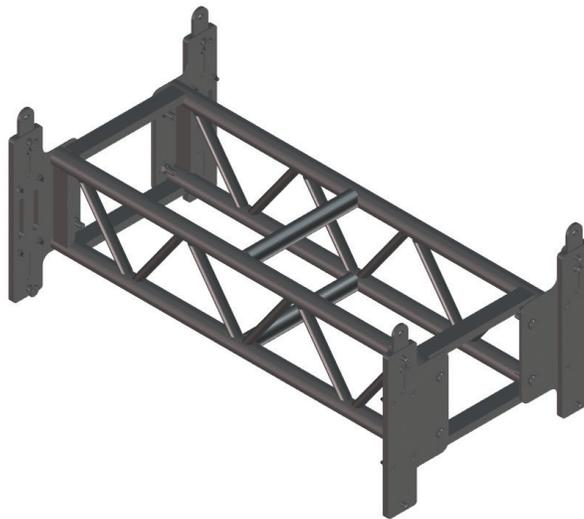


# MAS-1100 Array Spacer



## INTRODUCTION

Modern sound systems are expected to include subwoofer components that provide maximum impact in the audience area with minimal excitation of room reflections. Using loudspeaker arrays with effective low frequency pattern control best accomplishes these goals, because acoustic treatment for the subwoofer range is extremely expensive, time consuming and impractical for temporary installations (such as touring acts).

Clever arraying of multiple subwoofers provides such pattern control in modern practice—introducing directional control by committee. One of the driving forces is array length. Arrays become increasingly directional over frequency as the length of the array approaches or exceeds the transmitted wavelengths. However, numerous factors could prevent deployment of the desirable length array (such as box count or weight restrictions). Enter the Meyer Sound MAS-1100 Array Spacer.

## MEYER SOUND MAS-1100 ARRAY SPACER BENEFITS

The MAS-1100 improves subwoofer array performance by adding significant line length with minimal weight gain, cost or sidelobes. Meyer Sound sized the MAS-1100 to provide the maximum increase in line length without compromising structural integrity or acoustical performance.

The MAS-1100 Array Spacer weighs seventy percent less than the 1100-LFC low frequency control element (including rigging), which allows for array length preservation in exchange for a total weight reduction of as much as one-third (Table 1).

**Table 1: Arrays that Preserve Length**

LFC ELEMENTS IN CONTINUOUS ARRAY	LFC ELEMENTS IN ARRAY WITH SPACERS	WEIGHT REDUCTION INCLUDING SPACERS
3	2	24%
5	3	28%
7	4	31%
9	5	32%
11	6	32%

Conversely, arrays can be made approximately forty percent longer while preserving the same weight as continuous arrays (Table 2), which lowers the comparable range of pattern control by half an octave—a substantial improvement considering the 1100-LFC's operational range of only four-thirds of an octave.

**Table 2: Arrays that Preserve Weight (±5%)**

LFC ELEMENTS IN CONTINUOUS ARRAY	LFC ELEMENTS IN ARRAY WITH SPACERS	LENGTH INCREASE INCLUDING SPACERS
5	4	37%
6	5	47%
9	7	41%
10	8	47%

The use of MAS-1100 Array Spacers enables creation of arrays with similar length to continuous arrays, with reduced box count, weight and cost, yet the pattern control is functionally the same (Figure 1).

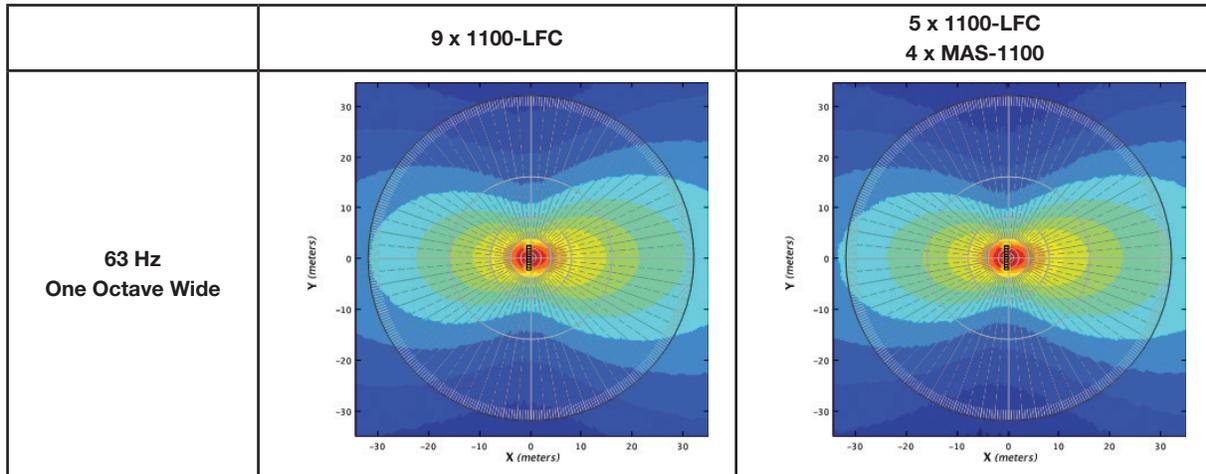


Figure 1: Arrays of Same Length in MAPP System Design Tool

As an additional benefit, MAS-1100 Array Spacers improve the back-to-front level difference for cardioid inverted stack gradient arrays, as shown in Figure 2, by allowing the acoustical energy to flow freely between the forward and rearward enclosures while reducing timing errors caused by physical self-obstruction.

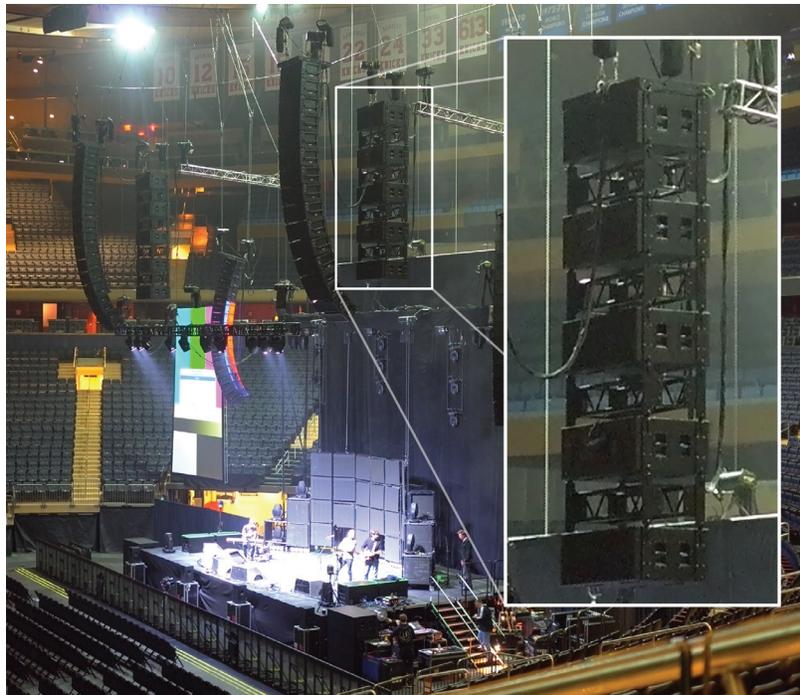


Figure 2: Cardioid Inverted Stack Gradient Array In Use—Ed Sheeran at Madison Square Garden

**SUMMARY**

The Meyer Sound MAS-1100 Array Spacer allows for array length preservation in exchange for a significant weight reduction, enables longer arrays with the same weight as continuous arrays (lowering the comparable range of pattern control by half an octave), facilitates creation of reduced-weight arrays of similar length as continuous arrays with pattern control that is functionally the same, and improves the back-to-front level difference for cardioid inverted stack gradient arrays.