$$Y(s) = \frac{u_2(s)}{u_b(s)} = \frac{\frac{1}{sC_2} \otimes \left(R_2 + \frac{1}{sC_1}\right)}{R_1 + \frac{1}{sC_1} \otimes \left(R_2 + \frac{1}{sC_2}\right)} = \frac{\frac{\frac{1}{sC_2} \cdot \left(R_2 + \frac{1}{sC_1}\right)}{\frac{1}{sC_2} + R_2 + \frac{1}{sC_1}}}{R_1 + \frac{\frac{1}{sC_1} \cdot \left(R_2 + \frac{1}{sC_2}\right)}{\frac{1}{sC_1} + R_2 + \frac{1}{sC_2}}} =$$

$$= \frac{\frac{\frac{R_2}{sC_2} + \frac{1}{s^2 C_1 C_2}}{\frac{1}{sC_2} + R_2 + \frac{1}{sC_1}}}{R_1 + \frac{\frac{R_2}{sC_1} + \frac{1}{s^2 C_1 C_2}}{\frac{1}{sC_1} + R_2 + \frac{1}{sC_2}}} \Bigg| = \frac{\frac{R_2}{sC_2} + \frac{1}{s^2 C_1 C_2}}{R_1\left(\frac{1}{sC_1} + R_2 + \frac{1}{sC_2}\right) + \frac{R_2}{sC_1} + \frac{1}{s^2 C_1 C_2}} \Bigg| =$$

$$\cdot \left(\frac{1}{sC_1} + R_2 + \frac{1}{sC_2}\right)$$

$$= \frac{\frac{R_2}{sC_2} + \frac{1}{s^2 C_1 C_2}}{\frac{R_1}{sC_1} + R_1 R_2 + \frac{R_1}{sC_2} + \frac{R_2}{sC_1} + \frac{1}{s^2 C_1 C_2}} \Bigg| = \frac{sC_1 R_2 + 1}{1 + sC_2 R_1 + sC_1 R_1 + s^2 C_1 C_2 R_1 R_2 +} \Bigg| =$$

$$\cdot s^2 C_1 C_2 \qquad\qquad\qquad + sC_2 R_2$$

$$= \frac{1 + sC_1 R_2}{1 + R_1\left(sC_1 + sC_2\right) + s^2 C_1 C_2 R_1 R_2 + sC_2 R_2} \longrightarrow \underline{Nem\ j\acute{o}!!}$$

$$Y(s) = \frac{1}{1 + s\left(R1\,C2 + R2\,C1 + R1\,C1\right) + s^2\left(R_1 R_2 C_1 C_2\right)}$$

Ez lenne a jó!!