

Example: A Complex Processing Circuit using the Inverting Configuration

Note that we can combine inverting amplifiers to form a more **complex** processing system.

For **example**, say we wish to take **three** input signals $v_1(t)$, $v_2(t)$, and $v_3(t)$, and process them such that the open-circuit output voltage is:

$$v_{out}(t) = 5v_1(t) + \int_{-\infty}^t v_2(t') dt' + \frac{dv_3(t)}{dt}$$

Assuming that we use **ideal** (or near ideal) op-amps, with an **output resistance equal to zero** (or at least very small), we can realize the above signal processor with the following circuit:

This circuit performs this operation!

