Explanation of SoundSens i advanced correlation graph features

SoundSens is designed to carry out a series of 'listening' exercises each separated in time by a period that you select (e.g. 5 tests each separated by 5 minutes) – when the resulting correlation graphs are examined the software is looking for similarities between the individual test graphs – i.e. looking for common noise patterns over the tests as the common noises at the same frequency and amplitude are likely to be always there and therefore could be leaks. In some urban environments even testing at quiet times of the night it may be difficult for the software to identify these common sounds so it employs complex 'averaging' algorithms to test for the most significant similarities which define the most likely leaks. If we call these the 'Basic' results then most of the 'Advanced' settings should be used to build confidence in the basic test results – you will find that some options offer a significant shift in the leak position and the more of these you see the more you would doubt the basic results.
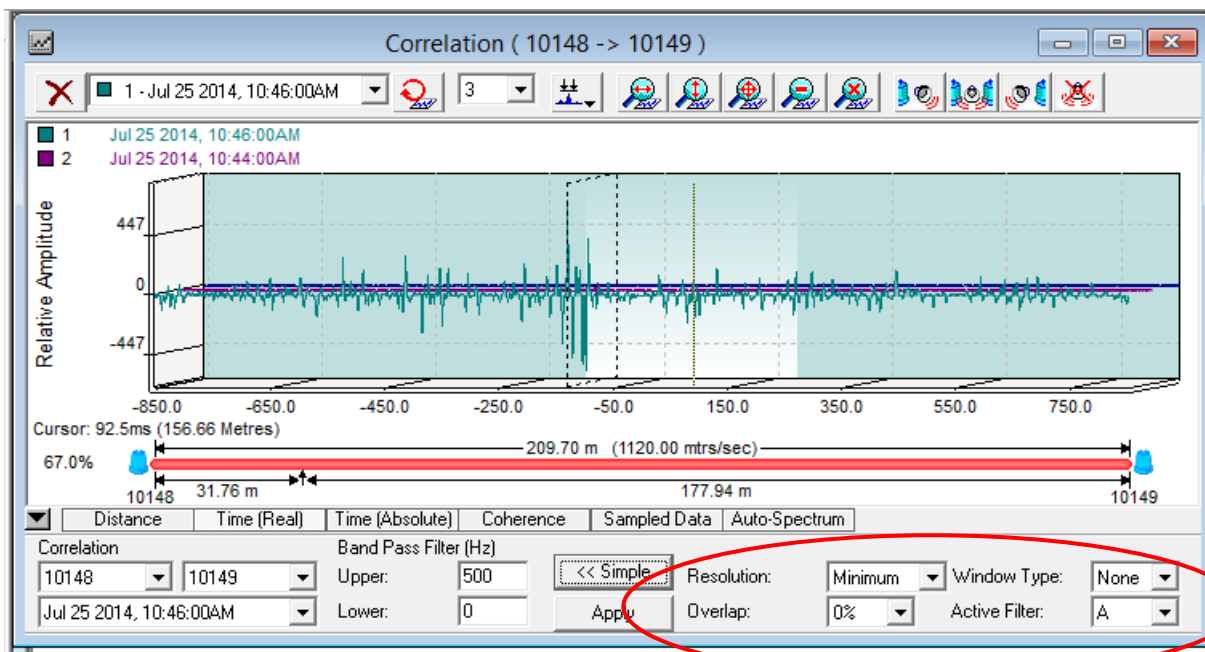
If you select the Auto Spectrum graph, then moving the cursor displays the frequency (X Axis) and Relative amplitude (Y Axis) at any given point. So you can look at this and decide if you want to apply any of the advanced options –

Resolution – minimum resolution is the default setting – this is the resolution between the peaks identified in each of the individual graphs representing each test - maximum setting increases the averaging so reducing the number of individual peaks – this possibly reduces the overall peak height in some instances but may also broaden the frequency.

Overlap – changes the significance of nearby peaks on the different graphs by considering the overlap of the peaks one to another. Increasing the overlap percentage has the effect of grouping together peaks which may not strictly be related.

If you select the Time graphs (Time Real or Time Absolute) -

Window Type – None is the default option - three different options are offered which look at the three best 'fit' conditions between the individual test graphs – if you try selecting and 'apply' each option you will see how the window shifts between the most prevalent points.

Active Filter – This can apply one of 5 different amplitude filters – they are not defined as they depend on the overall amplitude and filter out roughly in $1/5^{ths}$ of the range.

Document History:

Edition	Date of Issue	Modification	Notes
1st	10/03/15	Release	