

Parameter	Comment
Fsiso	<p>This is probably the most critical parameter of them all. You can think of this parameter a little bit like the crossover frequency for a bass managed system. Below this frequencies all speakers are allowed to participate in playback, and above this frequency only the full range speaker dedicated to a particular input channel is allowed to play. Setting this frequency really low will be the most robust option, but will also provide the least benefit. For instance, setting it to 50Hz allows all speakers to co-operate to reproduce (for instance) the left input channel below 50Hz, and above 50Hz only the front left speaker will play (conceptually, the filters are no brick wall filters).</p> <p>Setting this frequency to 500Hz on the other hand could potentially give huge benefits. Then all speakers will play below 500Hz and only the front left will play above 500Hz. However, letting the support speakers help out all the way to 500Hz also means that chances are pretty big you will be able to pinpoint the supporting speakers which will sound really bad. You don't want to actively notice the support speakers, only that the main speaker sounds a lot better.</p> <p>What is a good value here then? It depends mainly on two factors; the size of your sweetspot and the number of speakers you have. As a general rule of thumb Fsiso can increase with the number of speakers and decrease with the size of your sweet spot (smaller sweet spot allows a higher Fsiso).</p> <p>We encourage you to find the highest possible value for Fsiso for your system such that you still feel the end result is great.</p>
Group n is supported by	The use of this will depend on your particular grouping of speakers. It may be useful to consider the F-support High parameter in each group.
Support level	<p>This parameter in its brief description sounds easy enough, but it is not as straightforward. There are dB values, but there is no guarantee that changing this parameter for a speaker by -10dB to make it play 10dB more will actually happen. Think of it as a parameter for how heavily the algorithm is allowed to utilize a speaker, but keep in mind that just because the algorithm is allowed to use a speaker does not mean that it will actually choose to do so.</p> <p>If you feel that the algorithm is producing results that create distortion in a support speaker by pushing it too hard, try to increase this parameter for that particular speaker to discourage the algorithm from employing it so heavily. To further increase chances this is what will happen it can be helpful to also decrease this parameter for one or more speakers that you feel are good replacements. It is important to consider the position of speakers in the room with regards to the listening position as well, as the detected wave front is important when determining the suitability of a certain speaker for a certain objective. That is, if you want to decrease the load on one speaker, do increase the value of this parameter, and do decrease it for another speaker. If this other speaker is in a similar position as the first speaker this will be more likely to achieve what you want than if it is on the opposite side of the room.</p>
F-support Low	The lowest frequency for which a speaker is allowed to support another speaker. This can be useful to prevent small speakers from getting overloaded with bass they are not designed to handle. Ideally this can be automated from measurements, but it is difficult to robustly determine if it is a small speaker with a lot of room gain, or a large speaker in a null. Also not that this is an allowed range, and setting this value low will not automatically guarantee that it will be used that low.
F-support High	<p>The highest frequency for which a speaker is allowed to support another speaker. For subwoofers, think of this value as the lowpass filter you'd like to apply to the input signal to the subwoofer. For fullrange speakers this parameter can be used to scale back support speakers such that they don't reveal themselves in the end result by playing too high up in frequency. Often this correlates with speaker position.</p> <p>Assume you have a 7 channel system with 7 identical full range speakers playing flat down to 10Hz. It might feel tempting to use the same parameters for all of them, as the speakers are the same. We expect this will not always be a good idea. This is based on an assumption that (for instance) the center speaker can get away with playing higher up in frequency supporting the front left speaker than the surround right speaker can. The fact that the wave front from the surround right comes from a completely different direction that the front left might make it possible to detect the surround right. In order to prevent this, set the F-support High to a lower value.</p> <p>Please explore how high the F-support High can be set for your system before you are able to pinpoint sounds that shouldn't be heard. In the end we want to be able to automate the setting of this parameter based on speaker position from meta-data and possibly from measurements.</p>
Speaker HP	Different from the F-support Low this parameter will have a more direct impact on the use of a particular speaker, but only upwards in frequency. That is, setting this value to 50Hz for a speaker will prevent it from playing much of anything below 50Hz, so it is more direct than F-support Low that is just setting an allowed range without any promise for how it will be utilized in the end.
Speaker LP	Same as for Speaker HP, only it's a lowpass filter.