



# Buckinghamshire Oktoberfest

## Noise Management Plan

<b>Event Location</b>	Burnham Park, Windsor Lane, Burnham, Buckinghamshire, SL1 7HR
<b>Event Date</b>	Friday 29th September Saturday 30th September Sunday 1st October
<b>Organisation</b>	Barbican Events
<b>Document last updated</b>	28 / 04 / 2023



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## 1. Event Details

Day	Start time	Finish time
Friday 29th September	16:00	22.30
Saturday 30th Sept Day Session	11.00	16:00
Saturday 30th Sept Evening Session	17:00	22.30
Sunday 1st October	13:00	20:00

Music will be turned off on these finishing times.

## 2. Production Team and Installation

Focus Sound & Light Ltd.  
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Focus Sound and Light are one of London's and the South east region's premier suppliers of sound, lighting and staging for live events and festivals. Focus has a wealth of experience in providing complete production packages and individual specialised services to a wide range of clients and events. From high intensity dance events, including a huge number of festivals with up to 15,000 attendees and live entertainment performances, highly sophisticated corporate functions, awards shows and company celebrations.

Focus will provide a professional sound engineer who will be on site at all times during the event and monitoring the sound periodically.

### **Rigging and audio installation to the tent**

#### Audio:

- Provide 2 off L Acoustics Kara II flown line arrays to the left and right of the stage.
- Provide a cardioid S18 subwoofer array to the front of the stage.
- To provide flown delay loud speakers suspended from the central truss square to cover the rear and side extremities.
- To provide a stage microphone, monitor and digital mixing package with a small FOH mixing position located in the centre of the tent.
- To provide an audio engineer to mix band monitors and FOH sound.
- To provide an additional radio microphone for compere or announcement use.

## Rigging:

- Flown loudspeaker arrays to the left and right of the stage shall be suspended from rigging towers adjacent to the front of the stage.
- Flown delay loud speakers shall be suspended from lighting trusses at high level and shall be aimed, gain shaded and delayed to provide even coverage and to avoid excessive SPL at the front of the audience area.
- Subwoofers shall be positioned near the stage to provide a directional array directing energy towards the audience, but providing substantial cancellation of bass energy to the sides and rear of the array.
- The system as a whole shall be rigged, trimmed and aimed to the precise design produced from simulations and SPL maps provided by the loudspeaker manufacturers proprietary prediction software.

### 3. Site Setup & Build

The event will take place in a big top black out circus tent which'll have PVC walls on every side, these will act as a noise barrier. The 6m x 4m main entrance will be the only opening and this will be facing north east towards Windsor Lane. During the build, any noise pollution from the build will take place between 8am - 6pm.

To prevent attendee noise pollution as they leave the tent, there will be signs up on the exits reading 'please keep the noise down and respect our neighbours when leaving the premises'.

Sound tests will also be conducted, please reference section 4 of the Noise Management Plan.



## 4. Sound Checks

The site manager or event manager will take sound checks every 90 minutes in five different locations nearest to the neighbours and around Burnham Park. They will keep record of the following:

- Decibel level
- Reasonable level

### **Noise test & Decibel limit**

We performed a noise test on site on 24th April 2023 between 18:00 and 19:00, representative of a live event period. Readings were taken at each of the 5 positions noted below in residential areas and surrounding Burnham Park. Background levels were taken as a 1minute Leq with A and C frequency weightings. Industry best practice is to ensure that event noise does not contribute more than 6dB to background sound levels between the hours 08:00 - 23:00. Our event times lie within this period hence we have established initial boundary level limits from which internal sound levels within the event space can be calculated.

<b>Sound Test Locations</b>	<b>Frequency weighting A test Average</b>	<b>Frequency weighting C test Average</b>
<b>Position 1</b>	70 dB	73 dB
<b>Position 2</b>	69 dB	72 dB
<b>Position 3</b>	67 dB	70 dB
<b>Position 4</b>	60 dB	62 dB
<b>Position 5</b>	60 dB	63 dB

See results and initial limits below:

These readings shall be treated as a starting point only with weather, background traffic and numerous other factors affecting the background noise levels and hence reasonable event noise. Active and continuous monitoring during event times will ensure that environmental changes do not expose event noise to nuisance levels with any required changes to amplified sound relayed back to the event sound engineer for immediate implementation.

Taking these readings and applying the Inverse Square Law will give an estimated drop off rate once the sound has reached the 5 test locations. The Inverse Square Law states that the intensity of sound decreases by approximately 6 dB for each doubling of distance from the sound source. Below is the breakdown of the Inverse Square Law and the dB drop off rate compared to the doubled distance away from the source of the sound.

**Total Distance From Stage = Doubled distance + previous total distance from sound source**

<b>Inverse Square Law</b>		
<b>Noise level readings</b>	Doubled Distance	Total Distance from stage
<b>105 dB</b>	1m	1m
<b>99 dB</b>	2m	3m
<b>93 dB</b>	4m	7m
<b>87 dB</b>	8m	15m
<b>81 dB</b>	16m	31m
<b>75 dB</b>	32m	63m
<b>69 dB</b>	64m	127m
<b>66 dB</b>	96m	191m
<b>63 dB</b>	128m	255m







Comparing the drop off rate from the Inverse Square Law against the distance away from the sound source to the 5 sound locations, this gives an estimated dB reading once the sound reaches each sound location.

<b>Inverse Square Law</b>				
<b>Sound Test Locations</b>	Distance From Stage	dB Readings From Sound Source (from graph above)	Average Background Sound Levels (dBA)	<b>Estimated Sound Levels During Event</b>
<b>Position 1</b>	203m	69 dB	70 dB	<b>70 dB</b>
<b>Position 2</b>	118m	75 dB	69 dB	<b>75 dB</b>
<b>Position 3</b>	132m	69 dB	67 dB	<b>69 dB</b>
<b>Position 4</b>	229m	66 dB	60 dB	<b>66 dB</b>
<b>Position 5</b>	230m	66 dB	60 dB	<b>66 dB</b>

Findings show that estimated dB readings will not exceed more than 6dB to background sound levels.



Key

-  Sound check position 1
-  Sound check position 2
-  Sound check position 3
-  Sound check position 4
-  Sound check position 5
-  Oktoberfest tent - not drawn to scale



## 5. Neighbour Relations and Noise Complaints

Neighbours close the park area will be informed about the event details and timings via a letter in the post. There will be a contact email and phone number that neighbours can send any noise complaints or issues they may have, they will be prompted to include their street name so we can geographically pin point the main area of noise. This way we can technically adjust the directional noise and levels of the speakers.