

## **Second Extra Bonus Opportunity**

### **Sabrina White**

In this extra bonus opportunity, please start to draft the **reflections for your learning experiences** you have had for the

- (1) Learn from the posted videos. We have many videos on D2L. Pick some and watch. What you have learnt from those videos. Please watch five of them and use a table to summarize the videos.

<b>Video Name</b>	<b>Video URL</b>	<b>What you have learnt from the video</b>	<b>Any questions not answered through the videos?</b>
Unbelievable: 3 Mind-Blowing Mosfet Projects That Even Beginners Can Create!	<a href="https://www.youtube.com/watch?v=GbdF6th5PZk">https://www.youtube.com/watch?v=GbdF6th5PZk</a>	I learned that Mosfet can easily be used to have fun LED lights that would go along with the speakers. I also saw how Mosfet could be used for a high sensitivity fire detector. Finally I saw how it could be used for a heat sensitive fan. Overall, it seems like Mosfet is	

		extremely versatile yet simple to use.	
Subwoofers, Woofers, and Tweeters as Fast as Possible	<a href="#"><u>Subwoofers, Woofers, and Tweeters as Fast As Possible (youtube.com)</u></a>	I learned that tweeters typically cover the 2000-20000 Hz range. I also learned that what separates each of these types of speakers is size. Sound quality can depend on whether the frequencies being supplied to a speaker are best for the size of the speaker.	
Passive RC Low Pass Filter Tutorial	<a href="#"><u>Passive RC low pass filter tutorial! (youtube.com)</u></a>	I learned that a low pass filter can be implemented into a circuit just by putting a resistor and a capacitor in series. This is because the voltage on a capacitor cannot instantaneously change. So, when the resistor slows the charging of the capacitor, the output	

		<p>voltage is not able to follow the sudden changes in input voltage, and therefore higher frequencies get filtered out. I also learned that it is best to choose R and then let the cutoff frequency equation solve for the best value of C.</p>	
RLC Band Stop Filters and Band Pass Filters	<a href="#"><u>RLC Band Stop Filters and Band Pass Filters</u></a> <a href="https://www.youtube.com"><u>(youtube.com)</u></a>	<p>I was reminded that a band pass circuit can be made by putting resistor in series with an inductor and capacitor that are parallel. I learned that if an inductor and capacitor are in series, the inductor blocks high frequencies, and the capacitor blocks low frequencies. I learned that a band pass filter could also be assembled by putting an inductor, capacitor, and resistor in</p>	<p>Is one band pass filter design better than the other?</p>

		series. I also learned that a band stop filter can also be made by putting an inductor, a capacitor, and a resistor in different positions.	
DIY simple Powerful Amplifier using TDA2030, Homemade Amplifier 12V	<a href="#"><u>DIY simple Powerful Amplifier using TDA2030, Homemade Amplifier 12V - YouTube</u></a>	One thing I noticed was how much soldering could reduce the number of wires and therefore also reduce noise. I also saw some ideas for a amplifier circuit using a TDA2030a. Also, I noticed the there was a diode placed after the DC power supply, which is something I may integrate to protect the chip.	

*(2) Provide me some feedback for how to make our class better, any feedback will be highly appreciated to make sure you are successful for our class.*

I think that more practice over how to integrate filters into the amplifier circuit for various different chips would be helpful.

