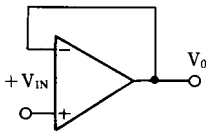
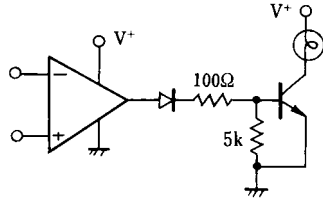


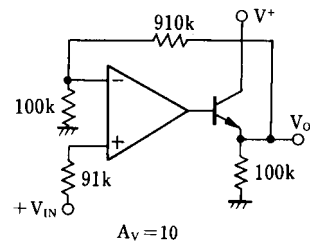
ボルテージフォロワ



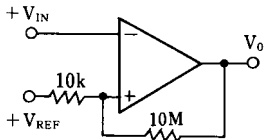
ランプドライバー



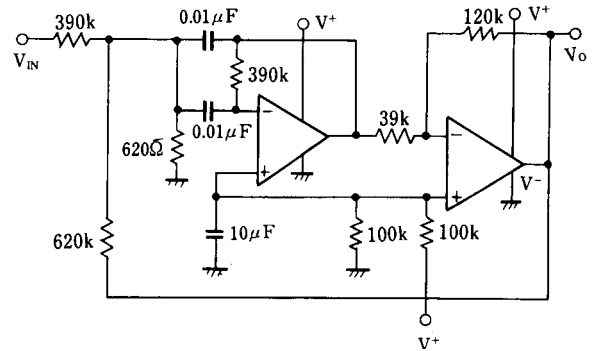
パワー増幅器



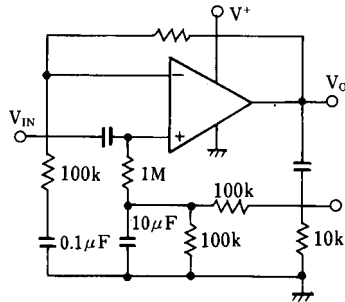
コンパレータ (ヒステリシス付)



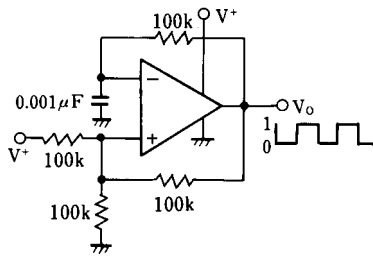
1kHz バンドパスアクティブフィルタ



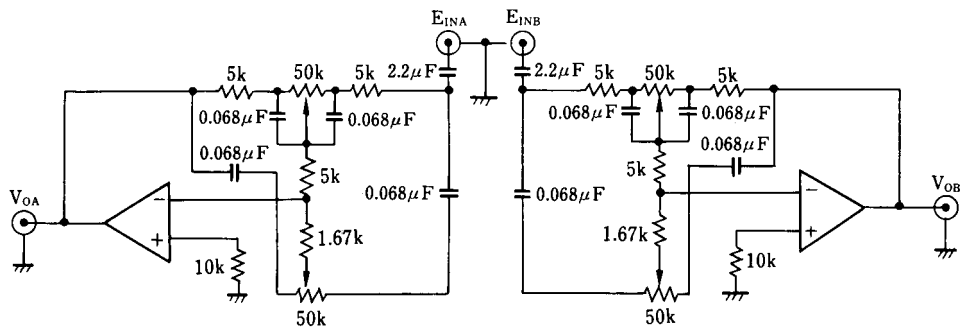
交流結合非反転増幅器



方形波発生器



ステレオトーンコントロール



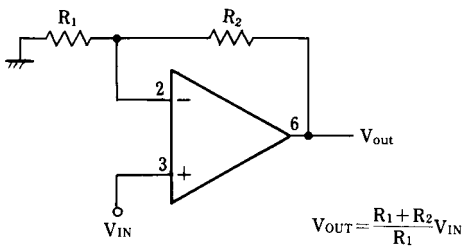
$$R_1 = R_5$$

$$R_3 = R_4 = R_6 = R_7 \text{ の場合}$$

$$V_o = 1 + \frac{2R_1}{R_2} (V_2 - V_1)$$

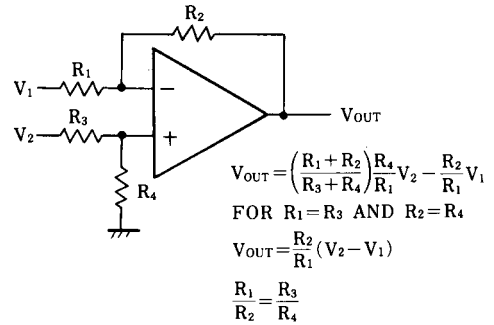
差動入力増幅回路

# オペアンプの応用回路例集



$$V_{OUT} = \frac{R_1 + R_2}{R_1} V_{IN}$$

非反転増幅器



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

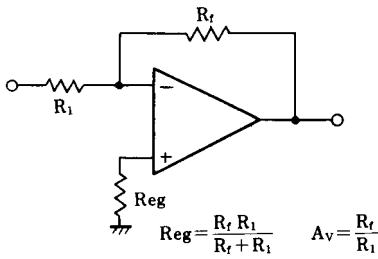
FOR  $R_1 = R_3$  AND  $R_2 = R_4$

$$V_{OUT} = \frac{R_2}{R_1} (V_2 - V_1)$$

$$\frac{R_1}{R_2} = \frac{R_3}{R_4}$$

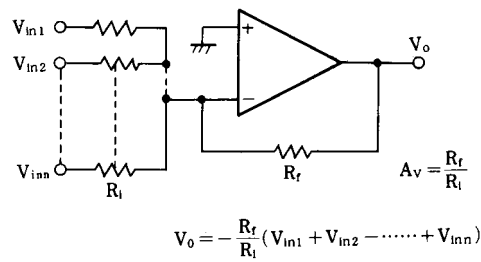
差動増幅器

反転増幅器



$$Reg = \frac{R_f R_1}{R_f + R_1} \quad A_v = \frac{R_f}{R_1}$$

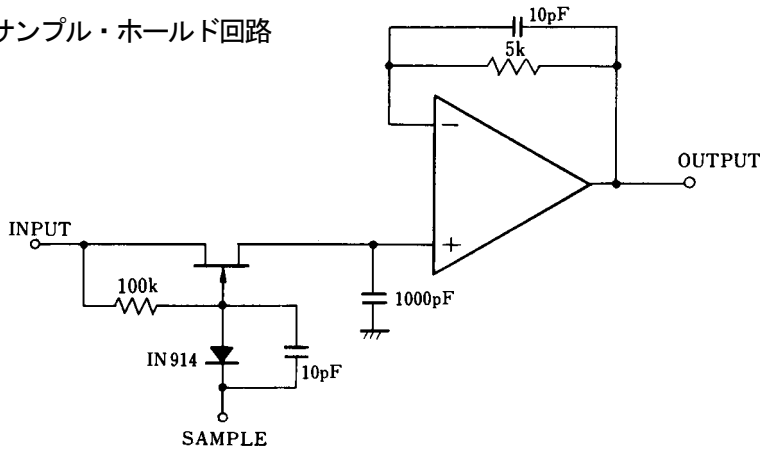
加算回路



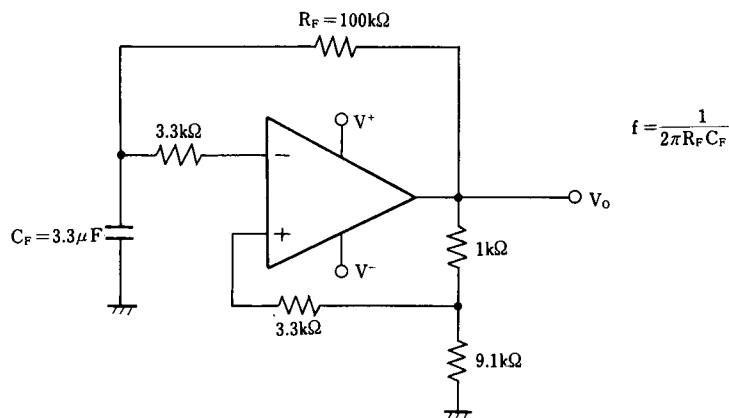
$$A_v = \frac{R_f}{R_1}$$

$$V_o = -\frac{R_f}{R_1} (V_{in1} + V_{in2} + \dots + V_{inn})$$

サンプル・ホールド回路

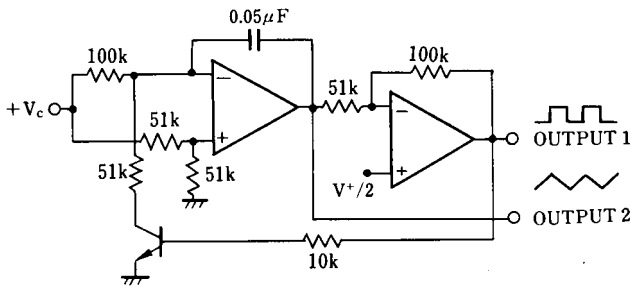


0.5Hz 矩形波発振器

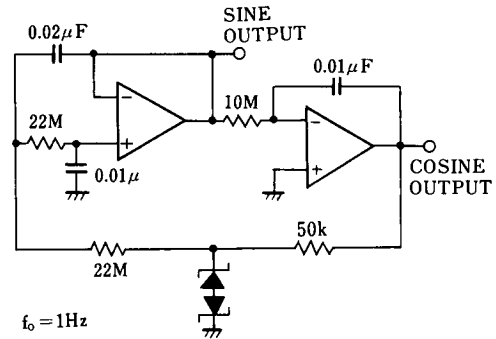


$$f = \frac{1}{2\pi R_F C_F}$$

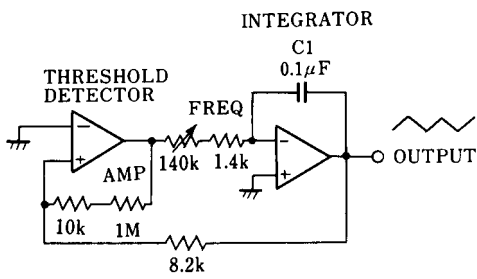
電圧制御発振器 (VCO)



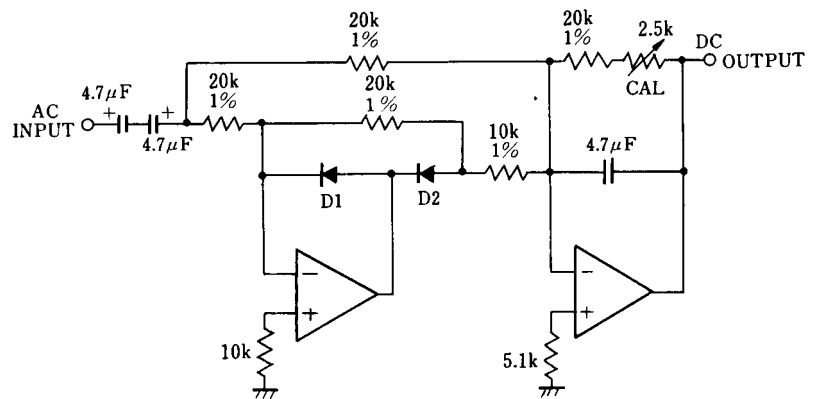
低周波正弦波発生器



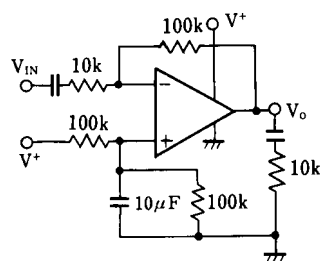
三角波発生器



全波整流+平均値化フィルタ



交流結合反転増幅器



直流結合 1 kHz 低域通過  
アクティブフィルタ

