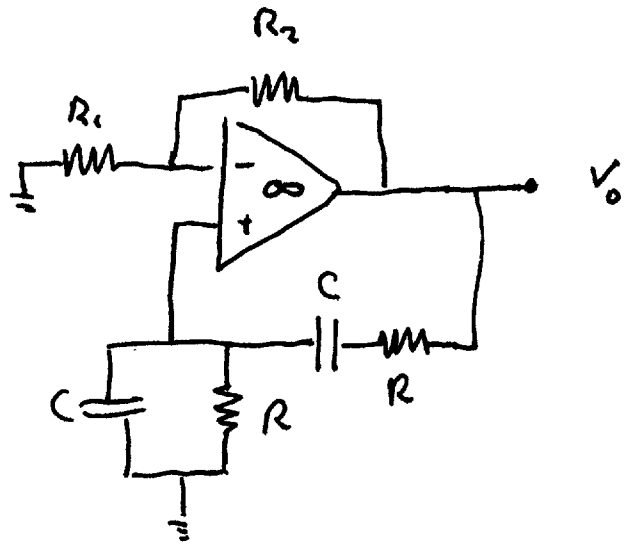

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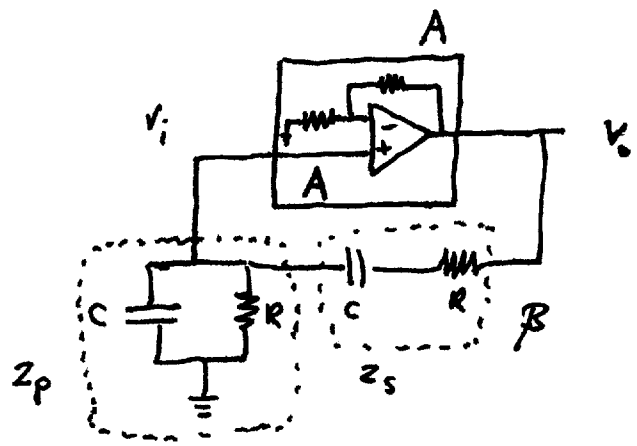

$$A = \frac{R_2 + R_1}{R_1} = 1 + \frac{R_2}{R_1}$$

$$\beta \equiv \frac{V_i}{V_o} = \frac{Z_p}{Z_p + Z_s}$$

$$Z_p = \frac{R \cdot 1/sC}{R + 1/sC} = \frac{R}{1 + sRC}$$

$$Z_s = R + 1/sC$$

$$\beta = \frac{\frac{R}{1+sRC}}{\frac{R}{1+sRC} + R + \frac{1}{sC}} = \frac{R}{R + R(1+sRC) + \left(\frac{1}{sC}\right)\cdot(1+sRC)}$$

$$= \frac{1}{1 + (1+sRC) + \frac{1}{sRC}\cdot(1+sRC)} = \frac{1}{1+1+sRC+\frac{1}{sRC}+1}$$

$$= \frac{1}{3 + sRC + \frac{1}{sRC}}$$

$$A\beta = \left(1 + \frac{R_2}{R_1}\right) \times \frac{1}{3 + sRC + \frac{1}{sRC}} \qquad s = j\omega$$

$$= \frac{1 + \frac{R_2}{R_1}}{3 + j\omega RC + \frac{1}{j\omega RC}} = \frac{1 + R_2/R_1}{3 + j\left(\omega RC - \frac{1}{\omega RC}\right)}$$

$A\beta = +1 \Rightarrow \mathrm{Im}(A\beta) = 0 \Rightarrow \omega RC - \frac{1}{\omega RC} = 0$

$$\Rightarrow \boxed{\omega = RC}$$

$$\Rightarrow A\beta = \frac{1 + R_2/R_1}{3}$$

$$A\beta = +1 \Rightarrow \boxed{R_2/R_1 = 2}$$