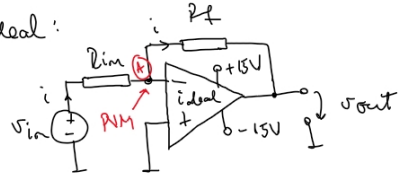


Amplificatoare operationale reale:

- 1) Să se proiecteze un amplificator inversor cu $A = -10$ ce are
 $A = -10$. Aveni la dispozitie o sursă dubla de alimentare de 15V,
 un LM741, fire și rezistori, sursă de semnal.

Cu A.O. ideal:



NM (punct virtual de masă)
 $V_A = 0$

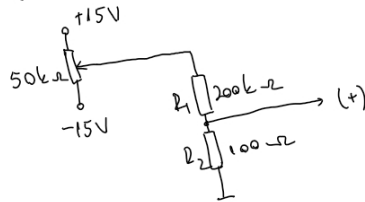
A.O. ideal $v_{out} = -\frac{R_f}{R_{lim}} \cdot v_{in}$

A.O. real: $v_{out} = -\frac{R_f}{R_{lim}} v_{in} + \underbrace{V_{os}}_{\text{offset voltage}} \cdot \frac{R_f}{R_{lim}}$

$$A = -\frac{R_f}{R_{lim}} = -10$$

Alegem $R_{lim} = 1k\Omega \Rightarrow$
 $\Rightarrow R_f = 10k\Omega$

Reglaj compensare V_{os} :



$$V_{in} = i(R_1 + R_2)$$

$$V_+ = i \cdot R_2$$

$$\frac{V_+}{V_{in}} = \frac{R_2}{R_1 + R_2}$$

$$V_+ = V_{in} \cdot \frac{R_2}{R_1 + R_2}$$

Domeniu de reglaj $\approx -7.5mV \rightarrow 7.5mV$

Bandwidth TL082

$$GBW = 5.25MHz = A_{ol} \times f_c$$

Urme $A_{ol} = 10 \Rightarrow f_c = \frac{5.25MHz}{10} = 0.525MHz$

$A_{ol} = 100 \Rightarrow f_c = 0.0525MHz$