

$$\frac{e_{IN} - \frac{e_0}{2}}{QR} = \frac{Cse_0}{2} + \frac{e_0}{2R^2CS}$$

$$\frac{e_{IN}}{QR} = \frac{e_0}{2} \left[\frac{1}{QR} + Cs + \frac{1}{R^2CS} \right]$$

$$e_{IN} = \frac{e_0}{2} \left[1 + QRCS + \frac{QR}{R^2CS} \right]$$

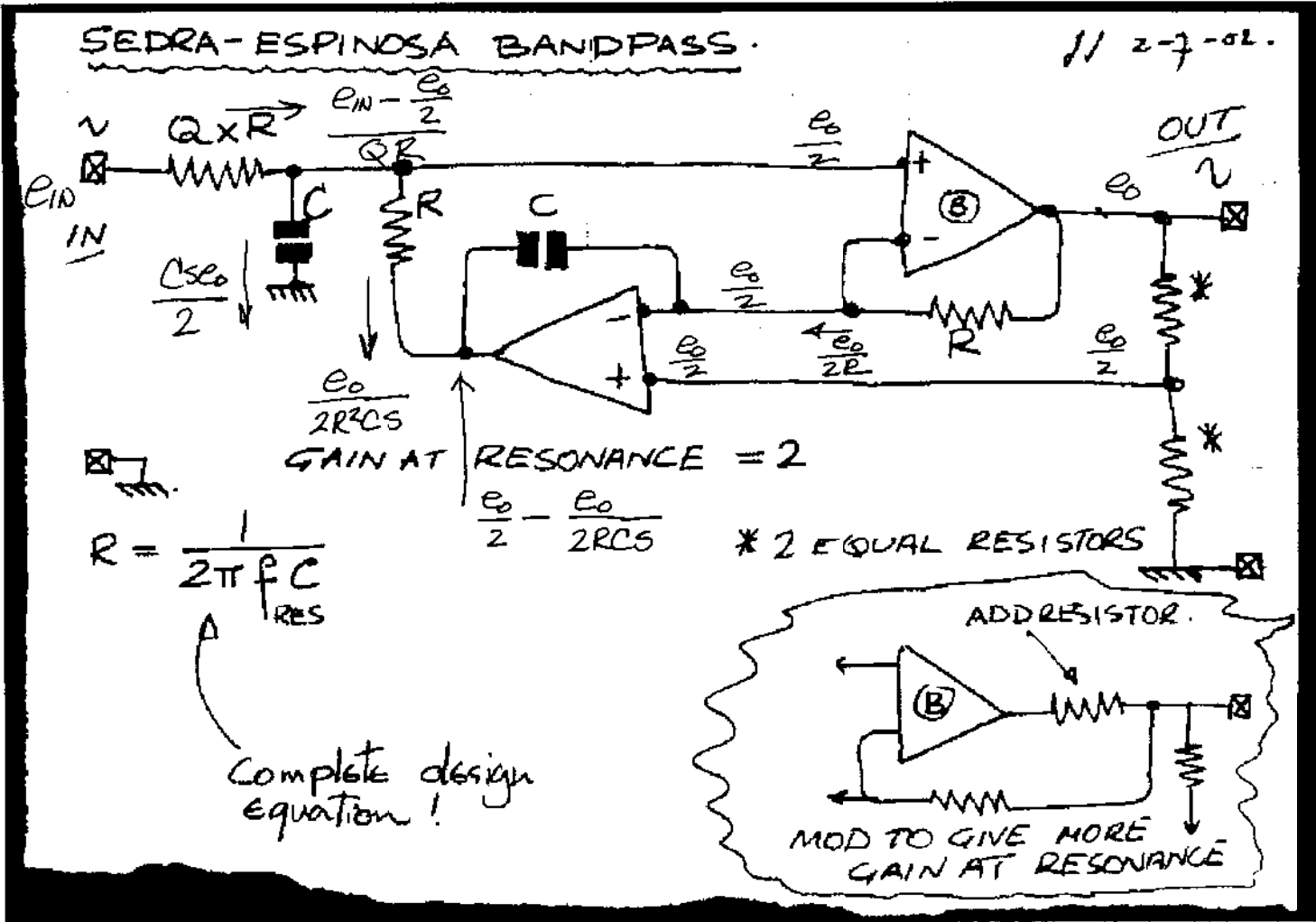
$$e_{IN} = \frac{e_0}{2} \left[\frac{RCS + QR^2C^2S^2 + Q}{RCS} \right]$$

$$\frac{e_0}{e_{IN}} = 2 \frac{RCS}{QR^2C^2S^2 + RCS + Q}$$

(LAPLACE) TRANSFER FUNCTION

$$= 2 \cdot \frac{\frac{RC}{Q}S}{R^2C^2S^2 + \frac{RC}{Q}S + 1}$$

$$\omega_0 = \frac{1}{RC}$$



Complete design equation!