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Technical support advisory 051020a

Using automatic time-alignment without speaker correction

Sometimes users may wish to use the PDC as a digital crossover and not use speaker correction. Of course, the PDC is capable of doing this; however time-alignment must be done manually. This document will demonstrate how to use the PDC as a digital crossover with automatic time alignment, without speaker correction.

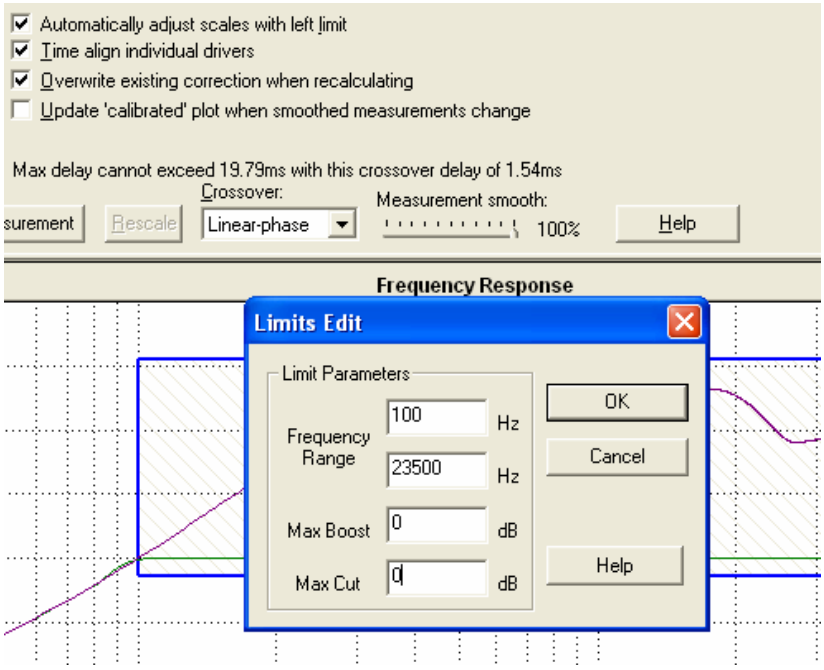
Requirements:-

- Version 2.0 Calibration software
- DEQX V2.0 Installers manual

Procedure:-

Normally when using the PDC as a digital crossover, you simply configure the PDC. Using this method (incorporating automatic time alignment) a measurement must be taken as if you where going to calibrate the speakers.

1) Measure the speaker as per the instructions in the Installers Manual.
2) Proceed to the calibration wizard.
3) In the 'Anechoic' tab, truncate at about 2-3ms. The window setting is not so important as we will not be correcting the speakers; we are using the measurement purely for time alignment.
4) Click on the 'Crossovers' tab and configure the crossover(s) to suit your requirements.
5) Click on the 'Limits' tab. Move the cursor over the 'blue limits' and double click. A box will open allowing the limit settings to be modified. Set the 'Max Boost' and 'Max Cut' to be 0 and click OK. This can be seen in the picture below. This procedure may have to be done more than once if more than one limit box exists.



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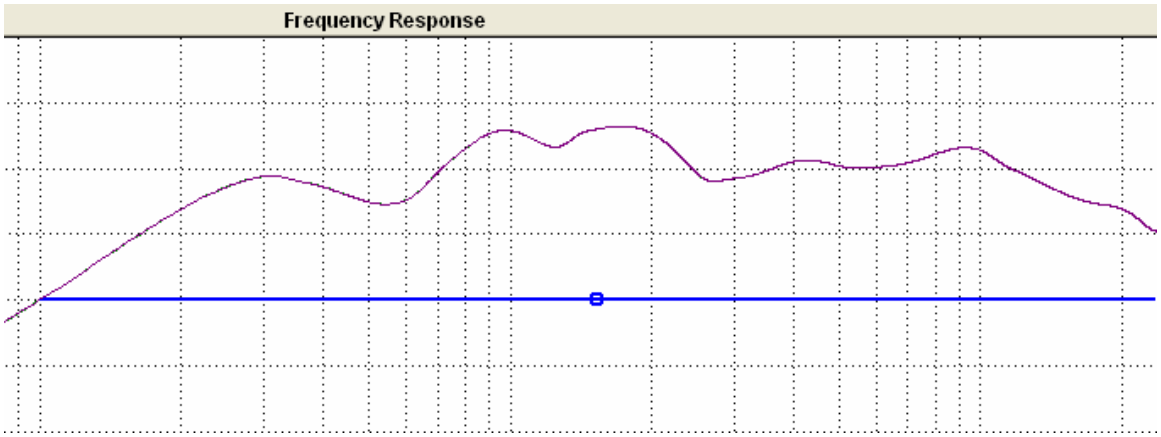
6) After setting the boost and cut to '0' the limit box(s) should then look like the photo below.



7) Ensure that the option 'Time align individual drivers' is ticked and click 'Calculate new correction'. With the correction filter calculated you can view its response (it should like just like a crossover) and by right clicking on the graph and selecting 'View' you can also select alternate views such as 'Group delay' and 'Impulse response'.

8) Finally, 'Configure' the PDC with a digital crossover created 'manually' in the 'bypass profile', and load the newly created correction filter into another profile(s), and upload to the PDC.

9) You can now compare the effect of a non time-aligned crossover against the automatically aligned crossover without speaker correction.