

Examples of Negative Feedback

Applications:

A) Inverting Amplifiers

1. Summing Amplifier
2. Differentiator
3. Integrator

B) Non Inverting Amplifiers

1. Voltage Follower

Summing Amplifier (Adder) : the inputs are added and the sum is inverted . If all resistors are of equal value, then

$$V_o = -(V_1 + V_2 + V_3)$$

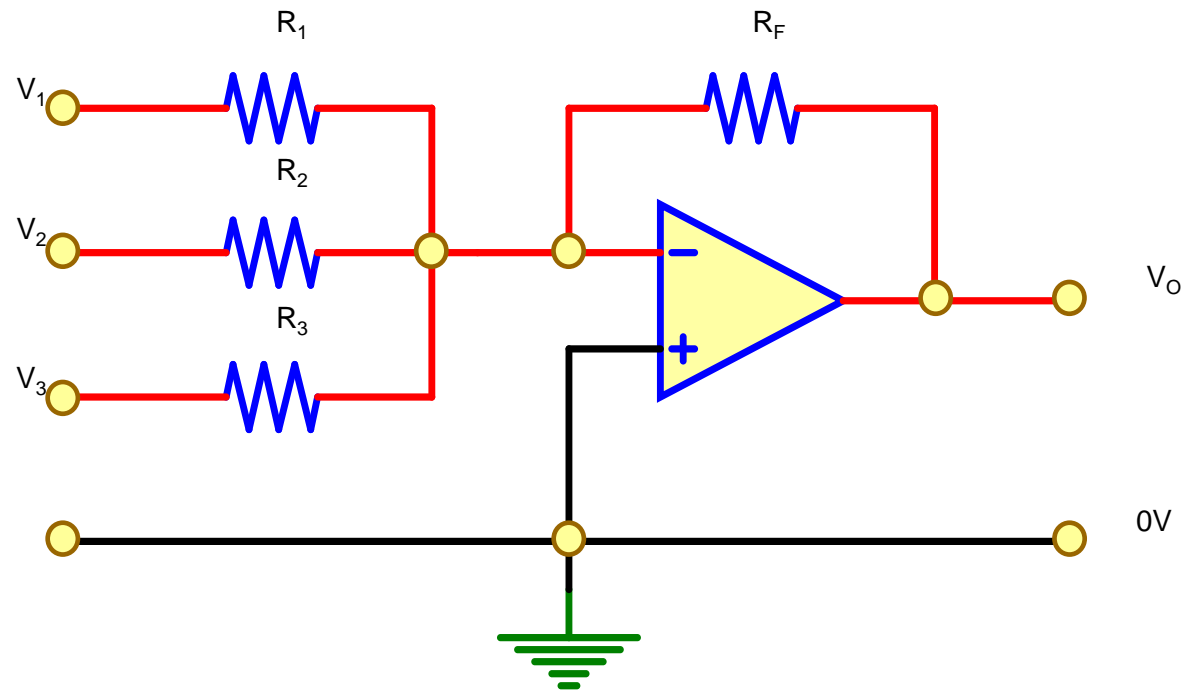


Figure 14 Summing Amplifier

Integrator (the input is integrated with respect to time)

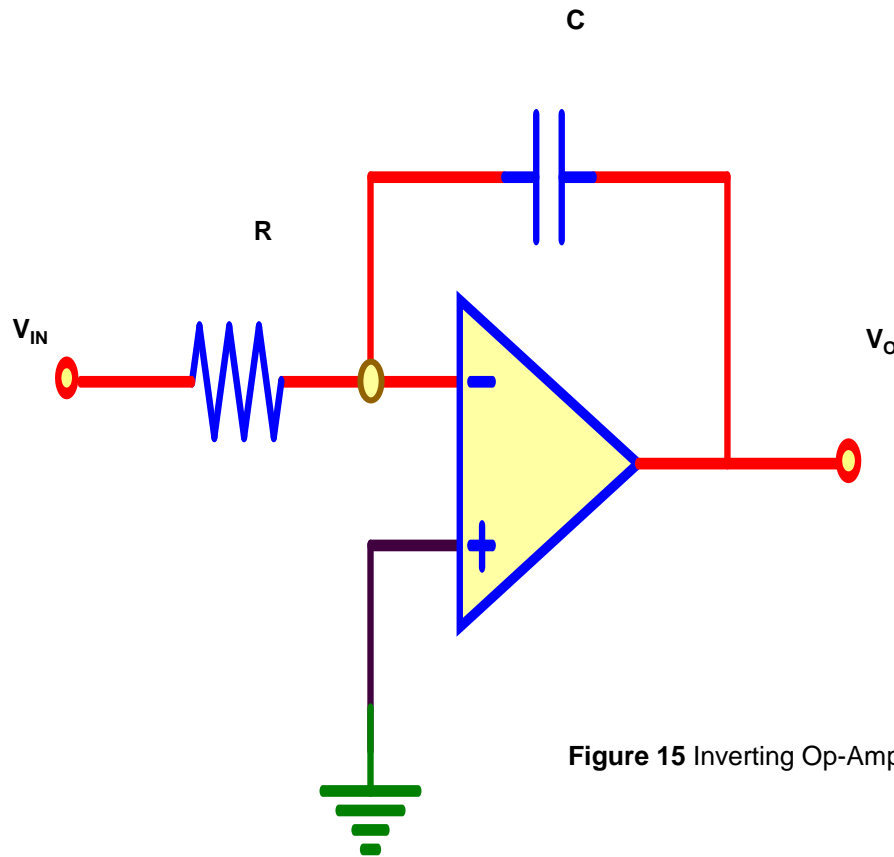


Figure 15 Inverting Op-Amp as Integrator

Differentiator (the input is differentiated with respect to time)

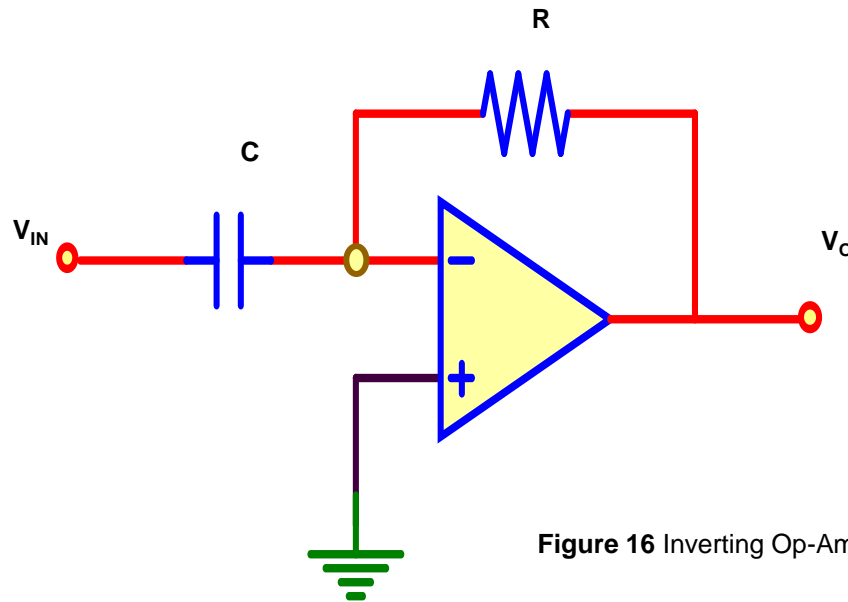


Figure 16 Inverting Op-Amp as Differentiator

Voltage Follower (Non Inverting)

- It is a non inverting amplifier with gain=1
- So the output is the same as input.

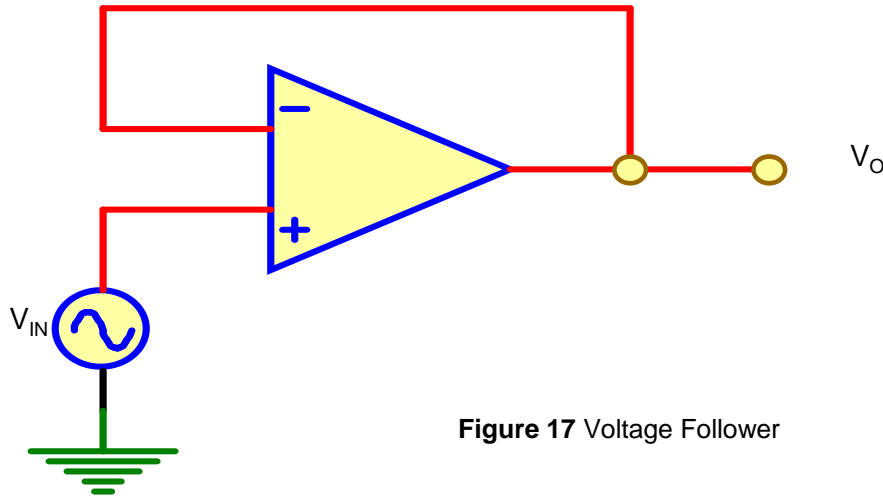


Figure 17 Voltage Follower