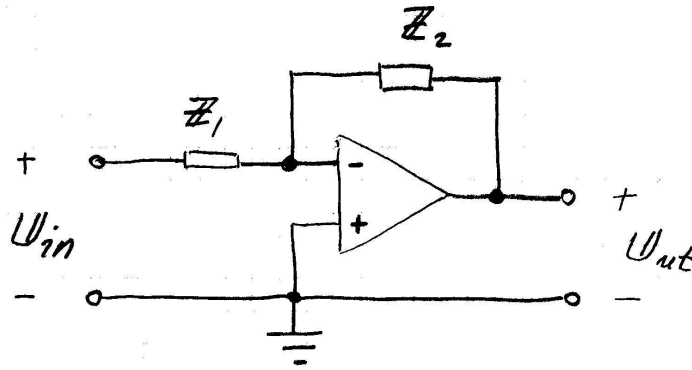


F2.2



$$Z_1 = R_F = 1 \text{ k}\Omega$$

$$Z_2 = \frac{\frac{1}{j\omega C_A} \cdot R_A^{\circ}}{\frac{1}{j\omega C_A} + R_A^{\circ}} = \frac{R_A^{\circ}}{1 + j\omega C_A R_A^{\circ}}$$

$$\frac{U_{out}}{U_{in}} = - \frac{Z_2}{Z_1} \rightarrow$$

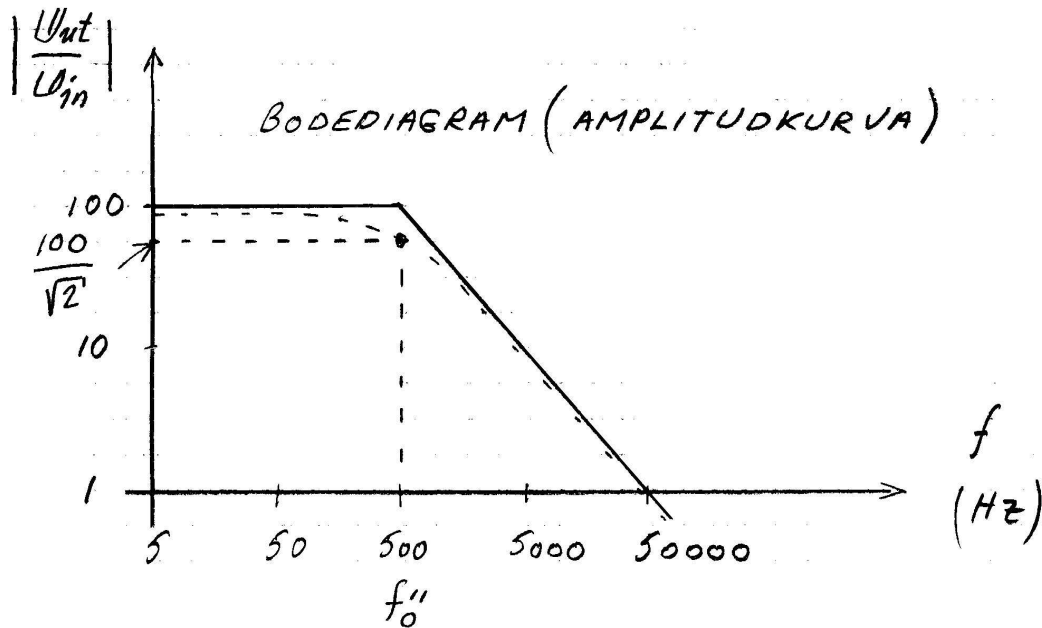
$$\frac{U_{out}}{U_{in}} = - \frac{R_A^{\circ}}{R_F} \cdot \frac{1}{1 + j\omega C_A R_A^{\circ}} \dots (1)$$

$$F = \frac{U_{out}}{U_{in}} = -100 \text{ DA } f = 0 \text{ Hz} \text{ (LIKSTRÖM)}$$

$$\omega = 2\pi f \rightarrow \omega = 0 \text{ INS } (1) \rightarrow$$

$$-100 = - \frac{R_A^{\circ}}{1000} \Rightarrow \underline{\underline{R_A^{\circ} = 100 \text{ k}\Omega}}$$

$$\left| \frac{U_{out}}{U_{in}} \right| = \frac{R_A^o / R_F}{\sqrt{1^2 + (\omega C_A R_A^o)^2}} \dots (2)$$



VID $f_0'' = 500 \text{ Hz}$ ($\omega_0'' = 2\pi \cdot 500 \frac{\text{RAD}}{\text{S}}$)

HAR $\left| \frac{U_{out}}{U_{in}} \right|$ SJUNKIT NED TILL $\frac{100}{\sqrt{2}}$

$$(2) \Rightarrow \omega C_A R_A^o = 1 \Rightarrow$$

$$2\pi \cdot 500 \cdot C_A \cdot 100000 = 1 \Rightarrow$$

$$\underline{\underline{C_A \approx 3,2 \text{ nF}}}$$