A key issue in any recording studio is transferability: the ability of a mix to be transferred to any/all other listening environments outside the original recording studio. In order for a mix to faithfully transfer to a wide range of acoustical environments, the original mix must be created in a room with minimal acoustic distortion. The four sources of acoustic distortion are (*a*) modal emphasis, (*b*) speaker boundary interference, (*c*) comb filtering, and (*d*) sparse reflection density. Professional recording engineers will attest to the importance of mixing in an acoustically well-designed room. Hence RPG Inc's slogan: "If you can't take the room out of your mix, you can't take your mix out of the room".

The acoustics of the control room need to be such that the sound recording engineers can ideally hear the direct sound from the reference monitors with no interference/coloration of the direct sound by reflected/reverberant sound in the control room. Very often, the mixing console is located at the front of the control room, directly in front of/near a ~ large window viewing the musicians in the recording studio. The thickness and construction of this window is important because if it is not thick/absorptive enough, it can transmit the live sound from the recording studio into the control room, thereby obscuring/interfering with the sound coming from the engineer's reference monitors.

The positioning of the stereo pair of reference monitors relative to the listening position of the sound recording engineer is very important, just as it is in a home listening room, for accurate L-R stereo-image positioning of the recorded stereo signal(s).

The early reflections of the direct sound from the reference monitors off of the walls, floor and ceiling of the control room can cause problems/interfere with the direct sound of the reference monitor in several ways. Sound reflections from the nearby surfaces at the front of the room could back to the sound recording engineers position could be as short as ~ 1-5 *msec*, and can adversely color/affect the sound recording engineer's perception of the direct sound coming from the reference monitors. For this reason, very often the front portion of the control room has much sound absorption *A* associated with it.

Early reflections from surfaces at/near the front of the control room can also interfere constructively/destructively with the direct sound coming from the reference monitors – this interference is known as comb filtering – arising due to phase differences of direct *vs*. early reflected sound's path lengths, manifesting itself as constructive interference peaks and destructive interference dips distributed across the audio frequency spectrum, as shown in the figure below. Again, absorbing the early sound reflecting off of the surfaces near the front portion of the control room helps to suppress frequency-dependent comb-filtering type interference effects.