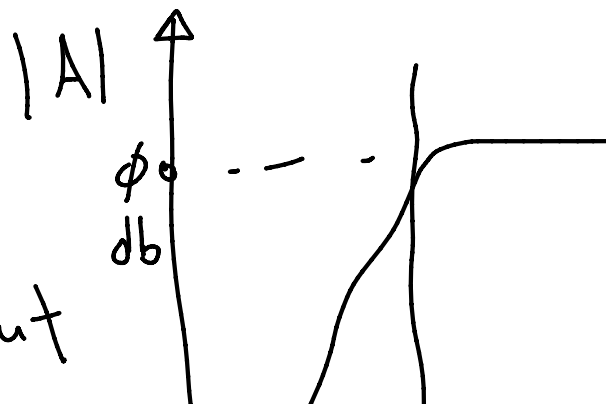
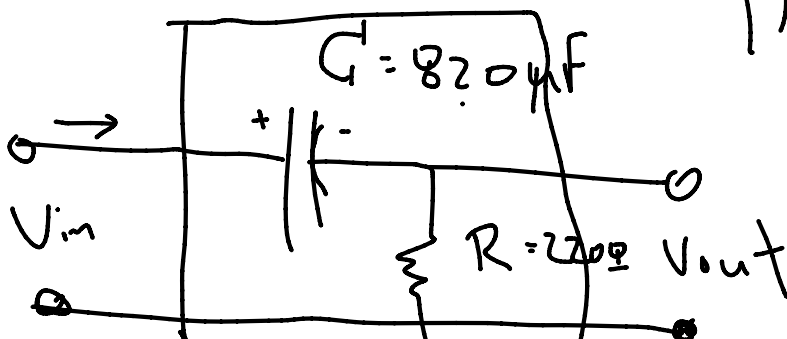
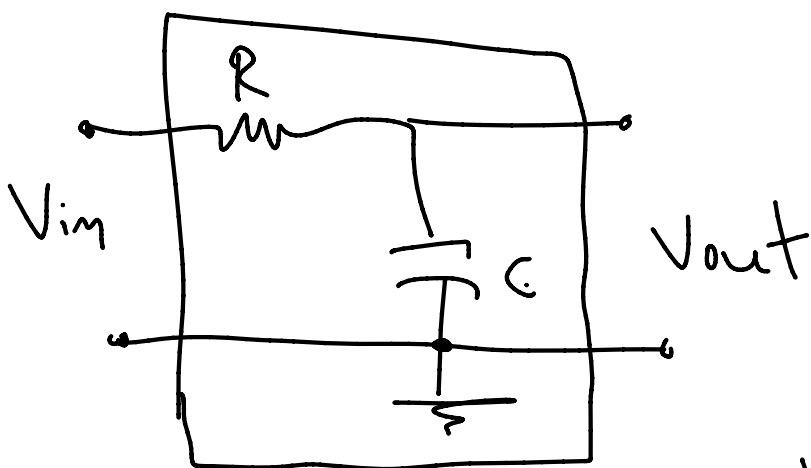
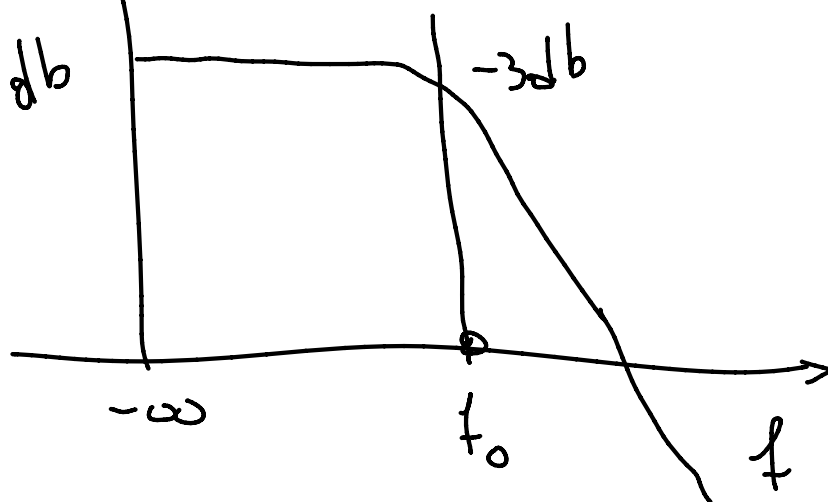
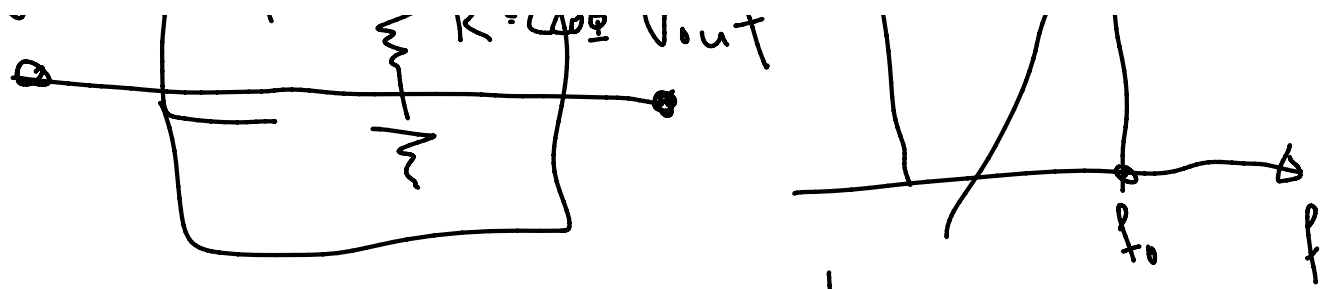


$$|H| = 5 + \sin(2\pi \cdot 50t + \frac{\pi}{180} \cdot 30)$$

$$|A| = \left| \frac{V_{out}}{V_{in}} \right|$$

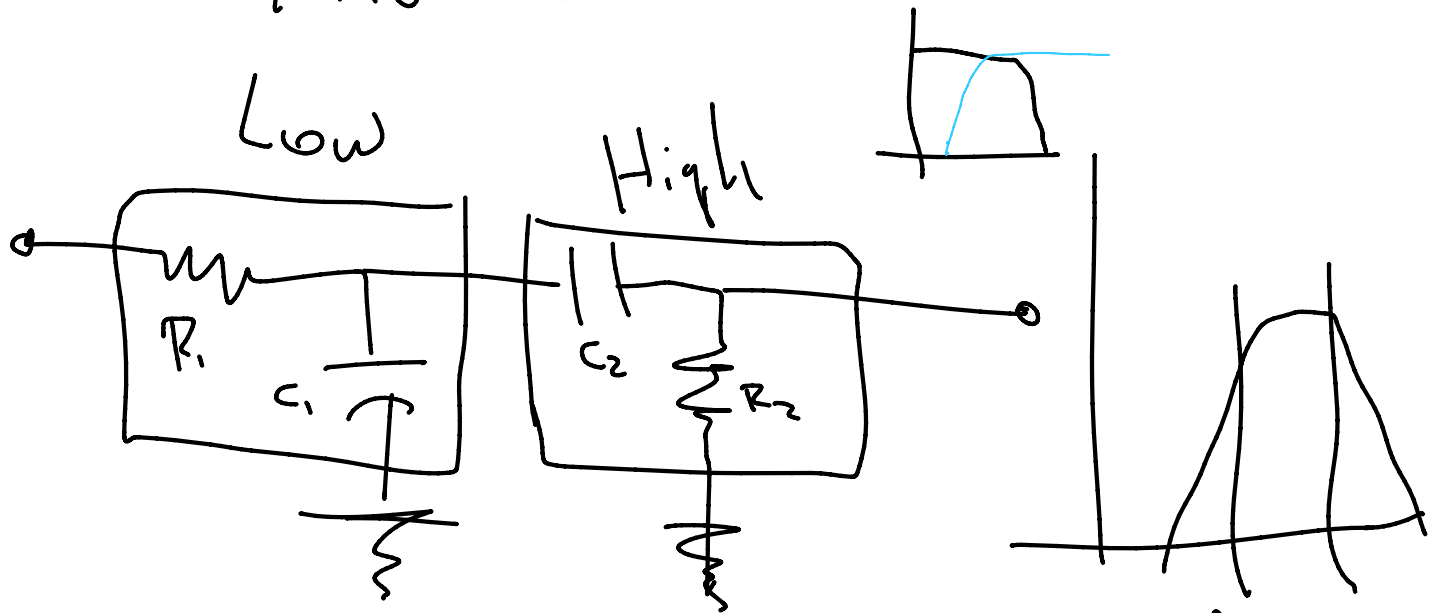
$$f_{t0} = \frac{1}{2\pi RC}$$





$$f_0 = \frac{1}{2\pi RC}$$

$$f_0 = \frac{1}{2\pi \cdot 1 \cdot 10^{-9} \cdot 1 \cdot 10^3} = \frac{1}{2\pi} \cdot 10^6 = \underline{\underline{159 \text{ kHz}}}$$



$$\frac{1}{2\pi R_1 C_1} = f_L < f_H = \frac{1}{2\pi R_2 C_2} = 1 \text{ Hz}$$

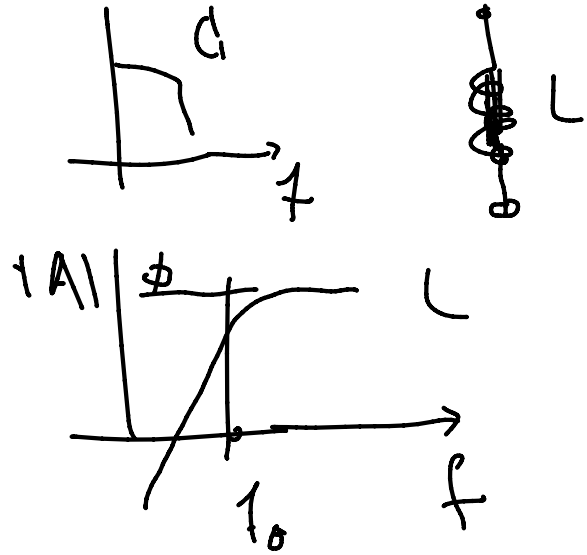
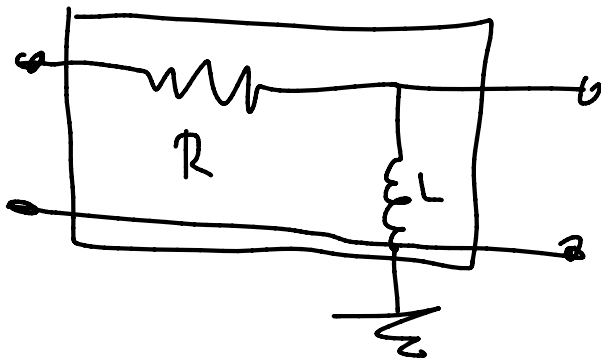
$$R_2 C_2 = \frac{1}{2\pi}$$

220kΩ

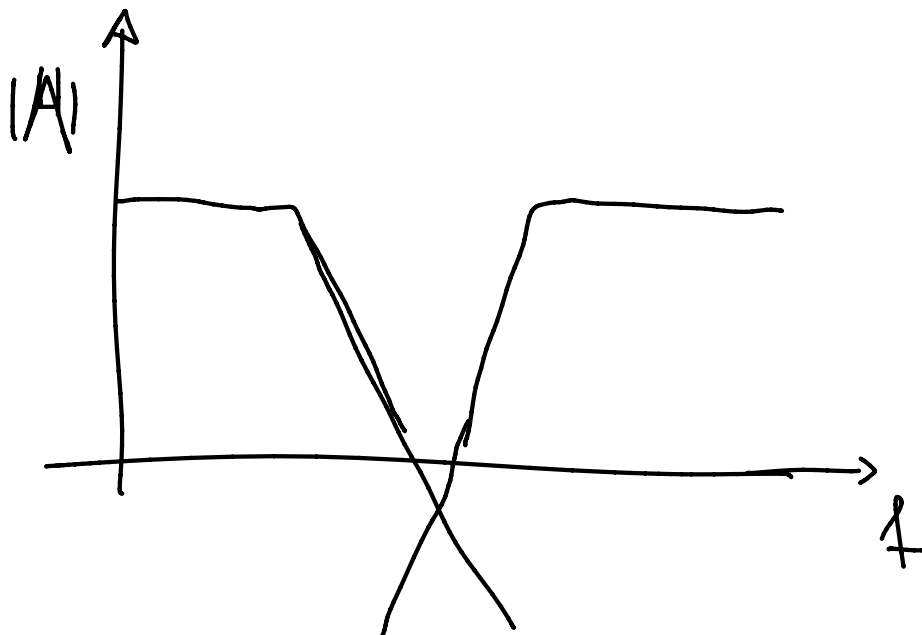
$$R_2 = \frac{1}{2\pi \cdot 820 \mu\text{F}} = \underline{\underline{194 \Omega}}$$

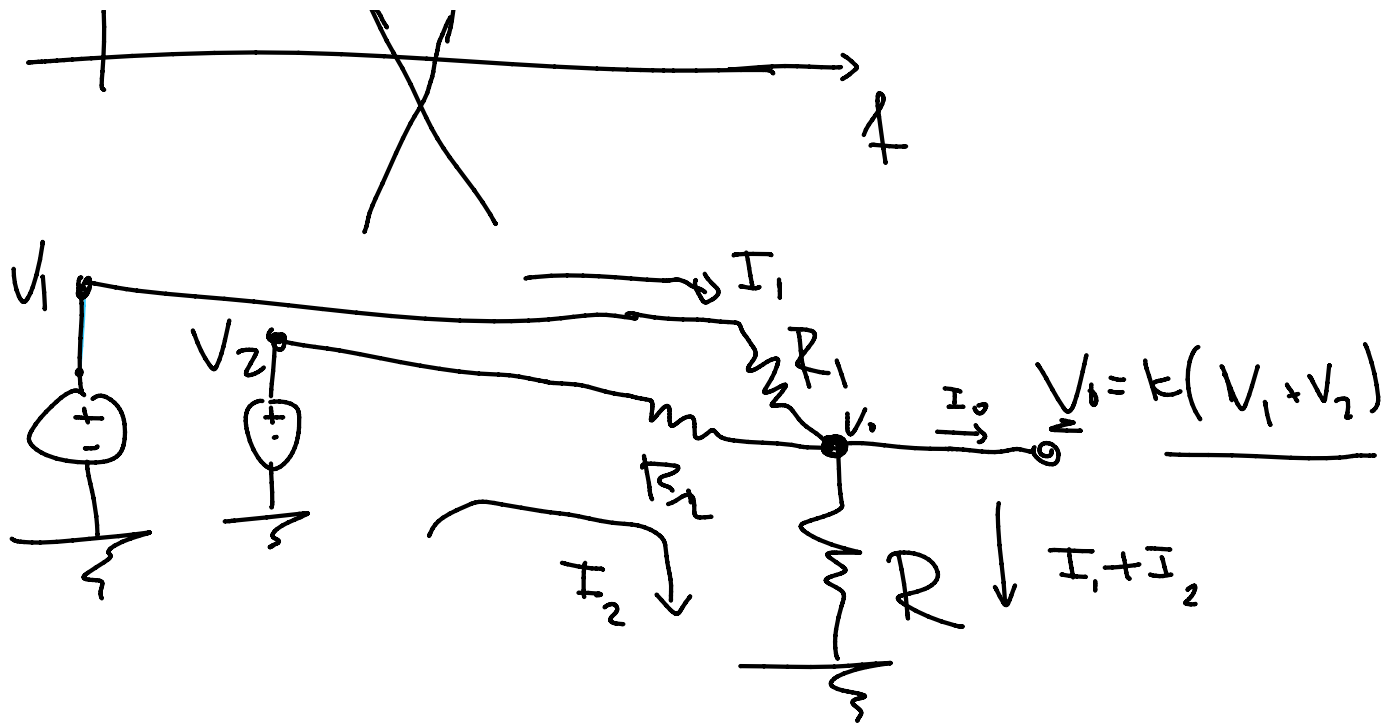
(220kΩ)

PHNIA.



$$f_0 = \frac{1}{2\pi RL}$$





$$V_0 = R(I_1 + I_2)$$

$$I_1 = \frac{V_1 - V_0}{R_1}$$

$$I_2 = \frac{V_2 - V_0}{R_2}$$

$$V_0 = R \left(\frac{V_1 - V_0}{R_1} + \frac{V_2 - V_0}{R_2} \right) \Rightarrow$$

$$\Rightarrow V_0 = \frac{R}{R_1} V_1 - \frac{R}{R_1} V_0 +$$

$$+ \frac{R}{R_2} V_2 - \frac{R}{R_2} V_0 \Rightarrow$$

$$\Rightarrow V_0 \left(1 + \frac{R}{R_1} + \frac{R}{R_2} \right) = \frac{R}{R_1} V_1 + \frac{R}{R_2} V_2$$

$$V_o = \frac{R}{R_1' R_1} V_1 + \frac{R}{R_2' R_2} V_2$$