

2.1 The Inverting Configuration

Reading Assignment: pp. 68-76

One use of op-amps is to make **amplifiers!**

This seems rather obvious, but remember—an op-amp by itself has **too much gain** to be practical!

Thus, the op-amp is but **one element** in our amplifier design.

The resulting amplifier will be **very different** from the op-amp itself—do **not** confuse the op-amp with the amplifier!

In this section, we will consider the inverting amplifier—an amplifier constructed with **2 resistors** and **one op-amp**.

HO: ANALYSIS OF THE INVERTING AMPLIFIER

The inverting amplifier uses feedback—we **close a loop!**

HO: CLOSED-LOOP AND OPEN-LOOP GAIN

The result of this feedback is the **virtual short**.

HO: THE VIRTUAL SHORT

Let's determine the input and output **resistances** of the inverting amp!

HO: R_{IN} AND R_{OUT} OF THE INVERTING AMP

Make sure that your feedback is **negative!**

HO: FEEDBACK STABILITY

Another important application of the inverting configuration is the **weighted summer**.

HO: THE WEIGHTED SUMMER