



Application Note



Which SLS Line Array Model to Choose?

Choosing and designing a proper line array element for the application revolves around seven factors. Our purpose is to determine which combination of factors will tell us what SLS line array products to use.

1. Throw Distance ?

This would seem like a good criteria for determining which model to use but upon a closer inspection this factor is really related to the height of the array, not the element type used.

2. Bandwidth ?

This does involve some consideration if using the line array without subwoofer support. The LS6500 line element is rated with a usable lower frequency limit of 85Hz, LS7500v2 is 80Hz, LS8800 is 72Hz, LS9000 is 65Hz and the LS9900 is 45Hz. The low frequency performance is also effected by the number of elements used. The greater the number of boxes, the louder the LF will be in relation to the HF.

3. Horizontal Coverage ?

SLS line array elements have two families. The LS6500 and LS8800 designs are 110 degrees. The LS7500v2, LS9000 and LS9900 designs are 90 degrees.

4. Sound Quality ?

This criteria is somewhat application dependant due to different room characteristics that may reveal or mask resolution especially in the lower frequencies. It is also a moving target based on customer perception. It is really not a driving factor for SLS product selection especially since all the line array modules use high quality ribbon transducers. However it can have a place in product selection with projects that are dealing with excessive RT60 times.

5. Price ?

Most clients would place this as the number one criteria, however good designers know that it should take second place to meeting the venue sound systems engineering requirements. With that being said, more often than not multiple SLS design solutions can be engineered that offer an acceptable solution. These can then be ultimately narrowed down based on client budget verses performance expectations.

6. Size ?

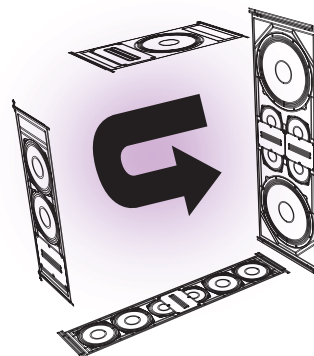
The LS6500, LS7500v2 and LS8800 systems are exceptionally small for their respective acoustic output and can be a consideration in product selection.

7. SPL !

This is the most specific criteria to use for SLS line array element selection. Using a typical design solution of an approximately 60" tall array flown at 30' and throwing 60' the differences can be plainly seen. An LS6500 system using 10 elements (about a 60" tall array) will produce an average of 106dB across the listening plane. An LS7500v2 system will produce 111dB. An LS8800 system using 8 elements (also about 60" tall) will produce 115dB. The LS9000 continues to increase the SPL producing an average of 121dB across the seating areas with the same array height.

On the next page is a logic flow chart that will assist you in quickly implementing these criteria. You will be able to quickly narrow down our ribbon line array solutions to one that meets your design requirements.

The Engineering staff at SLS



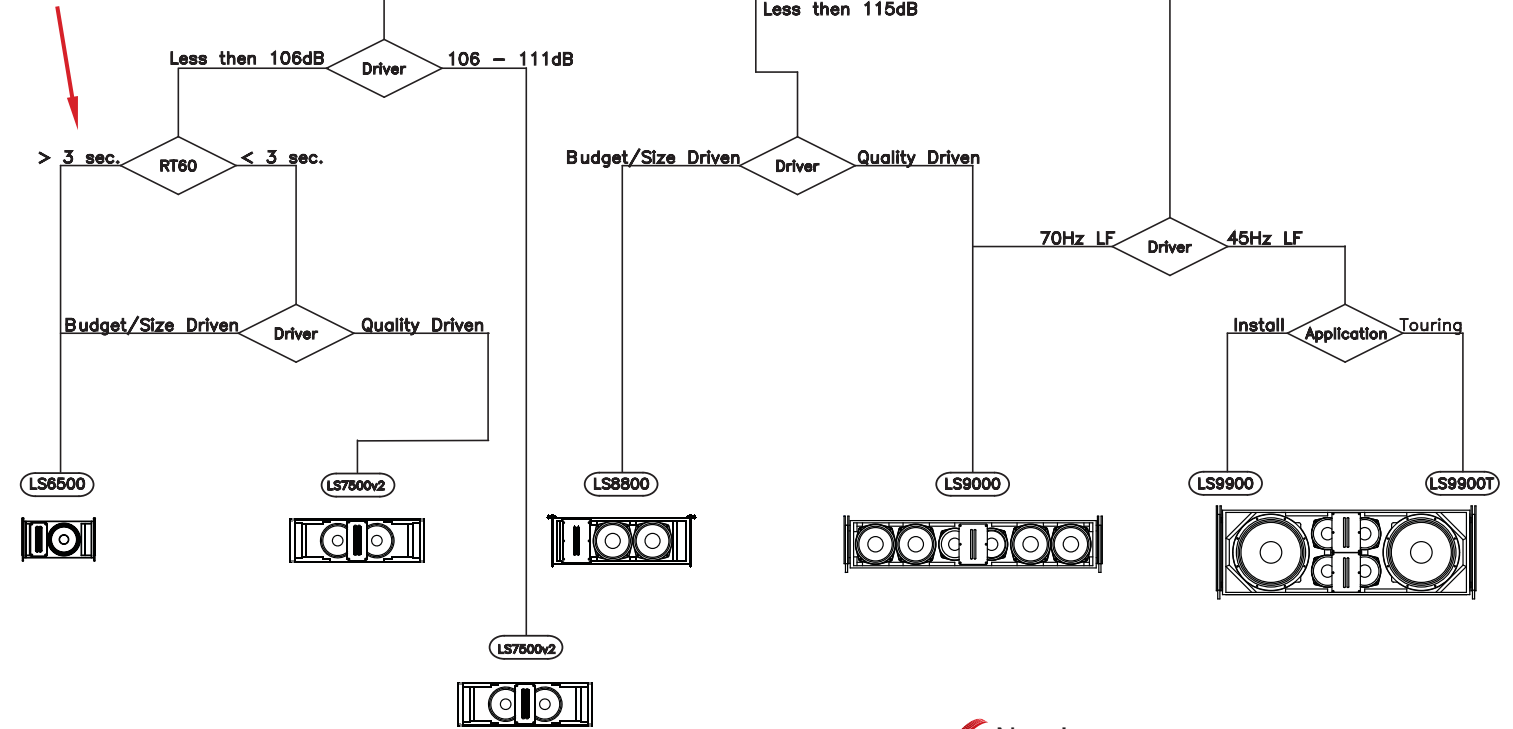


SLS Line Array Selection Tool



Start Here

Excessive RT60 will most likely mask quality differences between the LS6500 and LS7500v2



Note!

The SPL values shown on this flow chart are based on the level required across the listening area(s) and are typical of real world performance. **Use our free LASS prediction software to confirm the SPL of your design.**