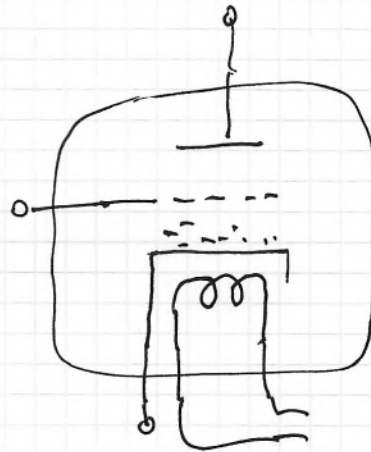
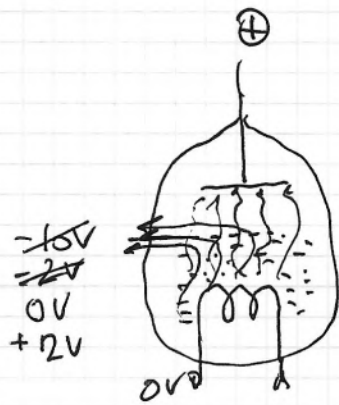
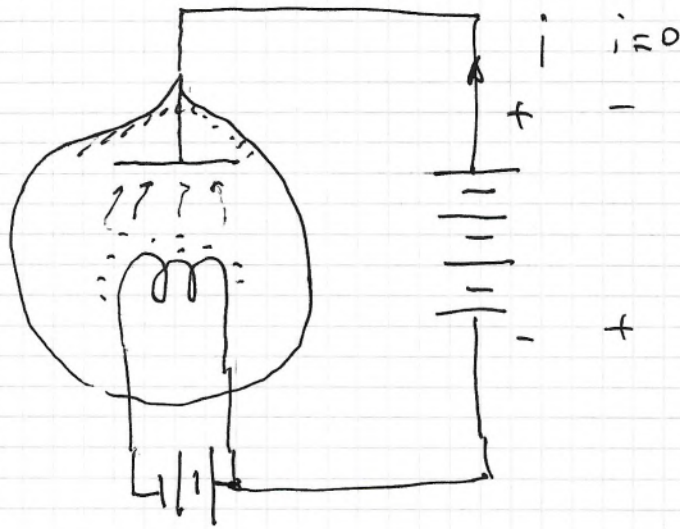
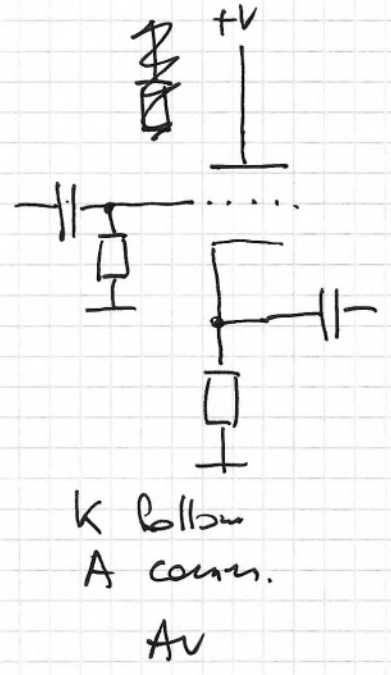
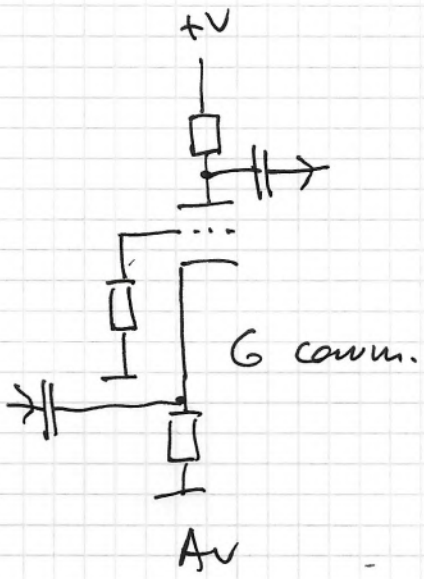
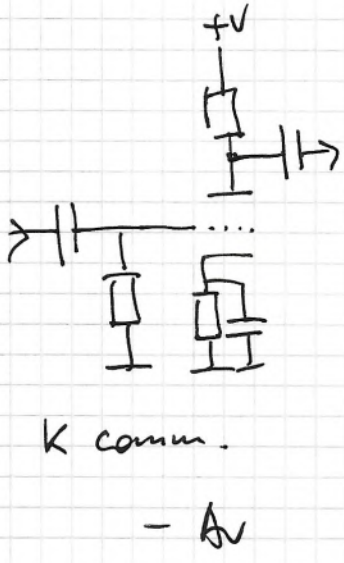
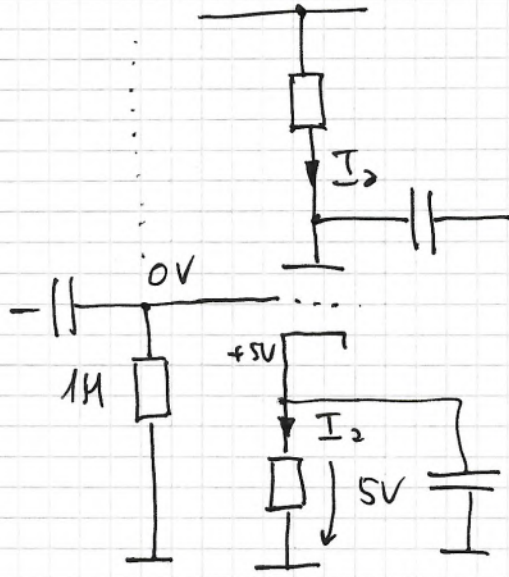
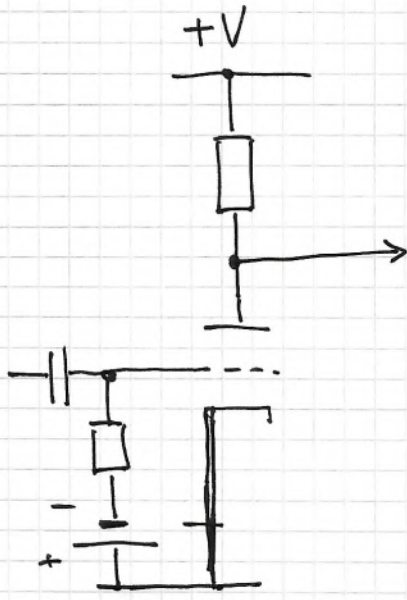
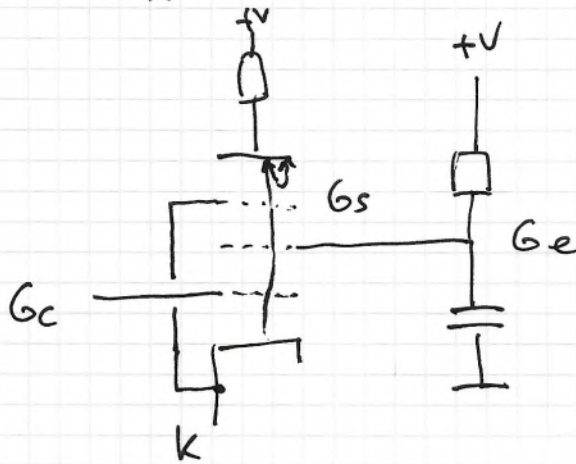
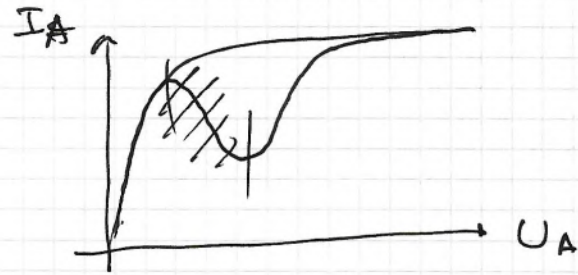
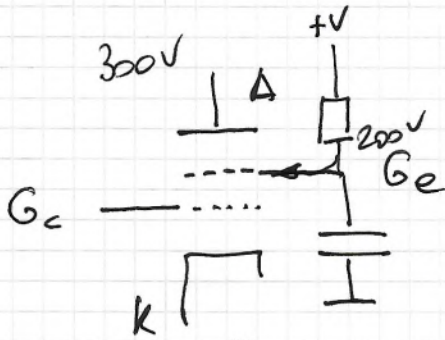
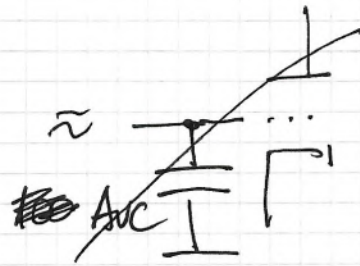
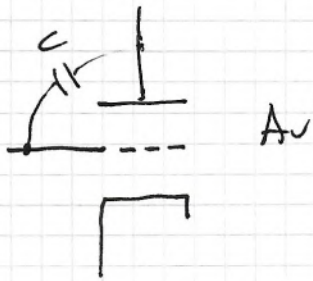
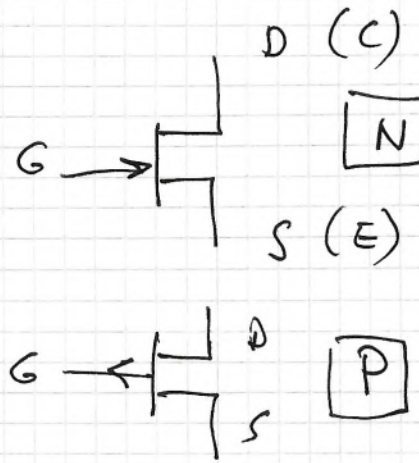
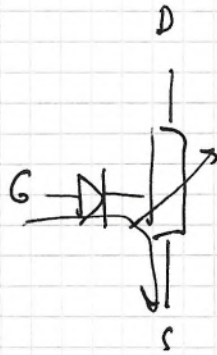
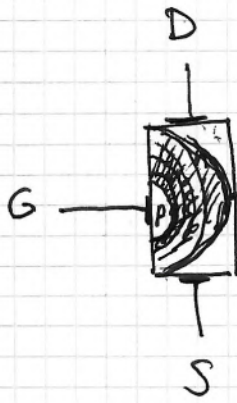
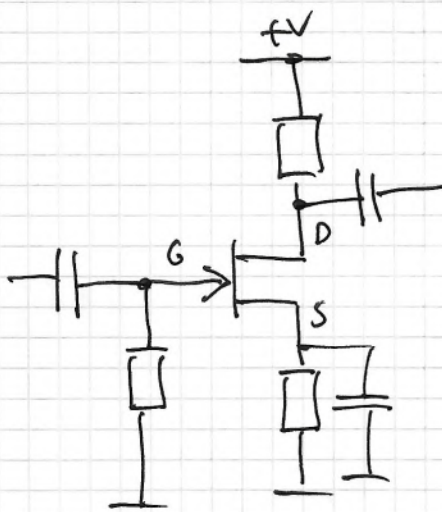




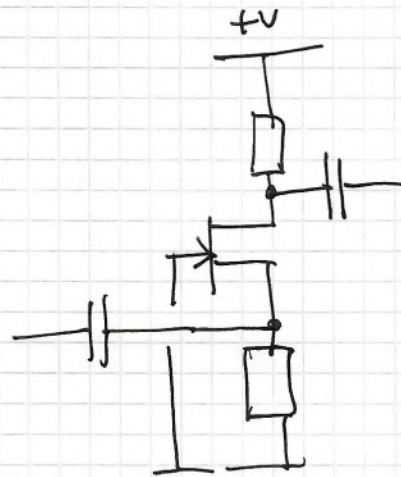




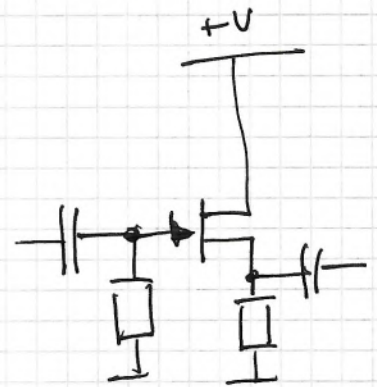
JFET

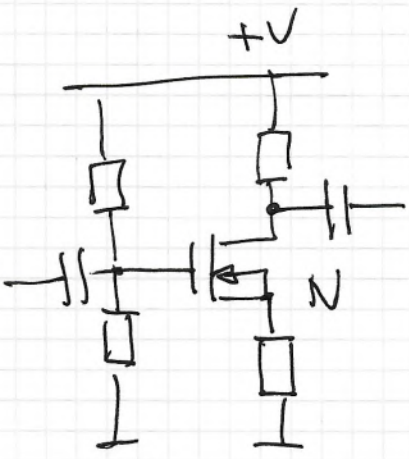
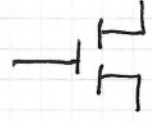
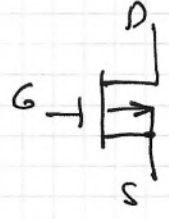
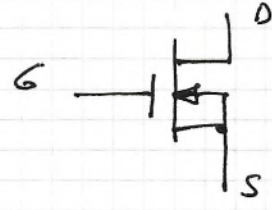
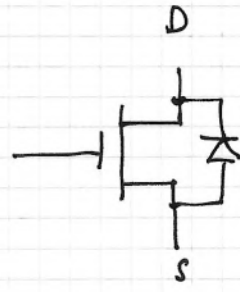
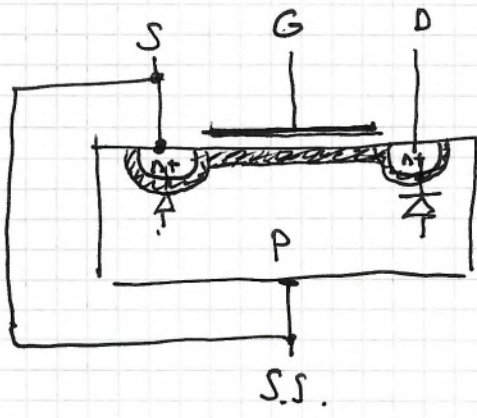


S common

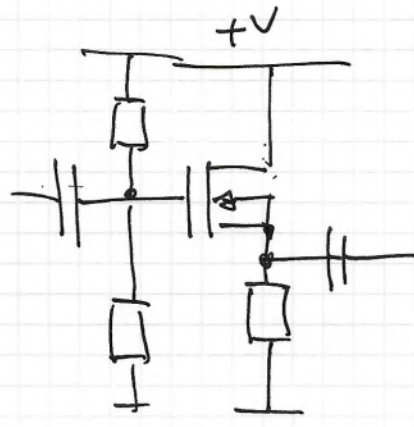


G common

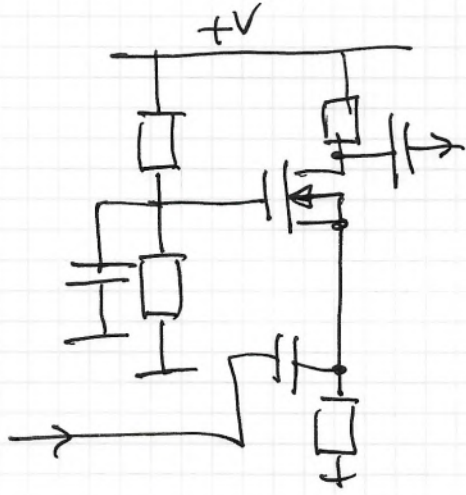
S follower
D common



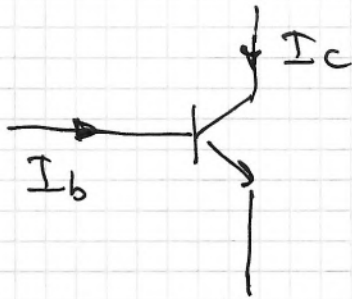
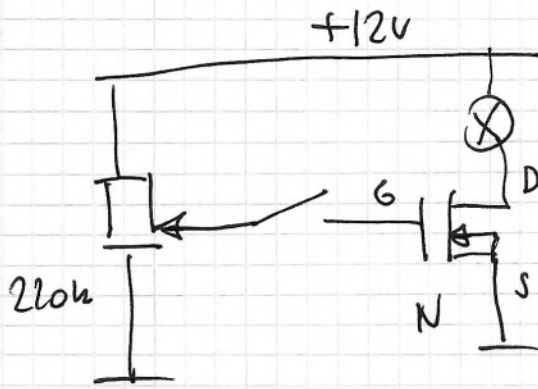
S common



S follower
D common

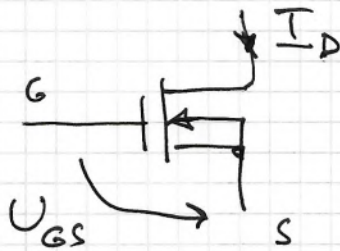


G common



$$\beta = \frac{I_c}{I_b}$$

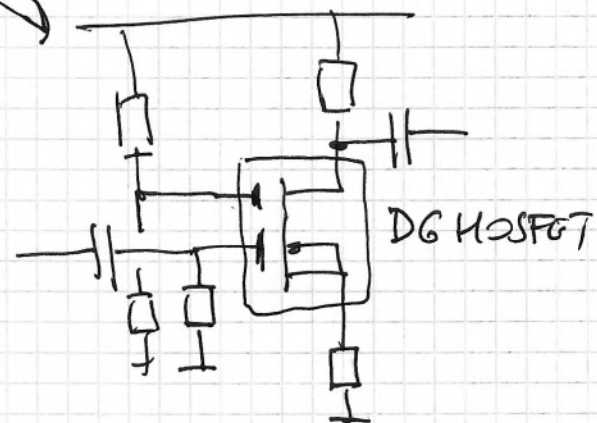
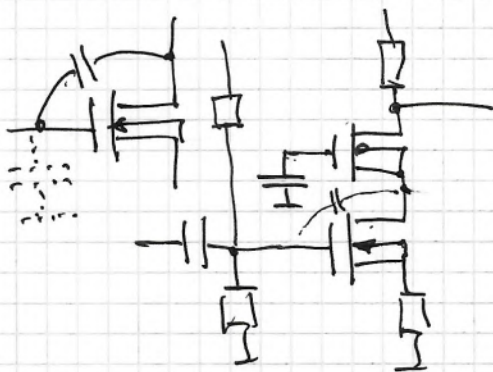
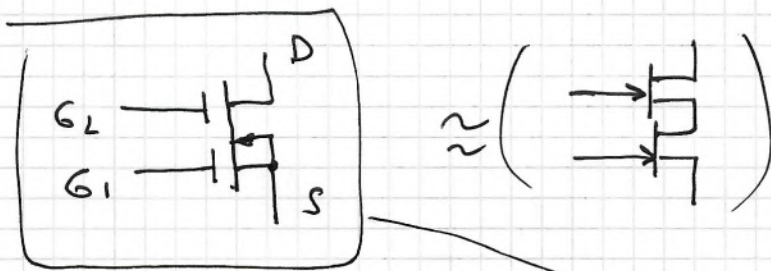
$$\frac{\text{EFFECT}}{\text{CAUSE}} = \frac{\text{SORTIE}}{\text{ENTREE}}$$

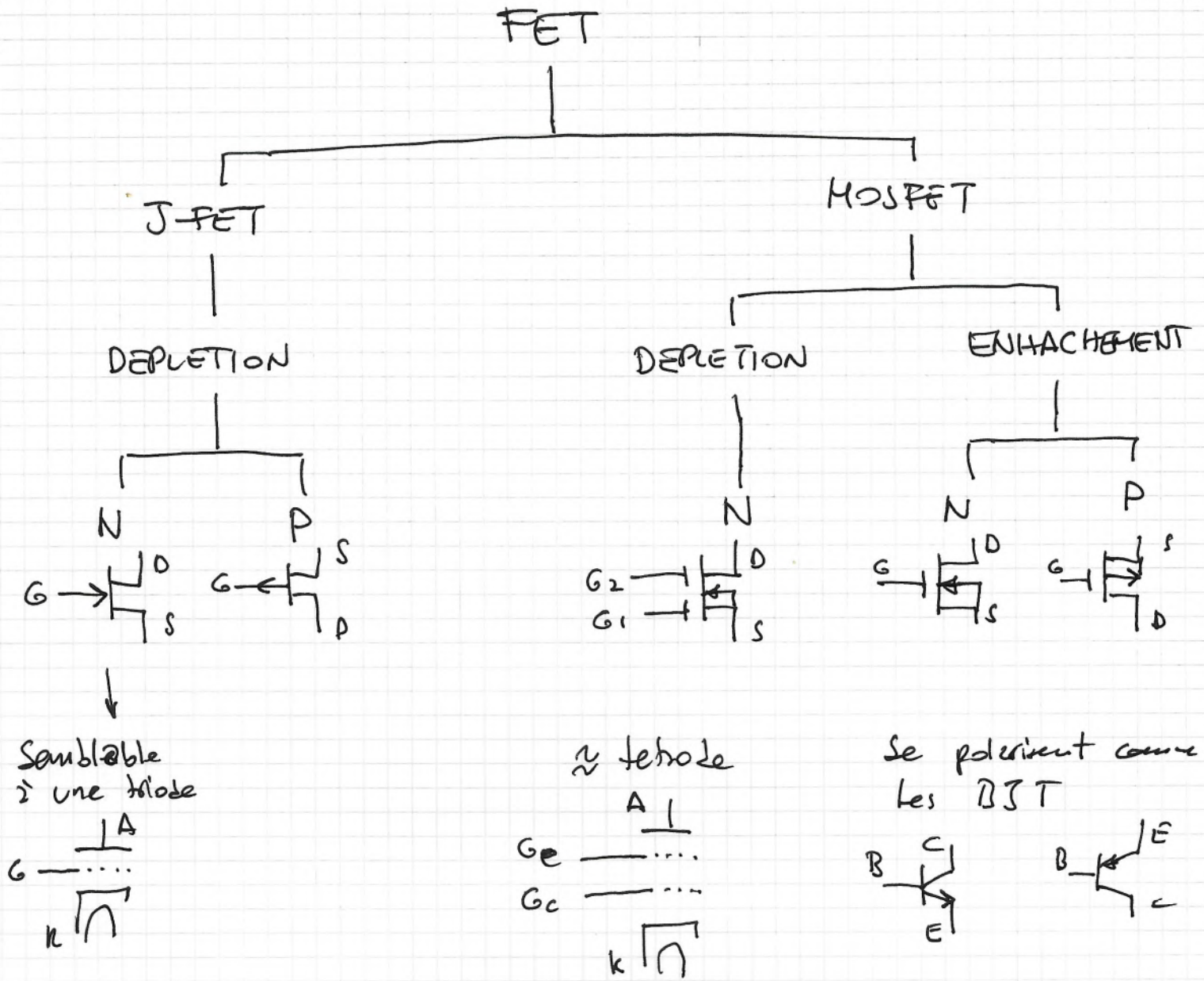


$$G_m = \frac{I_d}{U_{gs}}$$

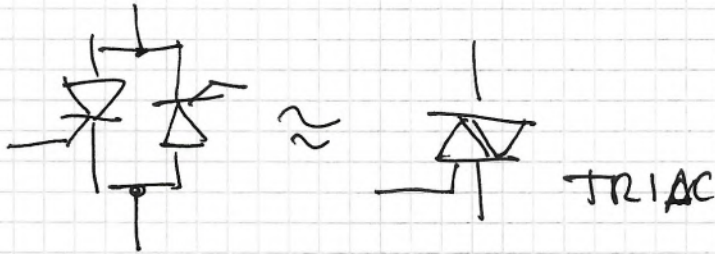
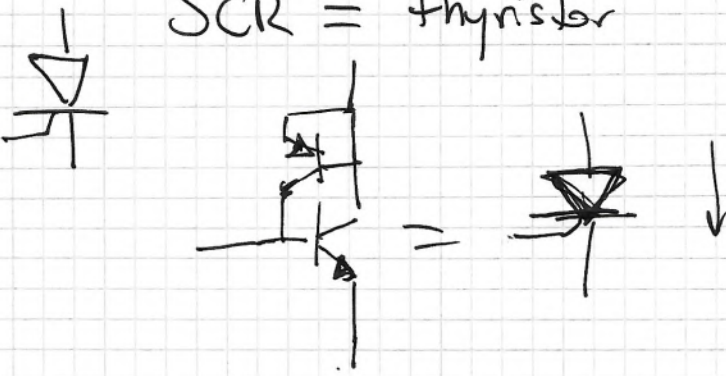
$$\left[\frac{A}{V} \right] = \left[\frac{1}{\Omega} \right] = [S]$$

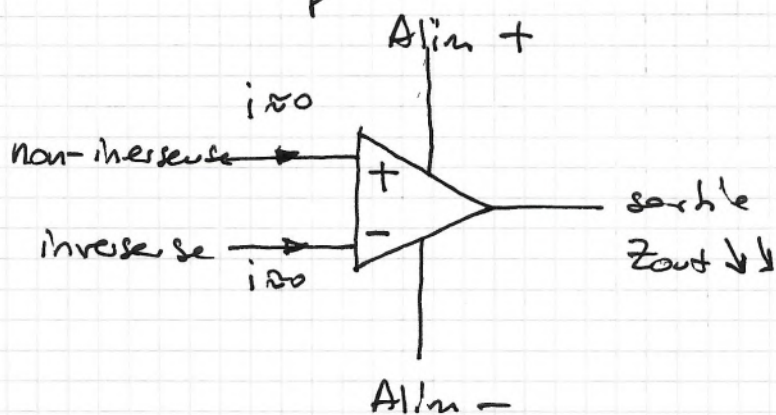
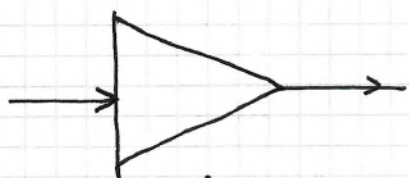
Trans conductance





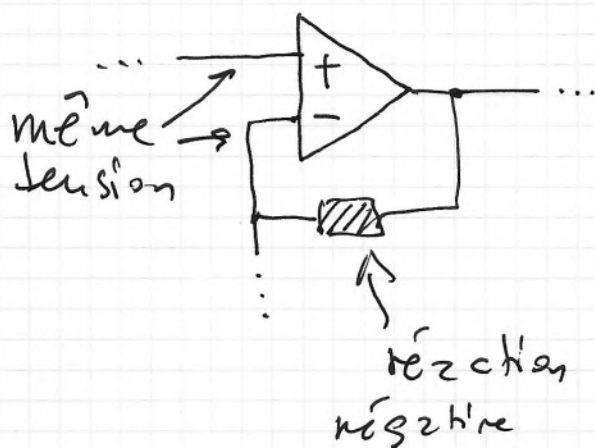
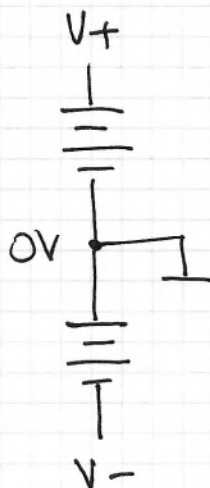
SCR = thyristor

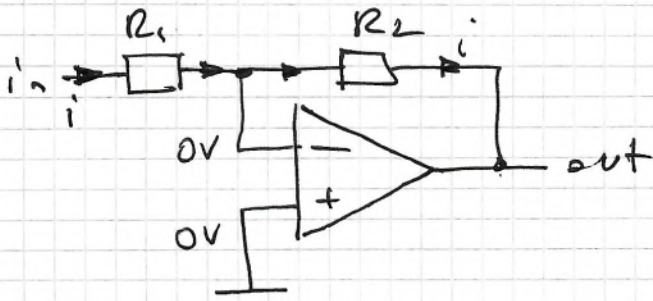




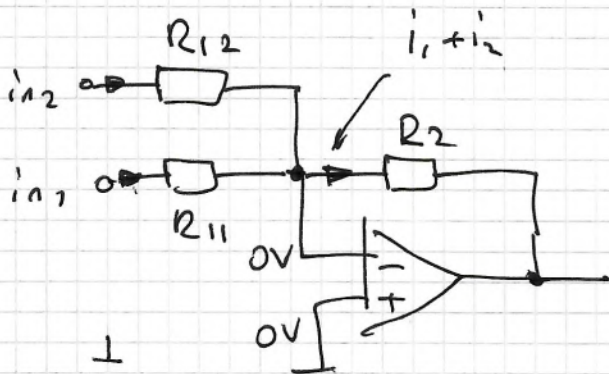
$$U_{out} = k (U_{int+} - U_{in-})$$

↑
k

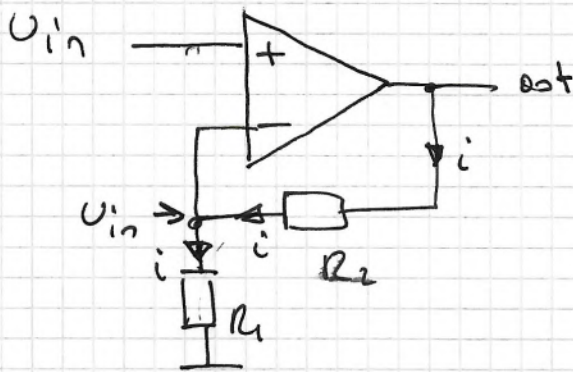




$$i = \frac{U_{in}}{R_1} \quad U_{out} = -R_2 \cdot i \Rightarrow \frac{U_{out}}{U_{in}} = -\frac{R_2}{R_1}$$

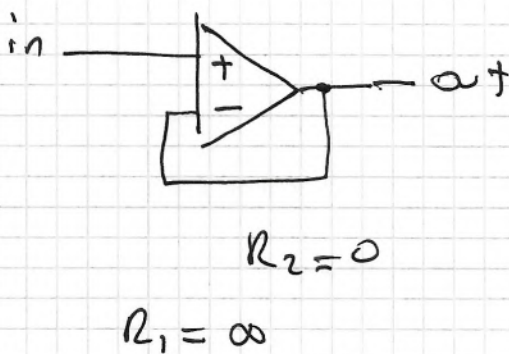


$$U_{out} = -R_2 \left(\frac{U_{in1}}{R_{11}} + \frac{U_{in2}}{R_{12}} + \dots \right)$$

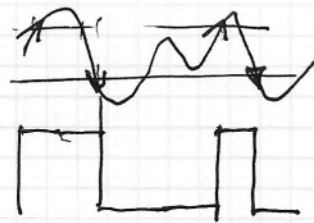
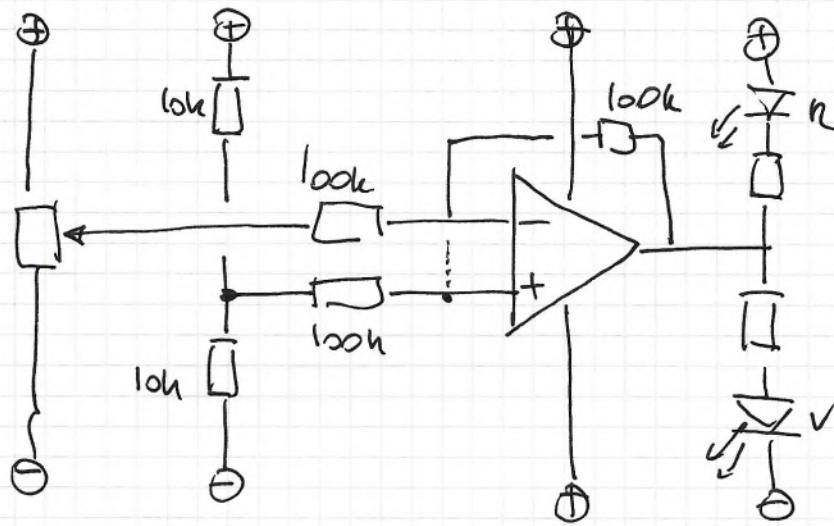


$$i = \frac{U_{in}}{R_1} \quad U_{out} = (R_1 + R_2) i$$

$$G = \frac{U_{out}}{U_{in}} = 1 + \frac{R_2}{R_1}$$



$$G = 1 + \frac{0}{\infty} = 1$$



E16.1 D source follower

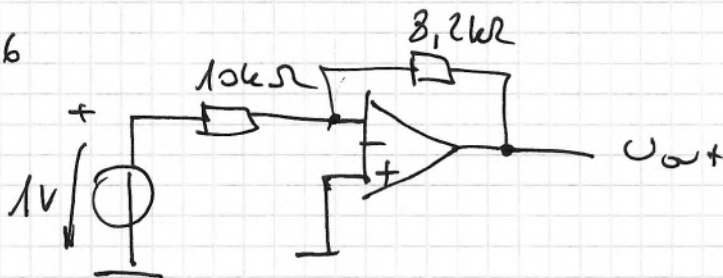
E16.2 D grille commune

E16.3 B

E16.4 A penthode B triode

E16.5 2, d couplage
b, c déco-plage au by-pass

E16.6



$$i_{in} = \frac{1V}{10k\Omega} = 100\mu A$$

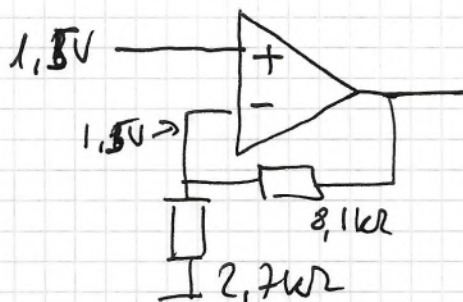
$$U_{out} = -8.2k\Omega \cdot 100\mu A = \underline{\underline{-820mV}}$$

E16.7

$$G = - \frac{R_2}{R_1} = - \frac{U_{out}}{U_{in}} = \frac{-2.611}{1V} = \underline{\underline{-2.611}}$$

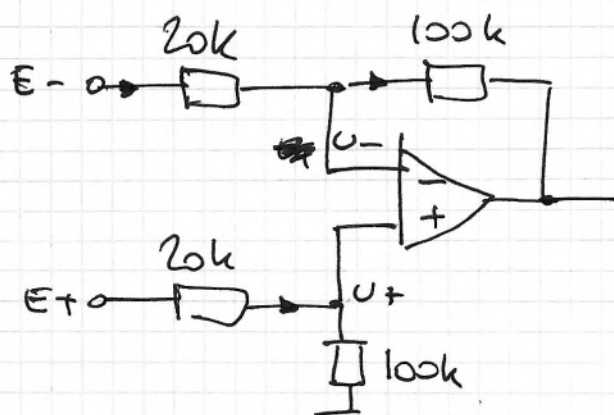
$$R_1 = \frac{4.7k\Omega}{2.611} = \underline{\underline{1.8k\Omega}}$$

E16.8



$$i = \frac{1.5V}{2.7k\Omega} = 556\mu A$$

$$U_{out} = i(R_1 + R_2) = 556\mu A (8.1k\Omega + 2.7k\Omega) = \underline{\underline{6V}}$$



$$i_+ = \frac{1,5V}{100k\Omega + 20k\Omega} = 12,5\mu A \quad U_+ = i_+ \cdot 100k\Omega = 1,25V$$

$$i_- = \frac{E_- - U_+}{20k\Omega} = \frac{1,5V - 1,25V}{20k\Omega} = 12,5\mu A$$

$$U_{out} = U_+ - 100k\Omega \cdot i_- = 1,25V - 100k\Omega \cdot 12,5\mu A = \underline{\underline{0V}}$$

$$E_+ = 1,4V \quad E_- = 1,6V$$

$$i_+ = \frac{1,4V}{120k\Omega} = 11,7\mu A \quad U_+ = i_+ \cdot 100k\Omega = 1,17V$$

$$i_- = \frac{E_- - U_+}{20k\Omega} = \frac{1,6V - 1,17V}{20k\Omega} = 21,5\mu A$$

$$U_{out} = U_+ - 100k\Omega \cdot i_- = 1,17V - 100k\Omega \cdot 21,5\mu A = \underline{\underline{-0,98V}}$$