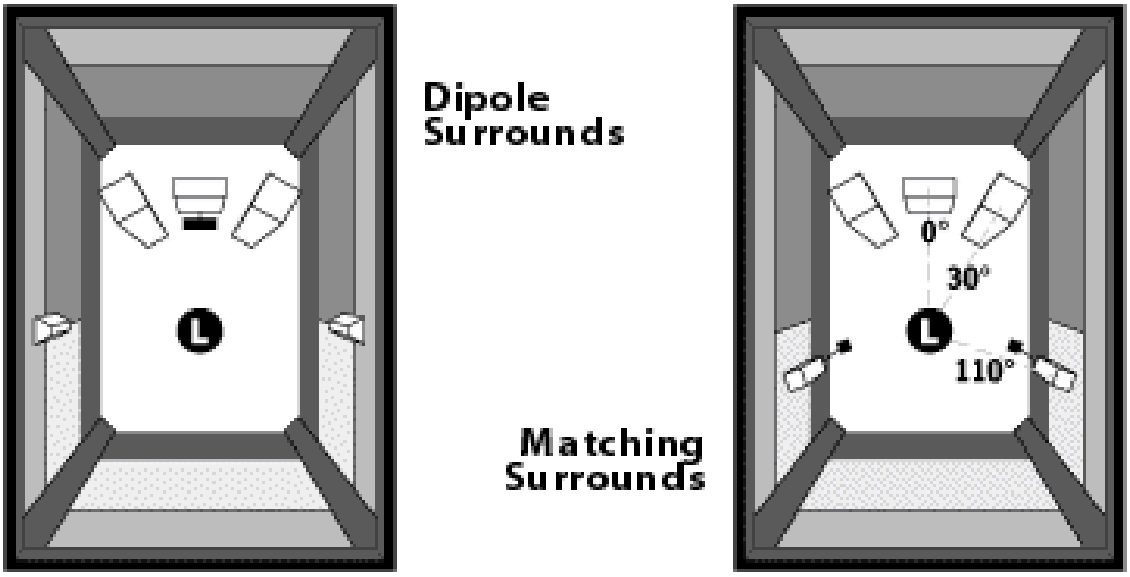
The *L* & *R* surrounds can either be (*a*) placed as so-called dipole surrounds (USA THX-format), where they are located on the side walls directly to the left and right of the listener, at ±90^o to the median plane of the system (*i.e*. 180^o apart from each other), with all 5 speakers equidistant from the listener, as shown in the *LHS* figure below, or (*b*) the *L* & *R* surrounds can be placed as a so-called matching surrounds (European ITU-format), where they are again located on the side walls, but at the somewhat larger angle of ±110^o to the median plane of the system (*i.e*. 140^o apart from each other), again with all 5 speakers equidistant to the listener, as shown in the *RHS* figure below:



The *L* & *R* front speakers in both home theater configurations are located at ±30^o to the median plane of the system (*i.e*. 60^o apart from each other), with the center speaker located on the median plane of the system, as it is in commercial movie theaters (but located behind the screen).

While early sound reflections in a concert hall or large auditorium enhance the overall sound, giving rise to feelings of intimacy and ambience in the ears of concert-goers, for small listening rooms and/or home theaters, early sound reflections interact adversely with the direct sound from the 5.1 S-S system, resulting in comb-filtering – *i.e*. a "hilly" rather than flat frequency response – one which has peaks and dips in the sound spectrum due to partial constructive/destructive interference at certain frequencies. The spatial "image" effect(s) achieved in 5.1 surround-sound systems are achieved primarily via signal processing rather than via the room acoustics of the home theater, and so early sound reflections can detract/distract from the intended original audio signals emanating from the 5.1 S-S system, corrupting the original sound stage. Hence, *e.g*. the use of phase-grating sound diffusers on the walls of the home theater can be very helpful in dispersing the sound energy associated with the early reflections, thereby significantly alleviating these problems, as shown in the figure below: