**Signal to noise**

- In any sound wave you can expect to find some noise of some kind. Noise is "unwanted signal."

- Even the best of microphones make their own noise, called "self noise."

- Electronic components all create unwanted signals ... what eventually you can hear as buzz, pop, rumble, hum, and so on.

- Engineers try to keep the amplitude of signals very high relative to the amplitude of noise. Amplitude also is called "level." This radio is called the **signal-to-noise ratio**. If the noise stays rather low, you can use an electronic component to "listen for" noise and reduce it to zero. But if the noise is high, electronics can’t distinguish it from the “good” signal. So noise, once in there, is in there.

- S-N ratio also applies to TV pictures. You’re familiar with video noise as ghosting, snow and other kinds of blurriness. Really good pictures have very little of this background noise.