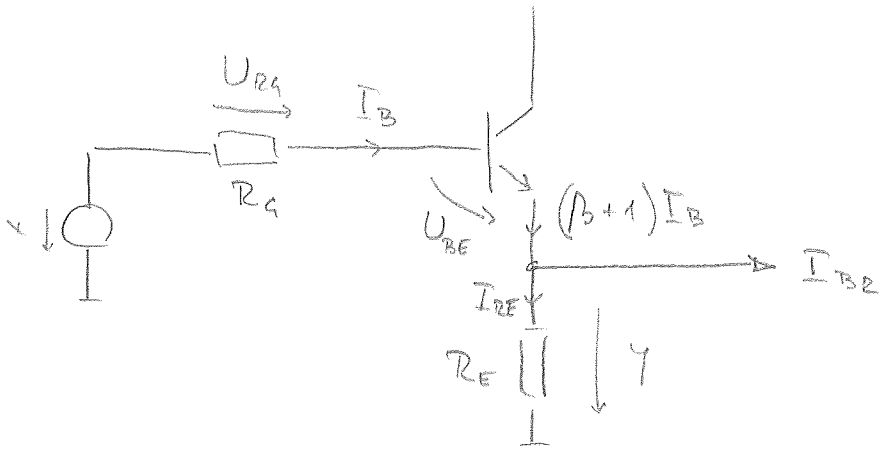

$$x = U_{R_G} + U_{BE} + y$$

$$= I_B \cdot R_G + U_{BE} + y \Rightarrow I_B = \frac{x - U_{BE} - y}{R_G}$$

$$I_E = I_{RE} + I_{BR} = (\beta+1) I_B$$

$$\frac{y}{R_E} + I_{BR} = \frac{\beta+1}{R_G}(x - U_{BE} - y)$$

$$y + I_{BR} R_E = (\beta+1)\frac{R_E}{R_G}(x - U_{BE}) - (\beta+1)\frac{R_E}{R_G} y$$

$$y\left[1 + (\beta+1)\frac{R_E}{R_G}\right] = (\beta+1)\frac{R_E}{R_G}(x - U_{BE}) - I_{BR} \cdot R_E$$

$$y = \left[-''- \right]^{-1} \left[(\beta+1)\frac{R_E}{R_G}(x - U_{BE}) - I_{BR} \cdot R_E \right]$$

$$\frac{dy}{dI_{BR}} = -\left[-''- \right]^{-1} \cdot R_E = -\frac{R_G}{R_G + (\beta+1)R_E} \cdot R_E = -R_{OUT}$$

$$-R_{OUT} = -\frac{1}{\frac{1}{R_E} + (\beta+1)\frac{1}{R_G}} \Rightarrow \underline{R_{OUT} = R_E \parallel \frac{R_G}{\beta+1}}$$

otpornika
vrlava.