XY PLOTTING WITH SOUND CARDS

Although the natural way to plot two signals against each other is with a dual-channel oscilloscope, regrettably not everyone has such an animal. However, many people do have a dual channel analogue input device for their computer in the form of a sound interface. So it's natural to ask if we could use that instead.

It is worth saying that this is not a new idea: just ask Google, or follow this Instructable.

Even if this works, it is important to realize:

- to get two input channels, we will need a stereo input;

- most sound cards will inly digitize signals in the 20Hz-20kHz audio band;

- for most applications you'll need some sort of input protection or processing.

Computers are expensive, and so I was wary of using the internal sound hardware. Instead, I tried some cheap USB sound interfaces: happily these worked tolerably well.

Although using an external sound interface connected by USB reduces the risk of destroying the computer, it doesn't completely protect it. Proceed at your own risk!

Cheap USB sound interfaces

I tried a three different sound cards, and perhaps unsurprisingly found that cost mattered. I made some more extensive notes elsewhere.

El-cheapo dongle

At about £1 this was the cheapest device. It was also a complete waste of money, because it has only one input channel. It's probably fine for other jobs though.

C-Media CM6206 cards

Lots of people seem to be making interfaces based around the C-Media CM6206 (and cousins). They are cheap (about £7), and full-featured: 5.1 analogue outputs, stereo inputs, and optical input and output. Sadly though, the frequency response isn't great. I measured the -3dB points at about 42Hz and 19.6kHz (44.1kHz sampling rate).