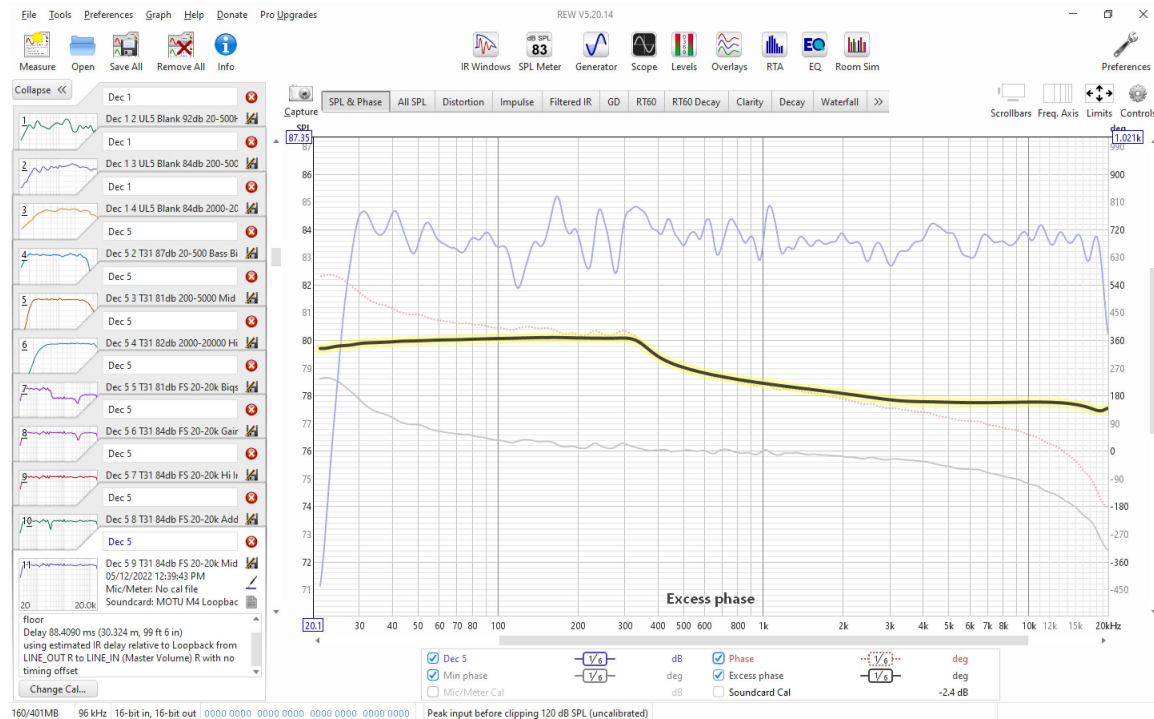


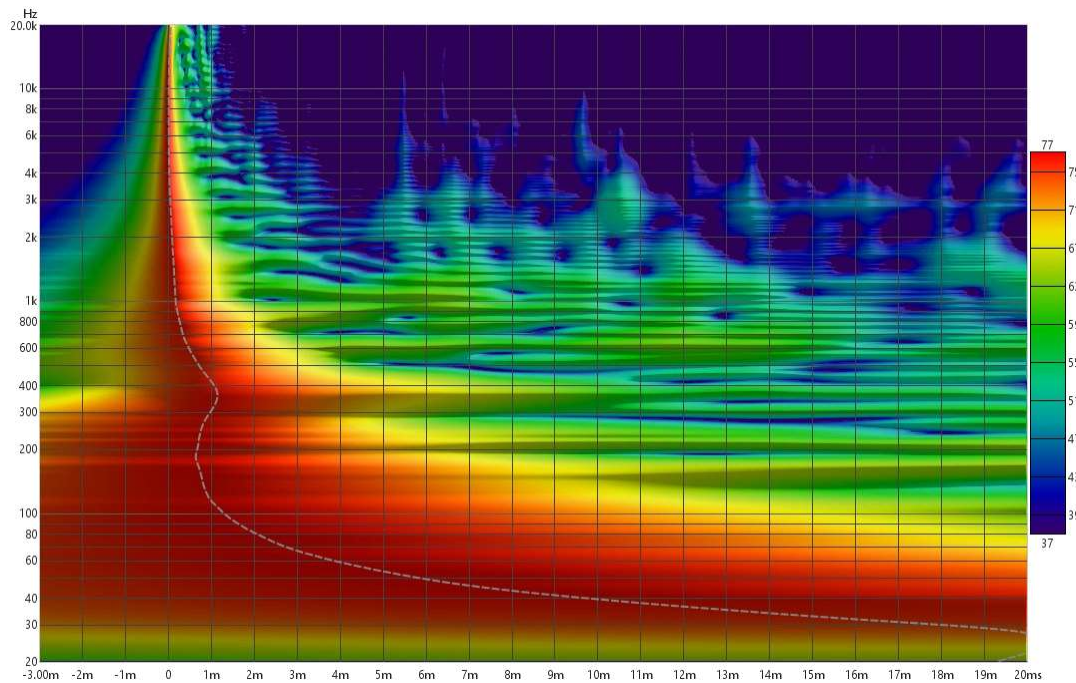
4. Manipulate the phase in rePhase for each driver to get the Excess Phase close to zero.

First a plot showing the Phase and SPL, with Excess Phase highlighted.

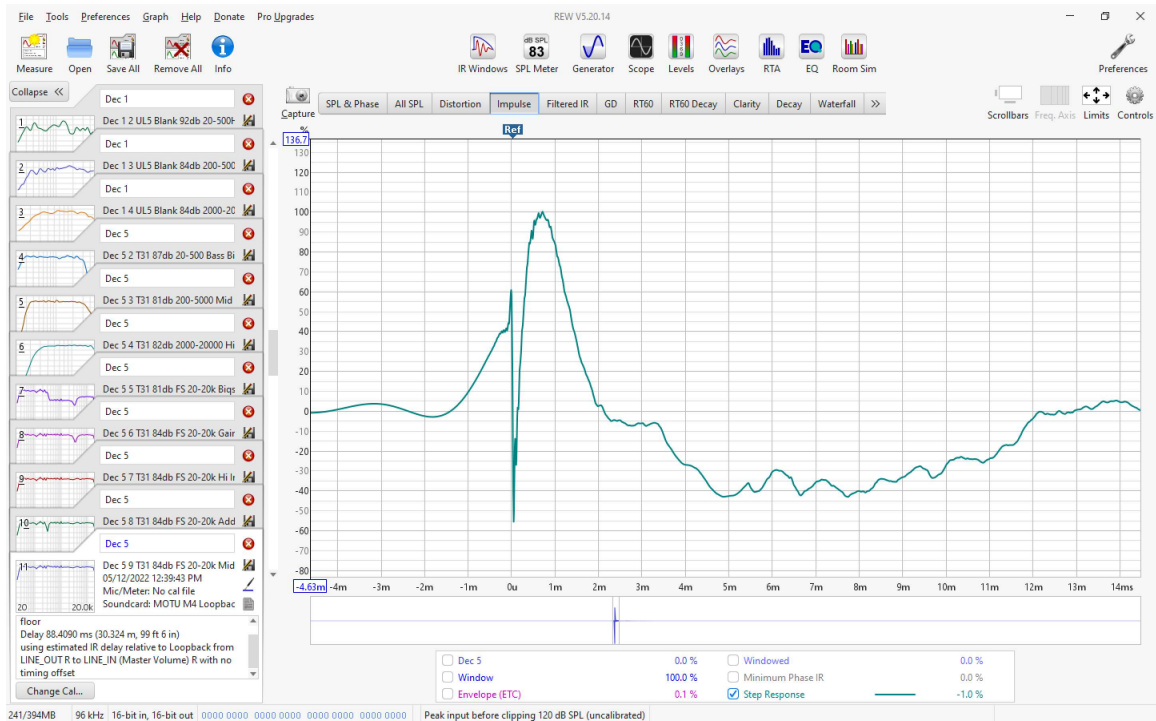


Dec 5 9 T31 84db Gains Biquads XO's 5ms delay and Inv Phase for Mid and Hi Excess Phase.jpg

The aim is to have the Excess Phase at 0 on the Y axis Degree scale. Bass is OK but at 330Hz the phase starts dropping, so Mid and Hi need some tweaking as shown on the Spectrogram. The strong advice with rePhase is not to alter anything under 100Hz as it will induce pre-ringing. I leave the Bass driver alone in rePhase.



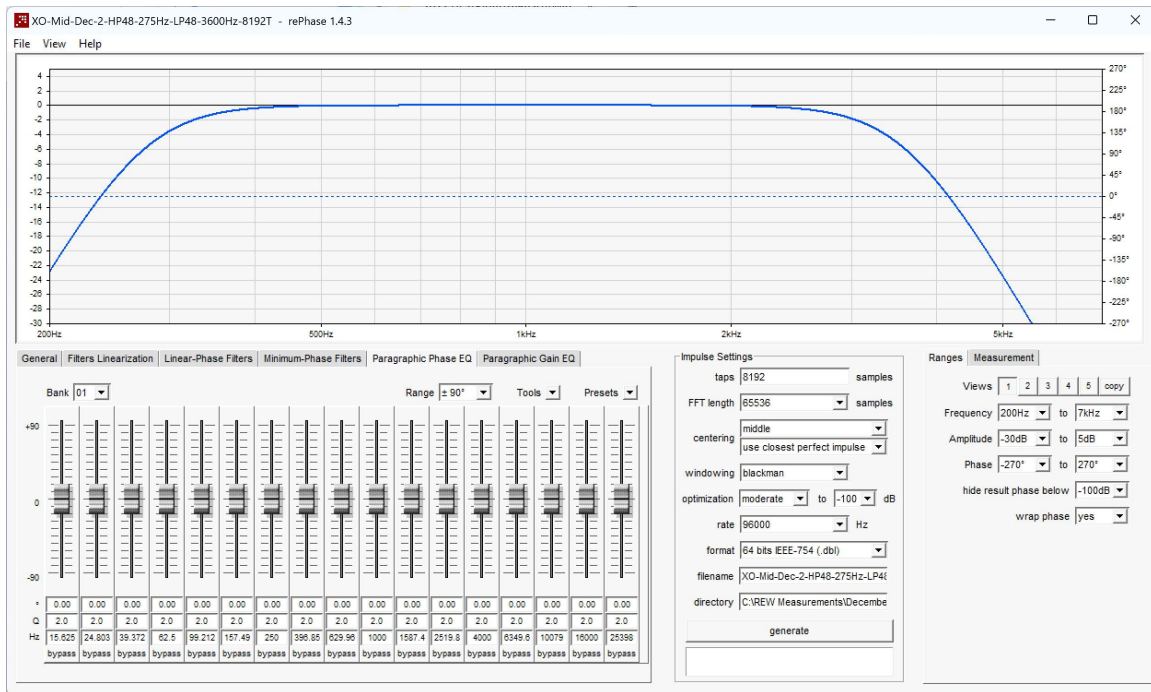
Dec 5 9 T31 84db Gains Biquads XO's 5ms delay and Inv Phase for Mid and Hi Spectrogram.jpg



Dec 5 9 T31 84db Gains Biquads XO's 5ms delay and Inv Phase for Mid and Hi Impulse.jpg

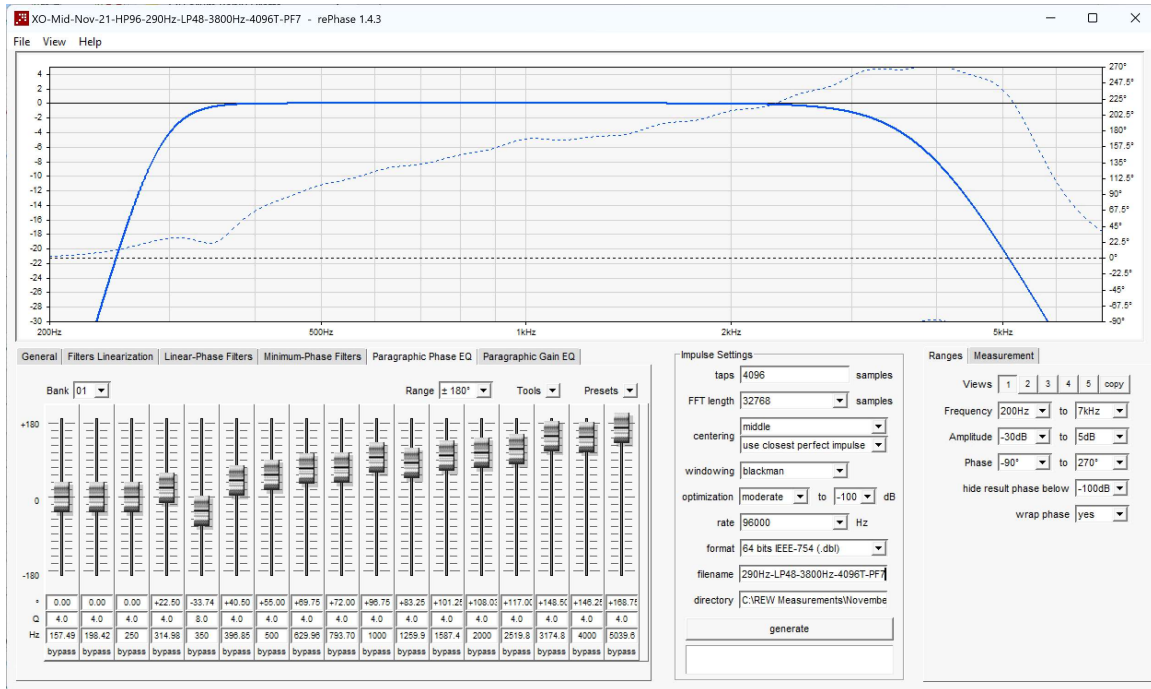
The Impulse plot is not too good, yet.

Reload the crossover rePhase setting for Mid and Hi (rePhase can run several instances) and click the Paragraphic Phase EQ



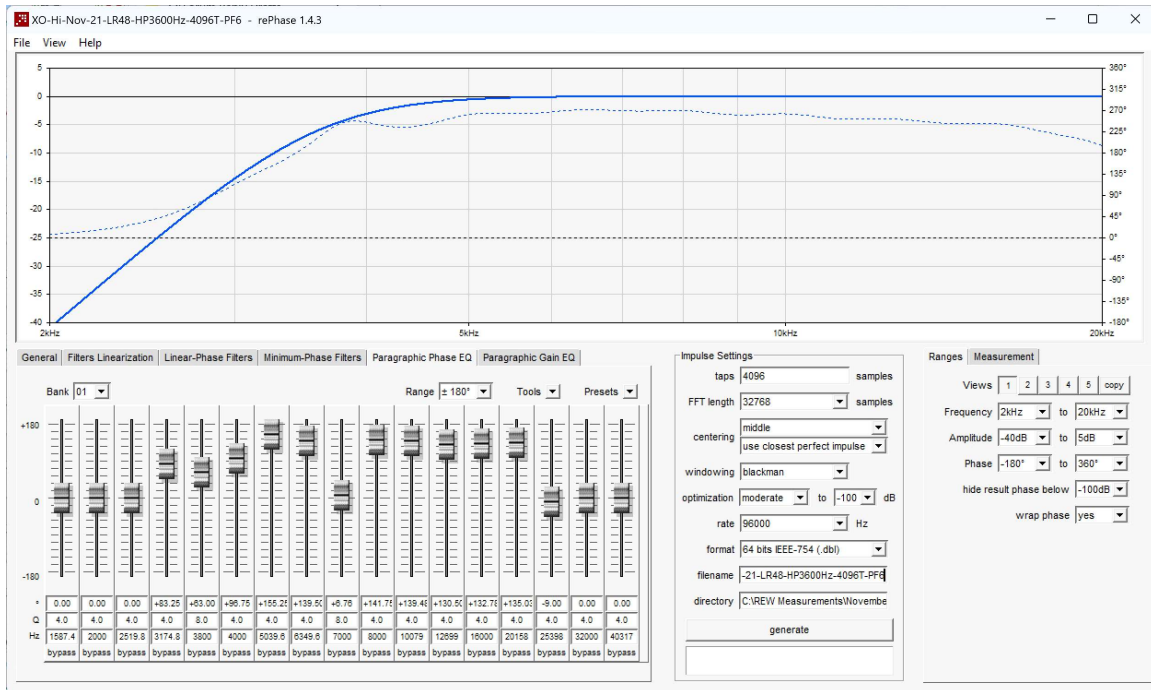
rePhase Mid XO before any Phase Fix.jpg

Here is rePhase showing the Paragraphic Phase EQ for Mid at PF7.



XO-Mid-Dec-4-HP96-290Hz-LP48-3800Hz-4096T-PF7.rephase

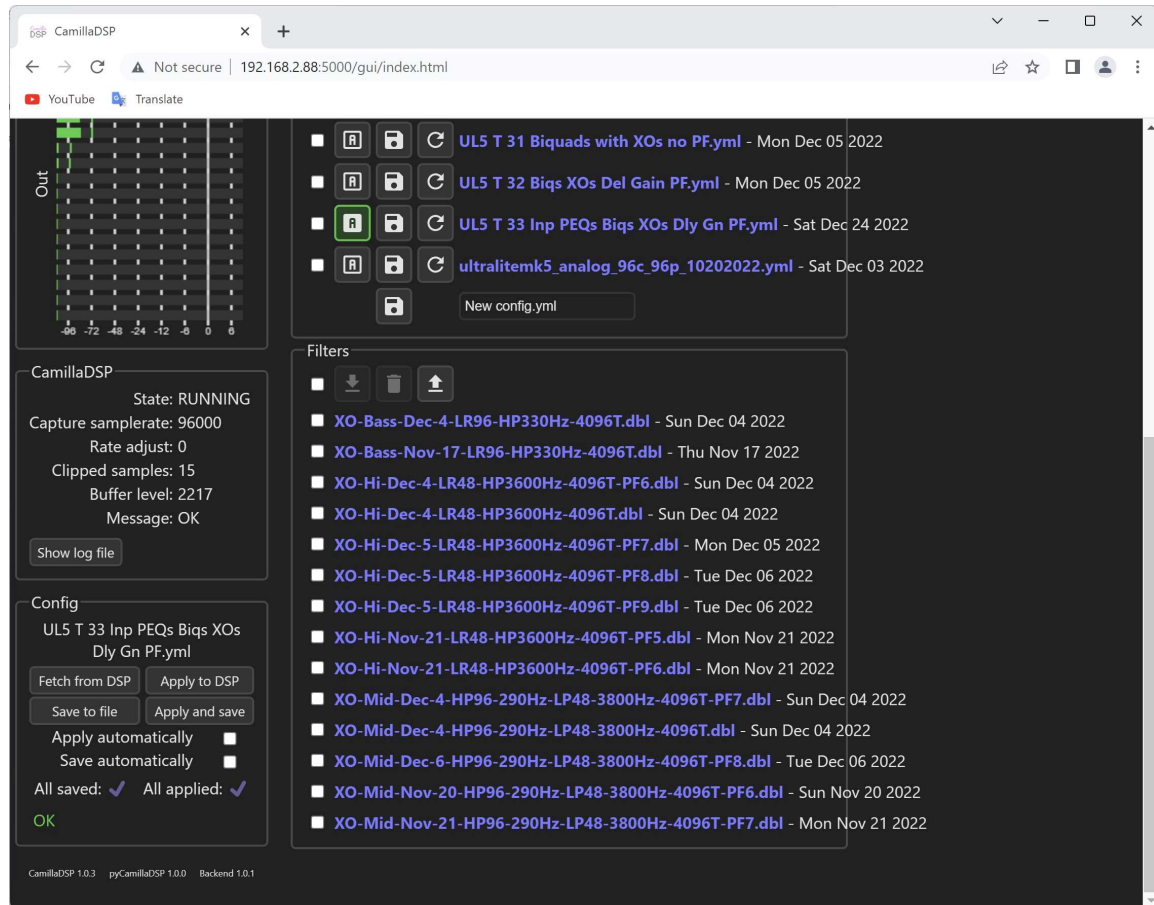
and rePhase for Hi at PF6



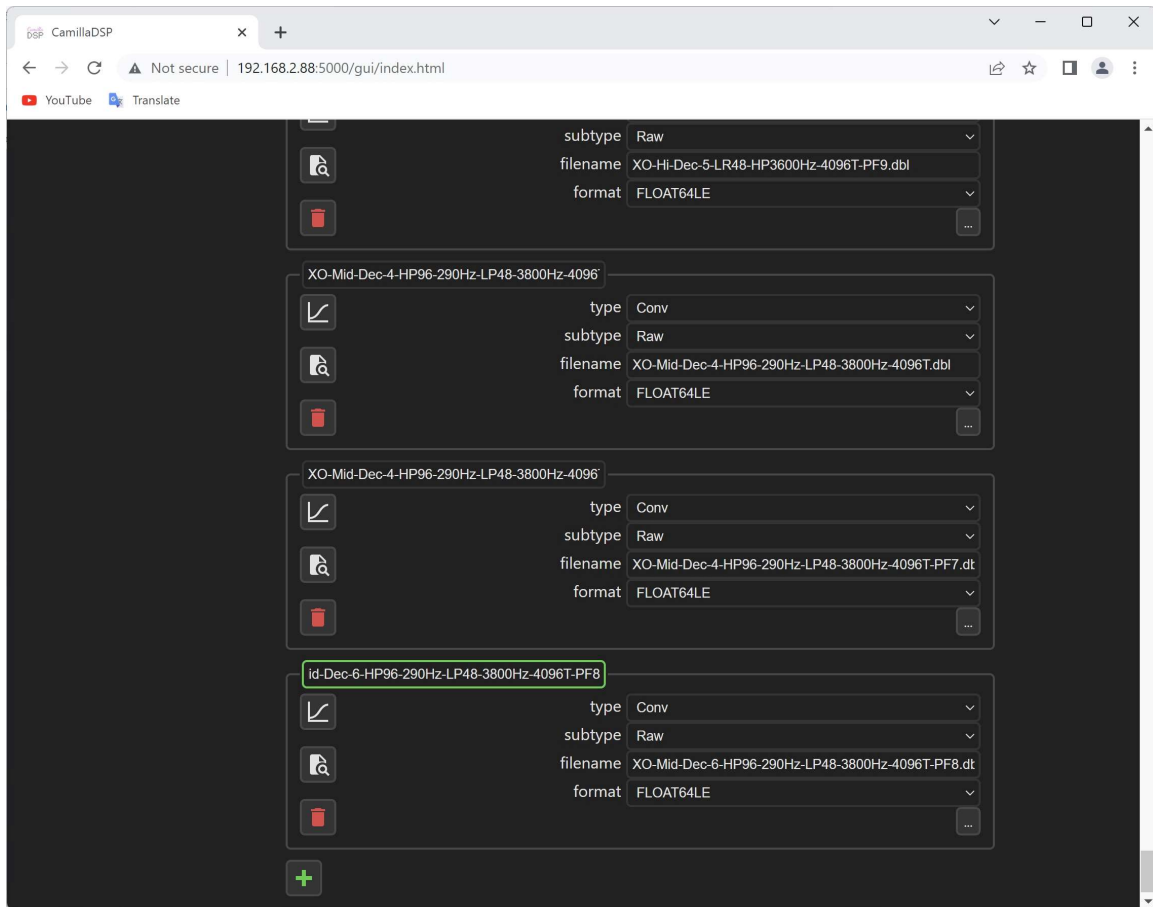
XO-Hi-Dec-5-LR48-HP3600Hz-4096T-PF6.rephase

You can see that the process is simple. From the SPL and Phase plot you select a frequency, check the Excess phase amount on the Y axis and either adjust the appropriate slider to match or enter the degree into the field. Degree, Q and Frequency can be entered. When you have them looking good, press generate to build a .dbl file, copy it to CamillaDSP and add the new filter in the pipeline, delete the old filter and re-measure. Once more the filename is a descriptor showing details of the filter and Phase Fix number.

It took me 6 goes to get to here, but it really doesn't take long. I have learnt from bitter experience to save the settings for each iteration of the measurements as it is then simple to go back a step when you stuff up.



Config showing dbl files.jpg



Config showing Conv filters for XO.jpg

In this screengrab of filters in the config, you can see my pedantic descriptor naming of XO filters and also the green + sign that is used to add a new filter.

OK, How does it look

