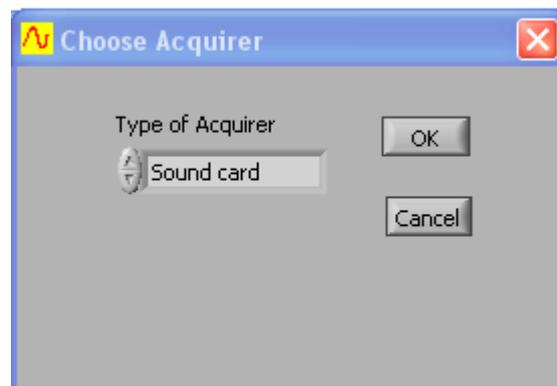


Setting up the Sound Card

There is no help in the help system for using the soundcard, so you will have to sleuth your way around it. Text shortcuts are listed in the 'About Cleverscope' menu entry (under Help).

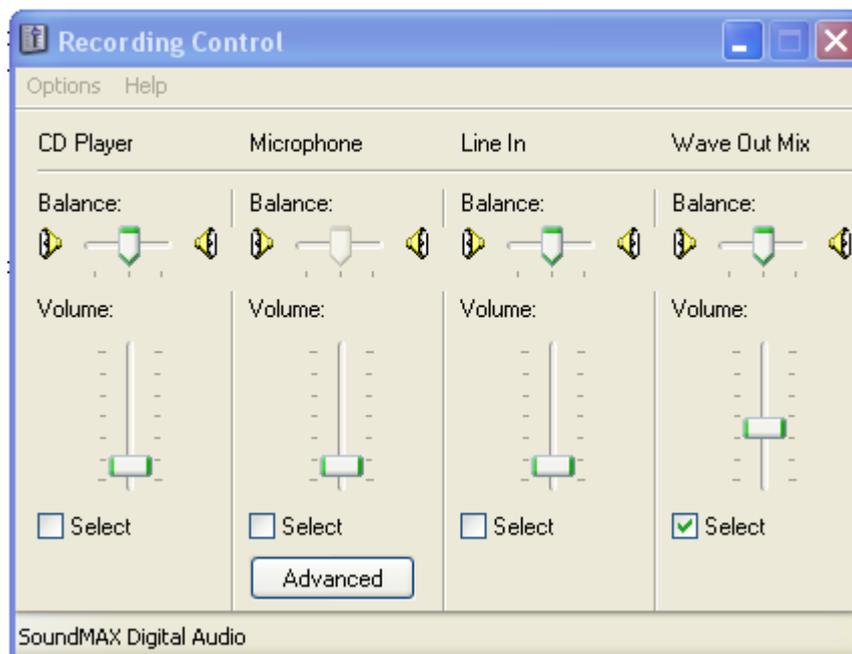
If you want to use Cleverscope with a Soundcard, you will need to do two things:

A. Choose the sound card acquirer. Use Options/Choose Acquirer:



B. Calibrate the soundcard. Every time you change the soundcard gain using the PC's volume control application, the gain needs to be recalibrated.

First, ensure that your recording source is set to the sound source you want to use. As an example:



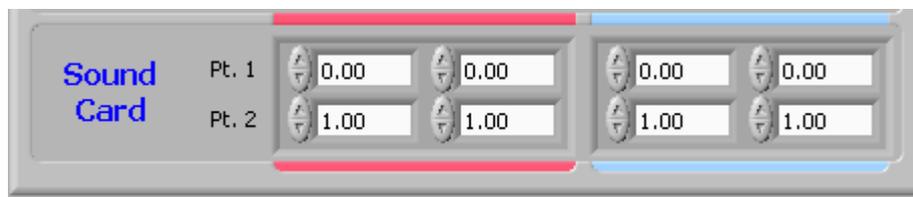
Get to this dialog by double clicking on the Volume icon in the system tray, then choose Options/Properties, and choose Recording, and click OK. That will give you the dialog above.

Use Auto on the Cleverscope Control Panel to see whatever is there. Make sure that you have a signal source (eg an MP3 or a CD, or a microphone). Once you see something you know that things are cooking!

Next calibrate the soundcard by putting in a known signal (eg a signal generator with 1V output).

Note that calibration is dependant on the settings of your mixer controls. Once calibrated, don't change the controls. Calibration is done as follows:

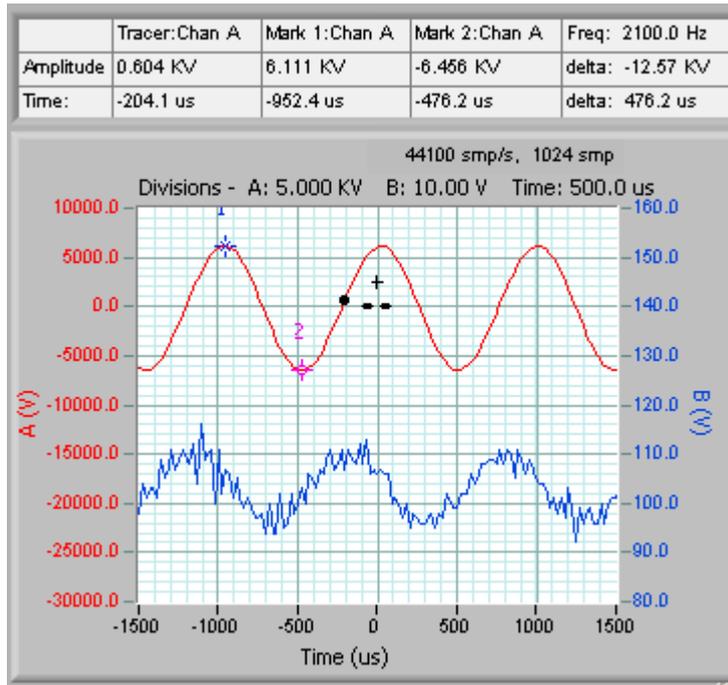
1. Use Options/Choose Acquirer.. to select Sound Card.
2. Use Options/Setup Acquirer... to be neutral as follows:



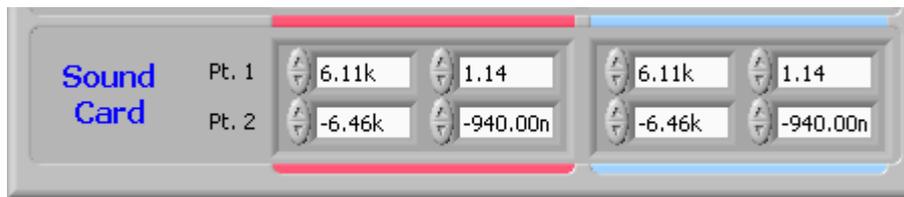
3. Next feed in a known signal, for which you know the positive peak and negative peak voltages (you can calibrate with another scope or voltmeter, or use a signal generator).
4. Capture the signal using the Auto (F8) button. Use Autoscale (A) to get the amplitude right, and adjust the time scale (CTRL ← or → or the time axis control buttons) to get several cycles on the screen. Place markers on the positive and negative peaks. Record these values.

As an example the plot below shows an approximately 1 kHz sine wave. The positive peak was 1.14V and the negative peak $-0.94V$ (ie there was a little DC offset).

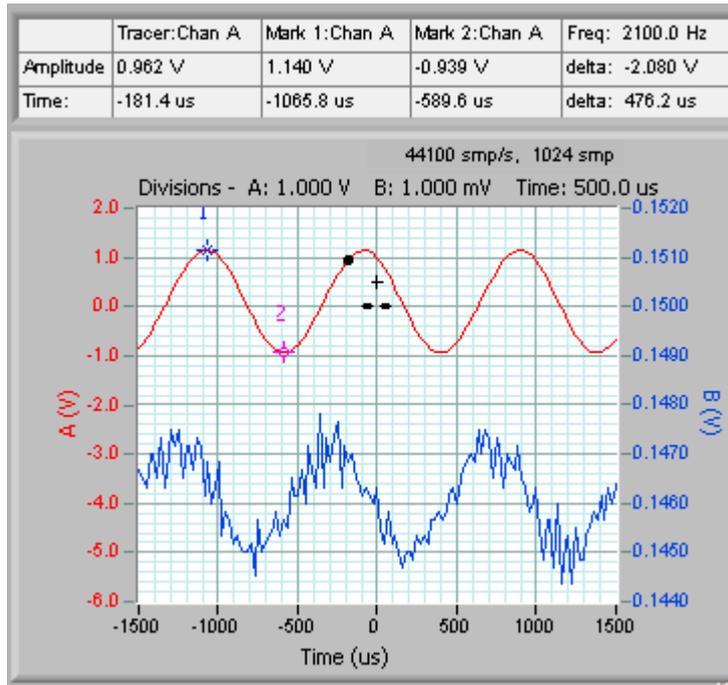
Now read from the markers the soundcard equivalents, these are a positive peak of 6,111 V and a negative peak of $-6,456 V$. See the graph below.



- Now enter two pairs of points into the Soundcard user units. These will be (6111,1.14) and (-6456,-0.94). Note that the dialog automatically converts to SI units. Calibrate both channels.



- Now recapture the signal using Auto (F8), and after Autoscaling (A) and you should find the units are now correct (see Markers 1 and 2):



7. That's all!

Please let me know if you have any difficulties. I have tested it with Win 98 SE, Win ME, Win 2000, and Win XP. But you never know!

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