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Title –SoundSens graph enhancements	
Made By:AB 16/09/15	(Issue 2)

SoundSens software – explanation of the display / graph options for applying enhancements to the results

Display Type Distance:
This is the default correlation graph, showing left to right the Distance between the loggers along the X-axis and the Relative Amplitude of the leak noise that both loggers have heard. A prominent peak on the graph indicates a potential leak and its position is tagged relative to the left hand logger.

Time Domain:
On this graph the prominent peak shows the difference in time (milli seconds) from the loggers receiving the leak noise signal. Obviously the logger closer to the leak will receive the signal quicker then the logger further away, e.g. If a pair of loggers are placed equidistance from a leak, then they will both receive the leak noise signal at the same time, therefore the Time Delay would be 0ms. Time domain maybe used in determining the actual velocity of sound in the pipe if you have generated a leak in a known position.

Coherence:
Coherence tells you whether you have any chance of a good correlation or not as the coherence screen indicates the similarity between the noise heard on the two loggers. The X-Axis is the frequency; the Y-Axis is the similarity. 1 means they are the same, 0 means there is no similarity.

Sampled Data:
Sampled data is a graph of all the sound data which has been recorded for the two loggers you are looking at. The Y-axis shows the relative amplitude and the X axis shows all the samples – each logger samples sound at 4.096KHz so each in each second of the test there are 4096 samples

Auto Spectrum
The auto-spectrum feature of the SoundSens software displays the distribution of frequencies sampled during a recording. A distribution graph will be displayed for each active logger during the selected recording. You can use the auto-spectrum graphs to check the intensity of Leak noise at different frequencies during the recording and therefore fine tune band pass filter settings.
An auto-spectrum window will appear for each active logger during the select recording.
Auto-Spectrum will give you an idea which frequencies the majority of the noise is at, so may give you an idea what noise to filter out.

Document History:

Edition	Date of Issue	Modification	Notes
1st	14/08/13	Release	
2nd	16/09/15	Format and content update	