dbQ_DLL_readme.PDF

Please observe the following notes:

1. Every single array/cluster used in the EASE simulation program needs to be configured independently using d&b Q-Calc Excel spreadsheets.
   You can download these from the d&b website under www.dbaudio.com

2. For safety reasons always refer to the d&b Q-Calc Excel spreadsheet before you suspend a Q array. While designing the array setup, always watch the load limits of the array. Never exceed the 100 % load limit, otherwise there is a risk of damage to people or material.

3. Within EASE open the respective loudspeaker properties window, select dbQ.dll as loudspeaker and open the respective DLL set up window.

4. Define array size (No. of cabinets)

5. Choose the loudspeaker type. Availiable loudspeakers are Q1, Q7 and Q-SUB's. Q-SUB's can only be inserted on top of the array, one single Q7 only at the bottom of the array.

6. Set splay angles between the cabinets. Possible splay angles are 0°-14° in 1° increments.

7. The following maximum SPL values for d&b Q1, Q7 and Q-SUB with D12 amplifier can be selected:
   Peak: Calculated from sensitivity and maximum RMS voltage as the peak limiter allows.
   Program: Measured dB SPL RMS with 185 ms sinewave burst at limit. (185 ms is much
   longer than peaks in pinknoise or music!).
   RMS: The smaller value from:
   a) 185 ms sinewave burst at a level the system produces 10 % THD.
   b) calculation from sensitivity and RMS voltage which the thermal limiter allows.

8. To achieve a flat frequency response go through the following steps:
   Choose the desired maximum SPL function (PEAK, PROGRAM or RMS) and set every frequency band of every loudspeaker to maximum.
   Set the SPL values of all frequencies to the lowest value (or even lower if desired) in the table.
   The Coupling EQ filter function compensates for the increased coupling towards lower frequencies.
   It changes the frequency response of the array, but it has no influence on the achievable maximum SPL in the single frequency bands.
   The value of the Array EQ "Coupling" (CPL) parameter can be set to a useful attenuation of lower frequencies to achieve a balanced sound. The value depends on the amount of cabinets in the array and the total vertical dispersion, the larger the array and the larger the total splay, the more attenuation will be needed. This parameter is also available in the d&b controllers (CPL) and can be set correspondingly later.

9. After having set the splay angles you may want to reduce the level of individual cabinets. This is mainly to compensate for excessive level increase close to the array. Keep in mind that for a lot of applications a slight increase in level towards the front is expected. Remember that usually several cabinets are linked together to the same controller channel, so set the levels equally for all cabinets connected in parallel.

10. The Loudspeaker cabinets are not visible in symmetric rooms.

11. Please note that the cluster position and the flying frame tilt angle needs to be defined within EASE.