Sound pressure readings

Using the Microlog conformance check module

Summary
This document explains how to use a microphone to take a sound pressure reading, with the Microlog's conformance check module

SKF Reliability Systems
@ptitude Exchange
5271 Viewridge Court
San Diego, CA 92123
United States
tel +1 858 496 3400
fax +1 858 496 3511
email info@aptitudexchange.com
Internet http://www.aptitudexchange.com

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Paul Edwards
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SKF @ptitude Exchange

1. Important note!

The instructions that follow are given only for the tabs that are specific to Sound pressure readings all other tabs will still need to be set up as normal.

2. Conformance template

You first need to set up a conformance template using the Conformance test setup generator. This can be found within the A.R.M software under *tools CTC file Manager* (Figure 1)

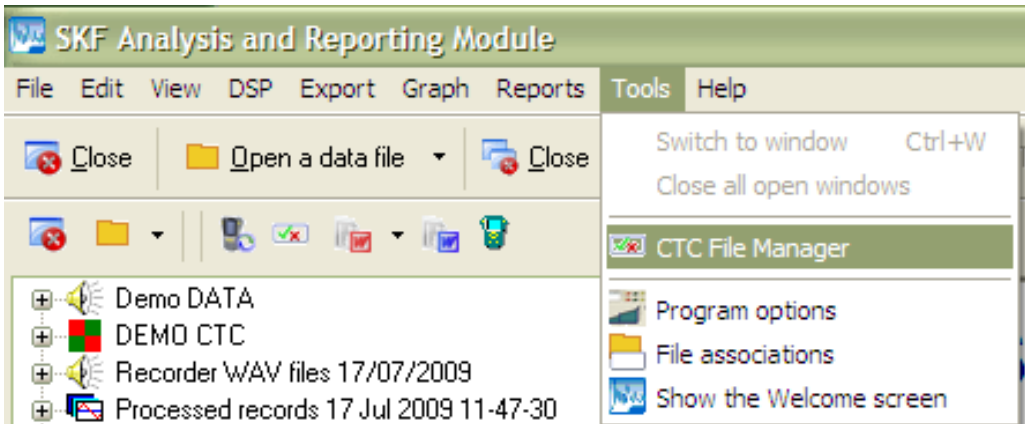

Figure 1. Finding the CTC File Manager

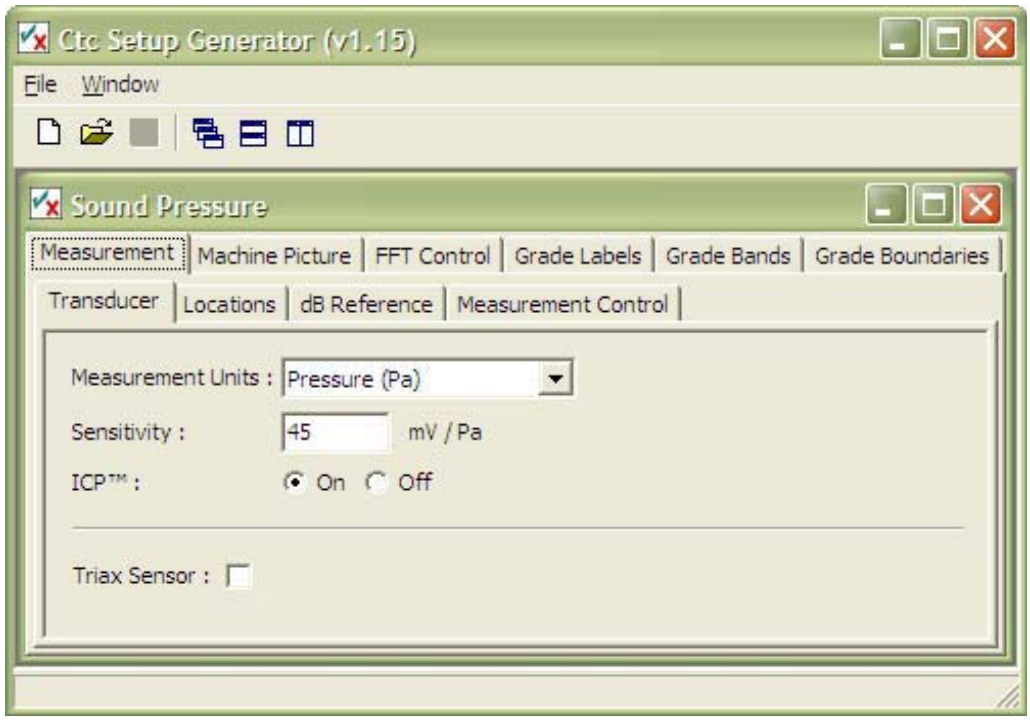

Figure 2. The measurement tab

On the measurement tab (Figure 2) select Pressure (Pa) as the measurement unit and enter the microphones sensitivity in the sensitivity box. You also need to ensure that the ICP On radio button is selected.

Next move to the dB reference tab (**Error! Reference source not found.**) and check the Enable dB option Box. Enter a value of 2e-05 in the value boxes; select Pressure (Pa) in the units drop down selection box and RMS in the Baseband Detection drop down box and Pk-Pk in the Enveloper (gE) detection drop down box.

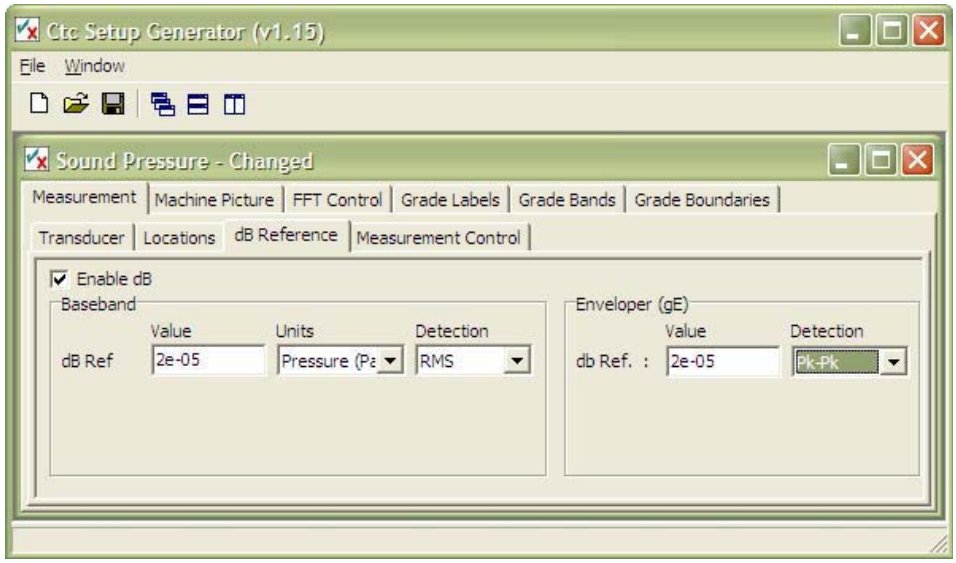

Figure 3. The dB Reference tab

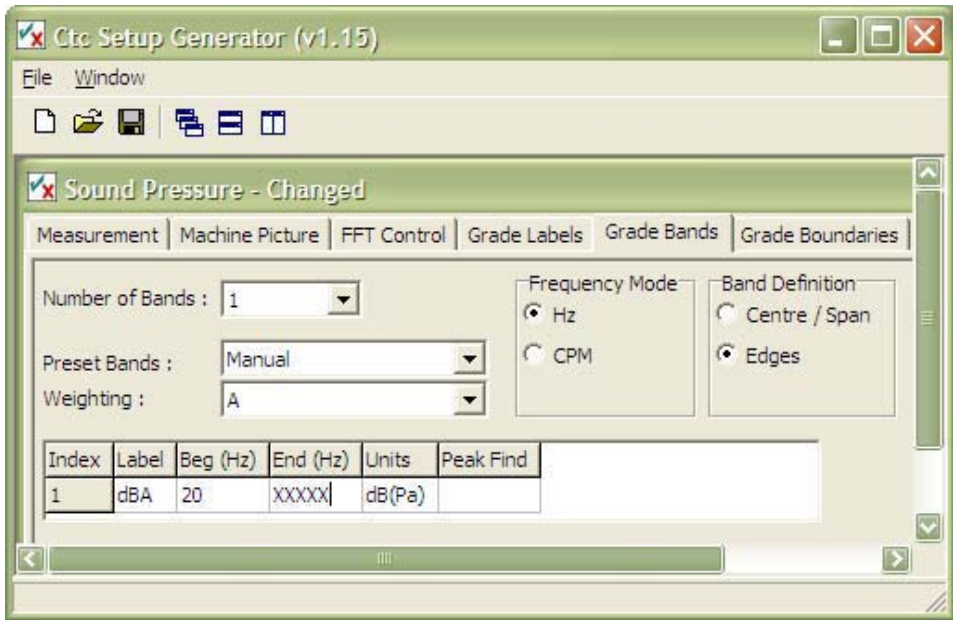

Figure 4. The Grade Bands tab

On the grade Bands tab (Figure 4) select 1 from the Number of bands Drop down List. Select A from the Weighting drop down list. In band 1 type dBA in the label box, 20 in the Beg (Hz) box and the frequency of choice in the end (Hz) box.

3. Using a Microphone with the Conformance check Module to take an Octave or 1/3 Octave reading

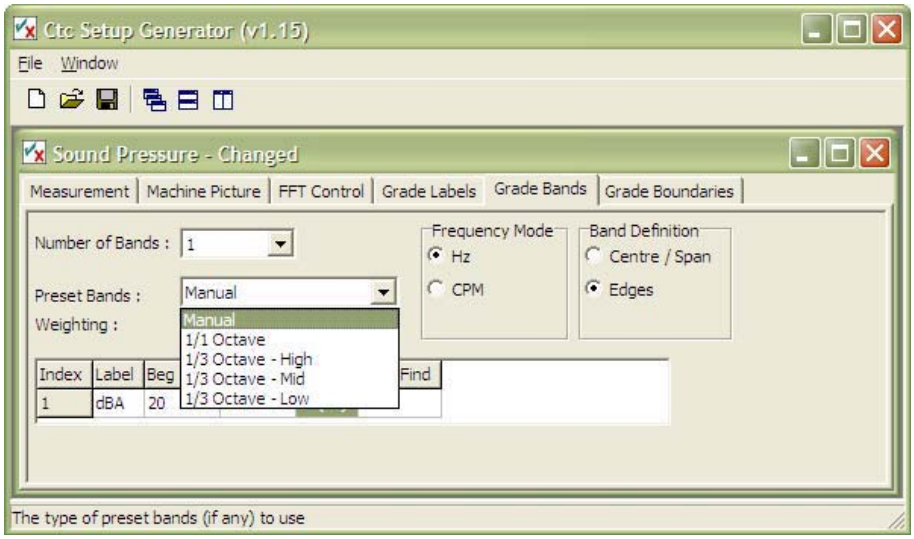

Figure 5. Selecting Octave or 1/3 octave bands.

As with a sound pressure reading a conformance template must be created to do this. Follow the instructions for setting up for a sound pressure reading until you reach the Grade Bands tab (Figure 5). From here use the preset Bands drop down selection box to select either Octave or the 1/3 octave band required.

The Bands are all reset and are automatically set up for you (Figure 6).

4. Important note!

The readings taken are not true but synthesized octave and 1/3 octave data

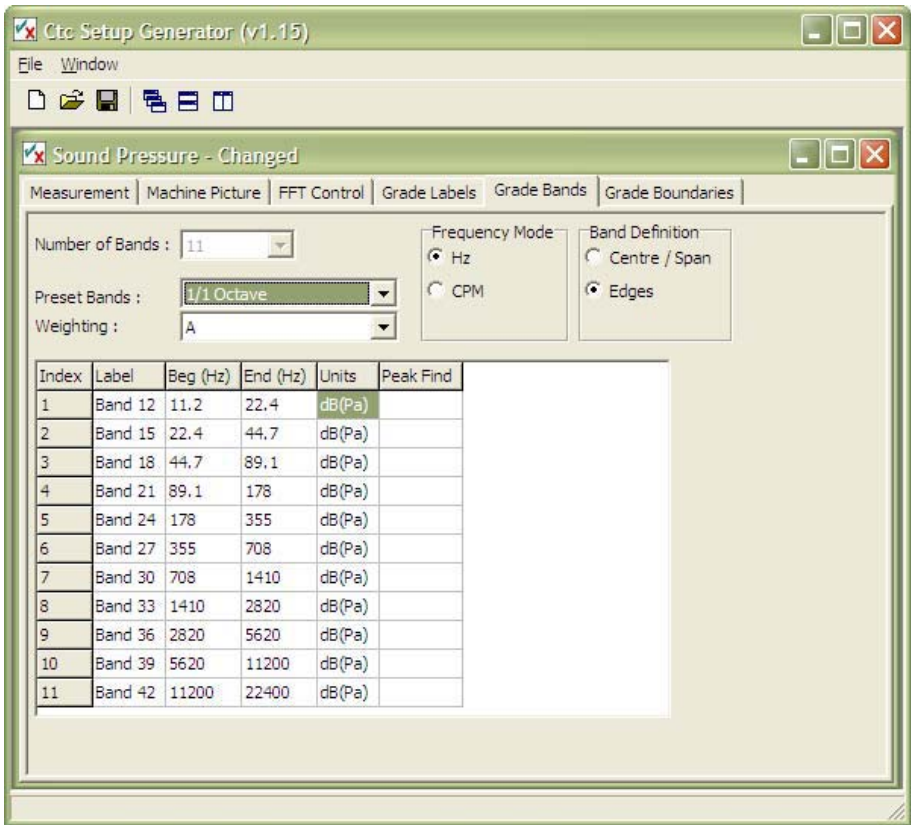

Figure 6. Automatic band setup

5. Microphone FAQs

Q. Can I produce a spectrum using a microphone?

A. YES, the signal output from the microphone is the same as the output from an accelerometer so an F.F.T. spectrum can be produced.

Q. Can I trend the sound power level?

A. YES, The data is collected using the Check to Conformance module so it can be imported into the Analysis and reporting module and trended.