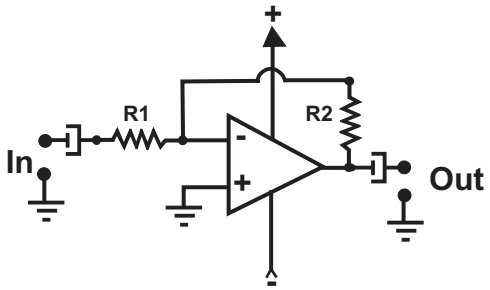
Configuration des OpAmp

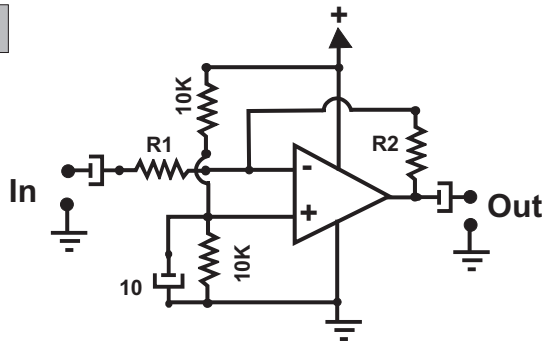
Amplificateur AC

Dual supply | **Simple supply**

Inverseur

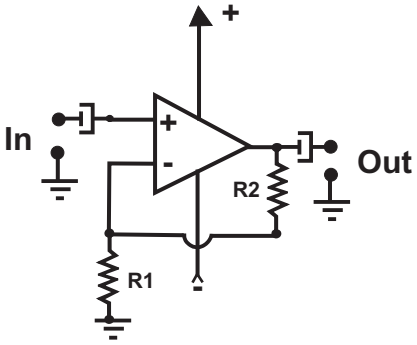


$$\text{Gain} = \frac{R2}{R1}$$

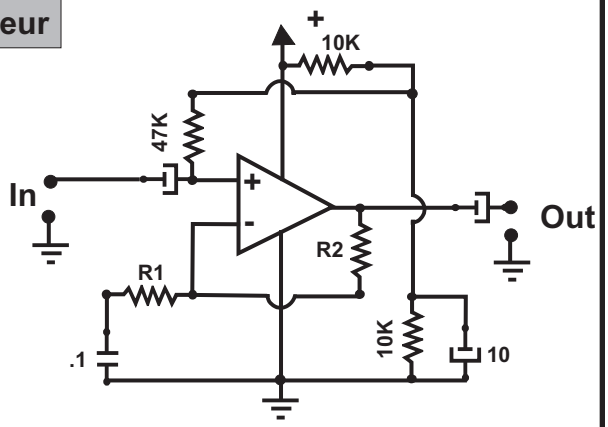


$$\text{Gain} = 1 + \frac{R2}{R1}$$

Non inverseur

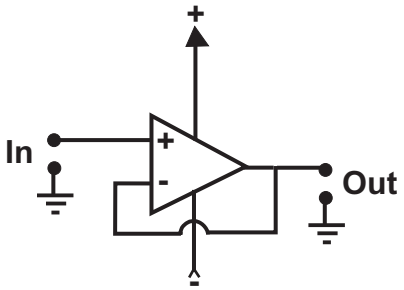


$$\text{Gain} = \frac{R1 + R2}{R1}$$



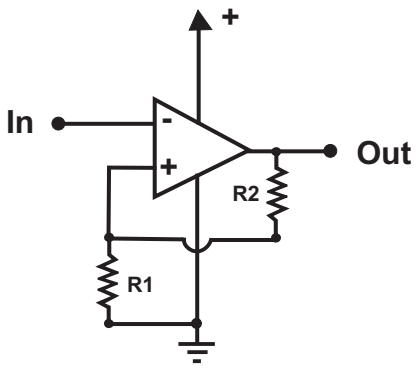
$$\text{Gain} = 1 + \frac{R1 + R2}{R1}$$

Suiveur Gain = 1



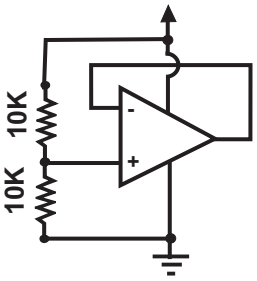
Autres utilisations des OpAmp

Amplificateur DC



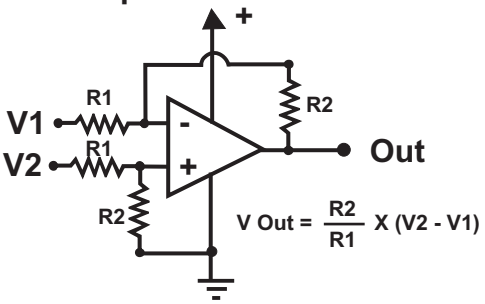
$$\text{Gain} = \frac{R1 + R2}{R1}$$

Non utilisé



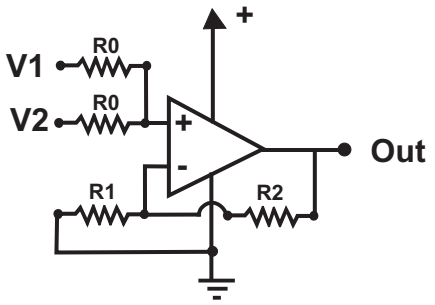
Lorsque dans un IC double ou quadruple, un des amplis n'est pas utilisé

Amplificateur différentiel



$$\text{V Out} = \frac{R2}{R1} \text{ X } (V2 - V1)$$

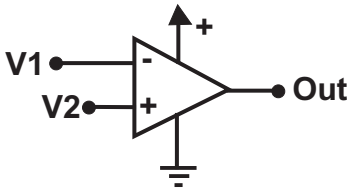
Amplificateur additionneur



$R2 > R1$

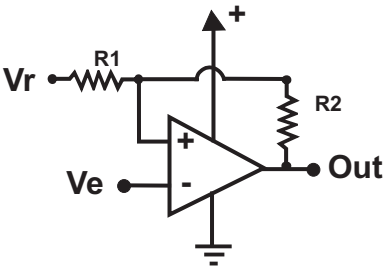
$$\text{V Out} = \frac{R1 + R2}{nR0} \text{ X } (V1 + V2 + Vn)$$

Comparateur



Out = 1 si V2 > V1
Out = 0 si V2< V1

Comparateur avec hystérésis



Vr = Référence
Ve = entrée
U = Vcc
V1 = seuil 1
V2 = seuil 2
R2 > R1

$$V1 = Vr + \left[(U - Vr) \text{ X } \frac{R1}{R1 + R2} \right]$$

$$V2 = Vr - \left[(U - Vr) \text{ X } \frac{R1}{R1 + R2} \right]$$

Out = 1 si Ve < V2
Out = 0 si Ve> V1
Entre V1 et V2 aucun changement d'état