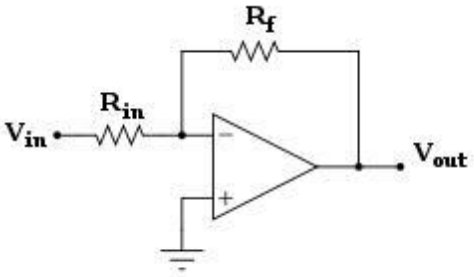
TALLER DISEÑO CON AMPLIFICADORES OPERACIONALES

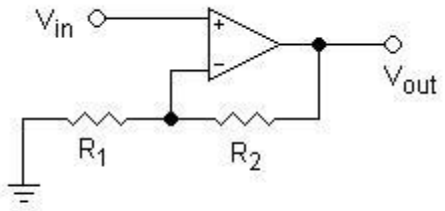
En cada caso demostrar mediante análisis de nodos que la salida corresponde a la ecuación dad y realice un ejemplo de verificación simulando en un software electrónico

1. **Amplificador Inversor**



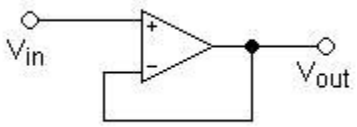
$$Vout = -\frac{Rf}{Rin} * Vin$$

2. **Amplificador No Inversor**



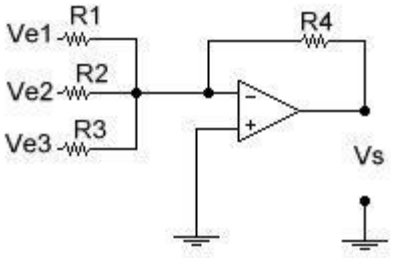
$$Vout = \left(1 + \frac{R2}{R1}\right) * Vin$$

3. **Seguidor De Voltaje**



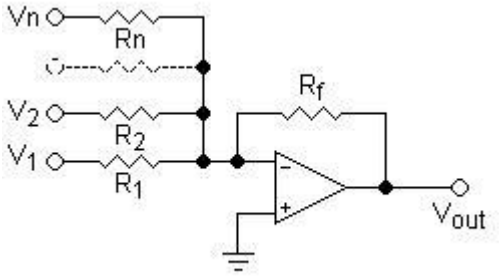
$$Vout = Vin$$

4. **Amplificador Sumador**



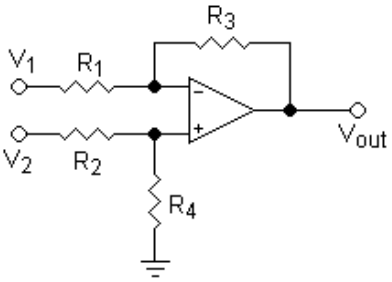
$$Vs = \left(\frac{R4}{R1} * ve1 + \frac{R4}{R2} * ve2 + \frac{R4}{R3} * ve3\right)$$

5. Amplificador Sumador Inversor



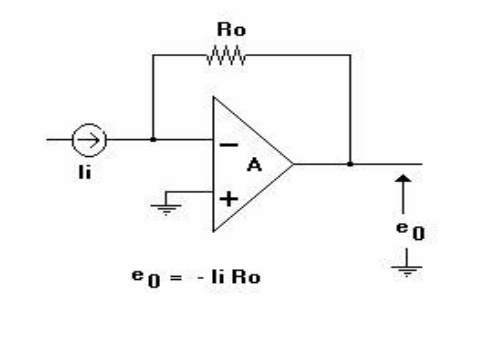
$$V_{out} = -R_f\left(\frac{V_1}{R_1} + \frac{V_2}{R_2} + ... + \frac{V_n}{R_n}\right)$$

6. Amplificador Restador

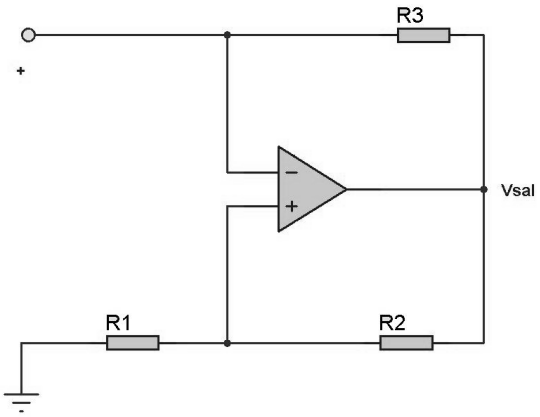


$$V_{out} = V_2\left(\frac{(R_3 + R_1)\,R_4}{(R_4 + R_2)\,R_1}\right) - V_1\left(\frac{R_3}{R_1}\right)$$

7. Convertidor de Corriente a Voltaje



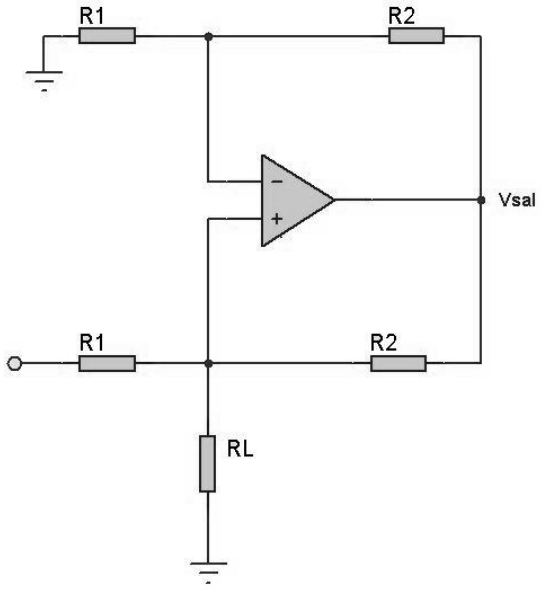
8. Convertidor de Resistencia Negativa



$$Vsal = -\frac{R1 * R3}{R3} * ient$$

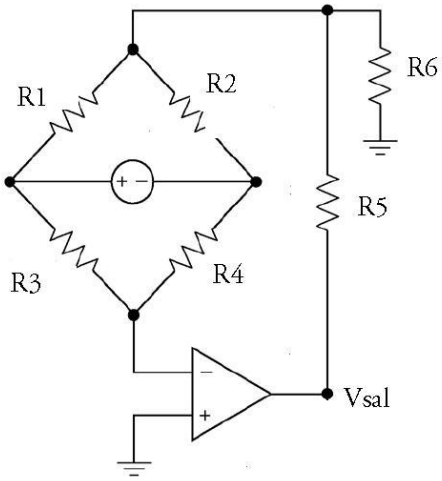
9. Fuente De Corriente Controlada Por

Voltaje (FCCV)



$$Vsal = \frac{Vent}{R1}$$

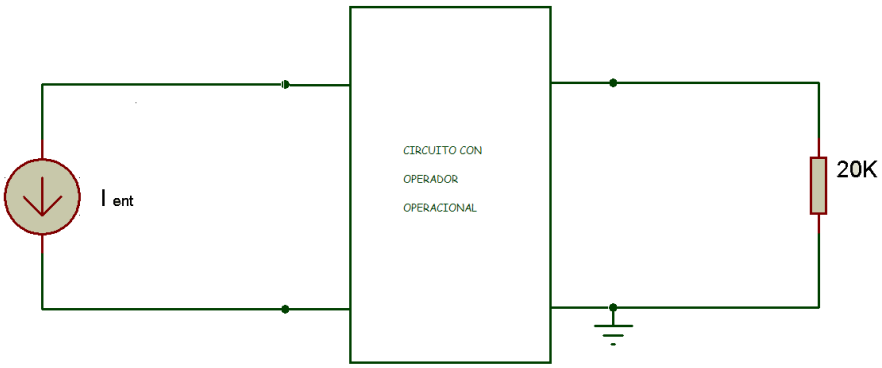
10. Amplificador De Puente



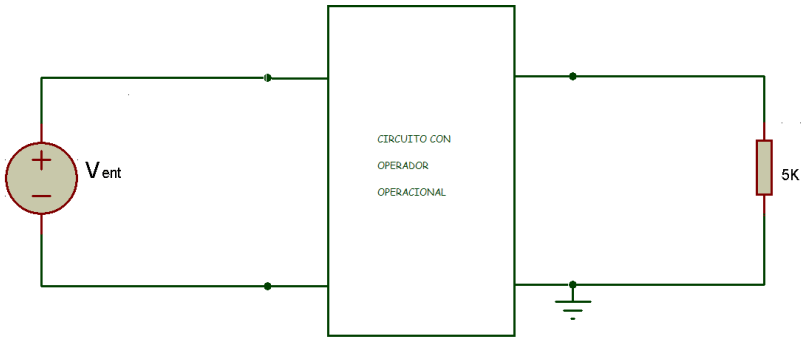
$$Vsal = \left(1 + \frac{R5}{R6}\right) * \left(\frac{R2}{R1 + R2} - \frac{R4}{R3 + R4}\right) * VF$$

11. Diseñe con A.O de cada figura y ejecute lo pedido

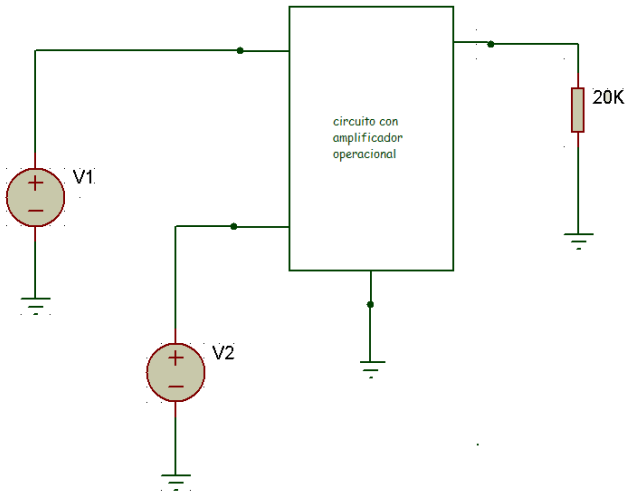
1. V_{sal}= r * I_{ent} donde r=20v/mA



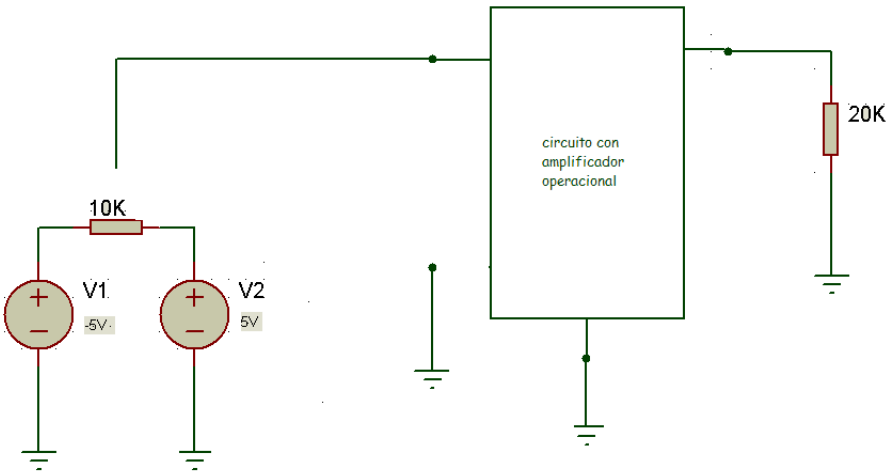
2. $I_{sal} = g^* V_{ent}$ en g = 2 mA/v



3. $V_{sal} = 5\ V_1 + 2\ V_2$



4. $V_{sal} = 5(V_1 - V_2)$
5. $V_{sal} = 5V_1 - 2V_2$
6. $I_{ent} = 0$ y $V_{sal} = 3V_{ent}$



7. $I_{ent} = 0$ y $V_{sal} = 4\ V_{ent}$
8. $I_{ent} = 0$ y $V_{sal} = 5\ V_{ent}$