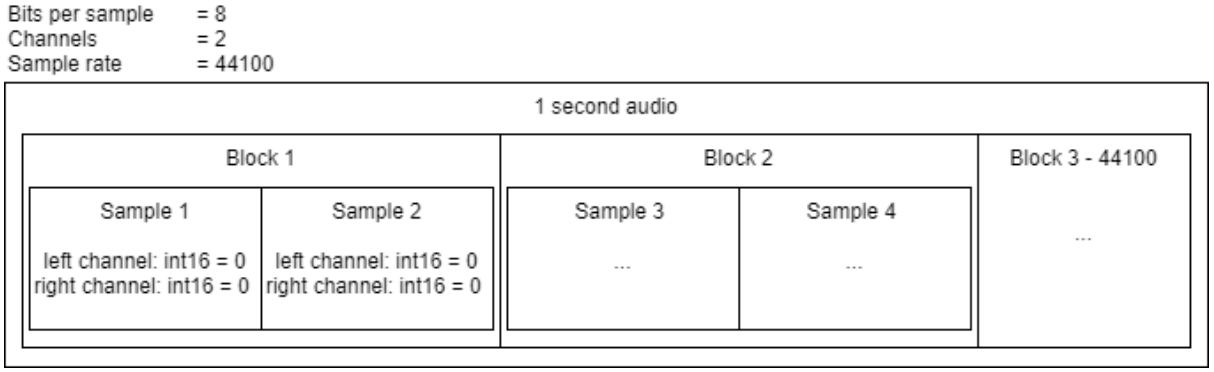
PCM sample rate conversion

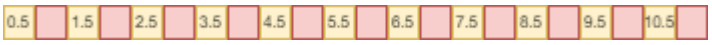
PCM is the native data representation used in many of the available hardware to stream audio. It looks a bit like the following graphic.

Channels is a synonym to audio speakers in this context.
The sample rate is the amount of blocks per second.



This is a good site containing more information about PCM and the wave file format.

A second of pcm audio data with the imaginary sample rate of 11 and 2 channels looks somewhat like the following graphic. The yellow squares are the left channel and the red ones the right channel. In total there are 22 squares. This is 11 for the amount of samples per second times 2 for the amount of channels.



A second with the sample rate of 5 and 2 channels looks similar to this.

If we want to convert from one sample rate to another we can either interpolate the nearest values or we can insert values representing silence. This has to be done on a per channel basis to make sure they are not mixed with each other.

If we want to interpolate the data we could group the samples with the same color together. The smaller blocks are colored with the same color as the nearest bigger block of the same channel.