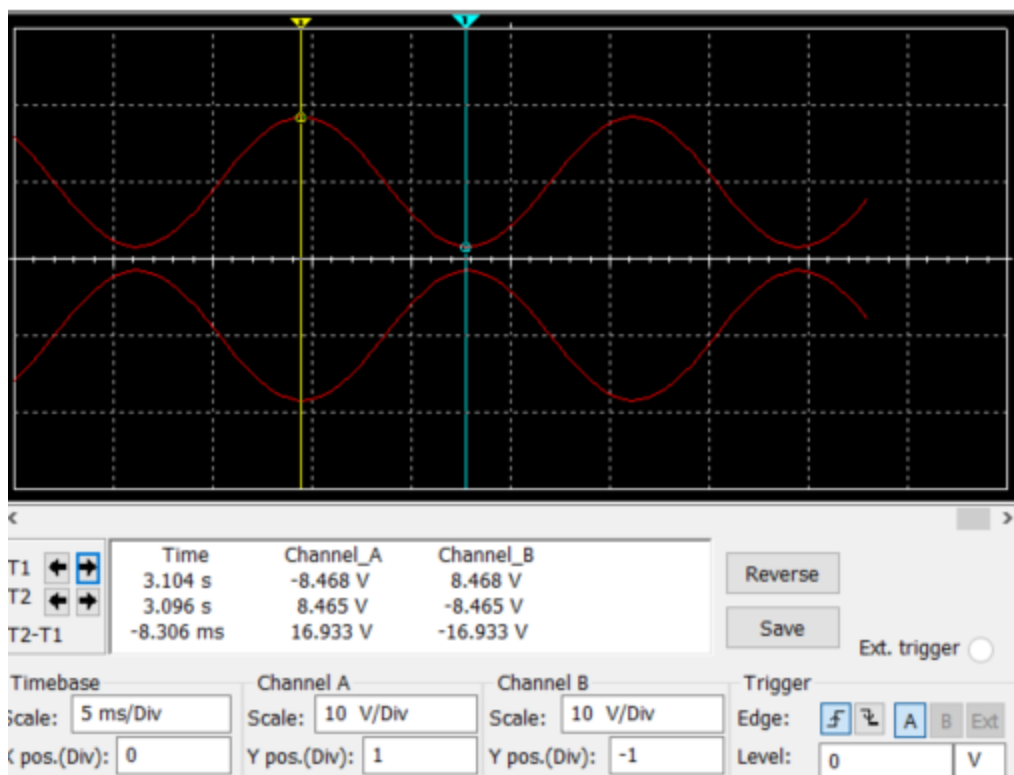


Figure 3. Node C and D

Channel A is node D and Channel B is Node C. The waveforms are now out of phase, this implies the coils are in opposite directions.

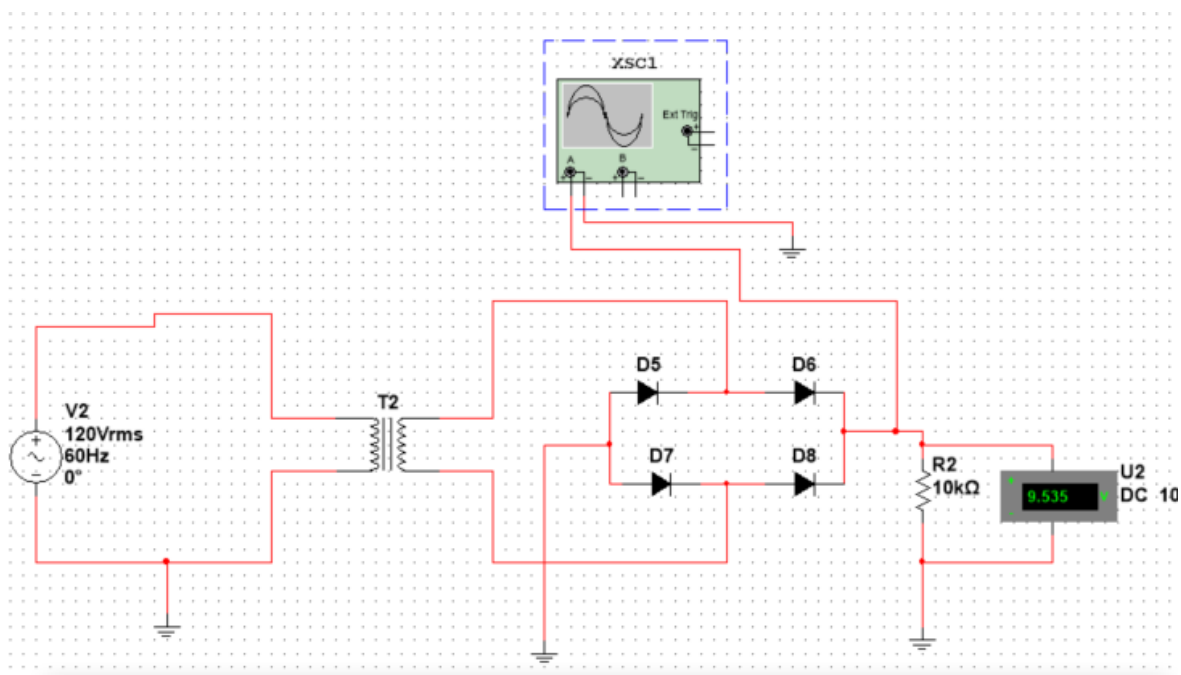


Figure 4. Transformer with Bridge Rectifier

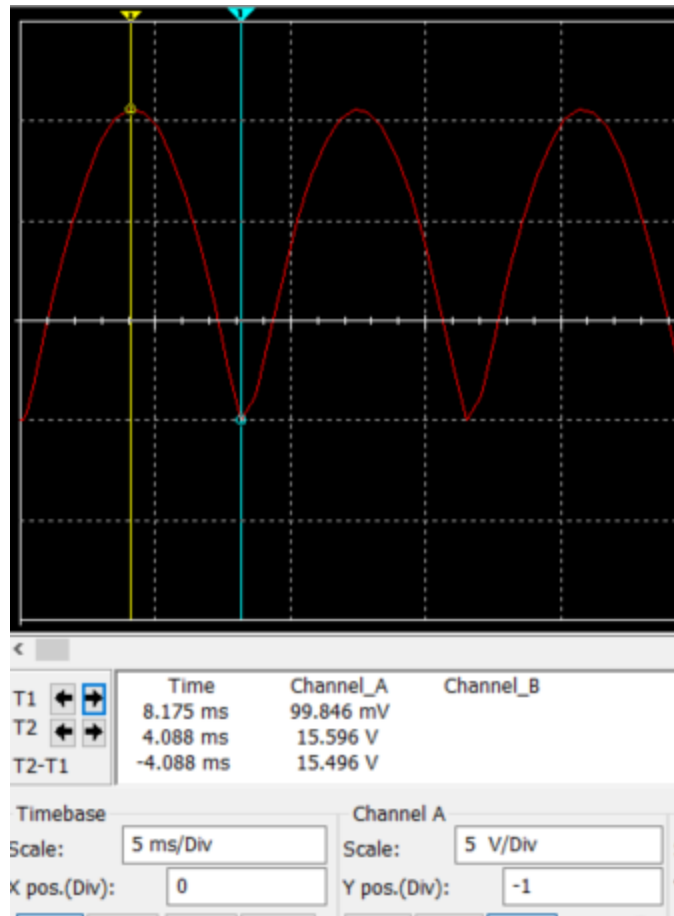


Figure 5. Voltage Output (Oscilloscope)

$V_{OUT} = 2(15.496)/\pi = 9.549$. The multimeter output was 9.535 which is pretty much what the oscilloscope gave. The period is 8.353 ms. Which makes frequency 119.72 HZ. For a full bridge rectifier, the ripple frequency is twice that of the input so ripple frequency would be about 238 Hz.