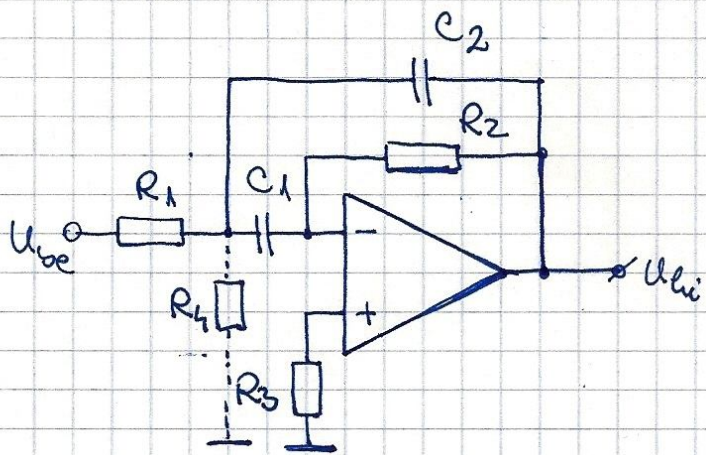


17.



$$R_1 = R_2 = R$$

$$C_1 = C_2 = C$$

$$a.) \quad A_{uv} = \frac{u_{li}}{u_{be}} = - \frac{\frac{R_1 \cdot R_4}{R_1 + R_4} \cdot j\omega C}{1 + 2 \cdot \frac{R_1 \cdot R_4}{R_1 + R_4} j\omega C + \frac{R_1 R_2 R_4}{R_1 + R_4} (j\omega C)^2}$$

(kurvas 4.4 fejeset, 4.11 ábra)

$$R_4 = \infty \Rightarrow A_{uv} = - \frac{j\omega C \cdot R_1}{1 + 2 \cdot j\omega C R_1 + (j\omega C \sqrt{R_1 \cdot R_2})^2}$$

- b.) - főszcíműs negatív visszacsatolású "árváltó"
- másodfokú

$$c.) \quad A_{uv} = - \frac{j\omega RC}{1 + 2j\omega RC + (j\omega RC)^2}$$

$$\omega_0 RC = 1 \Rightarrow f_0 = \frac{1}{2\pi \cdot RC} ; A_{uv0} = -\frac{1}{2}$$

$$d.) \quad R = 2,2 \text{ k}\Omega ; C = 47 \mu\text{F}$$

$$f_0 = \frac{1}{2\pi \cdot R \cdot C} = \frac{1}{2\pi \cdot 2,2 \text{ k} \cdot 47 \cdot 10^{-6}} \approx \underline{\underline{1,54 \text{ kHz}}}$$