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Date: 24 May 2021
Subject: Butlin's Studio 36 Bognor Regis– Audio testing on 12-May 2021

Introduction

A concert level audio test was carried out in the completed temporary venue at Butlin's Bognor Regis. This building is identical to those being supplied at Skegness and Minehead.

The audio system speakers are installed in 8 different locations within the structure to minimise level differences throughout the venue. The speakers are suspended from the venue roof and angled down into the audience, which will cause a significant amount of the sound energy to be absorbed when there is an audience present. The test carried out was to give a real-world assessment of the noise reduction due to the fabric of the building, the actual reduction will be better with an audience in place.

Local residents who have complained previously were called during the testing and were not able to hear anything from the venue.

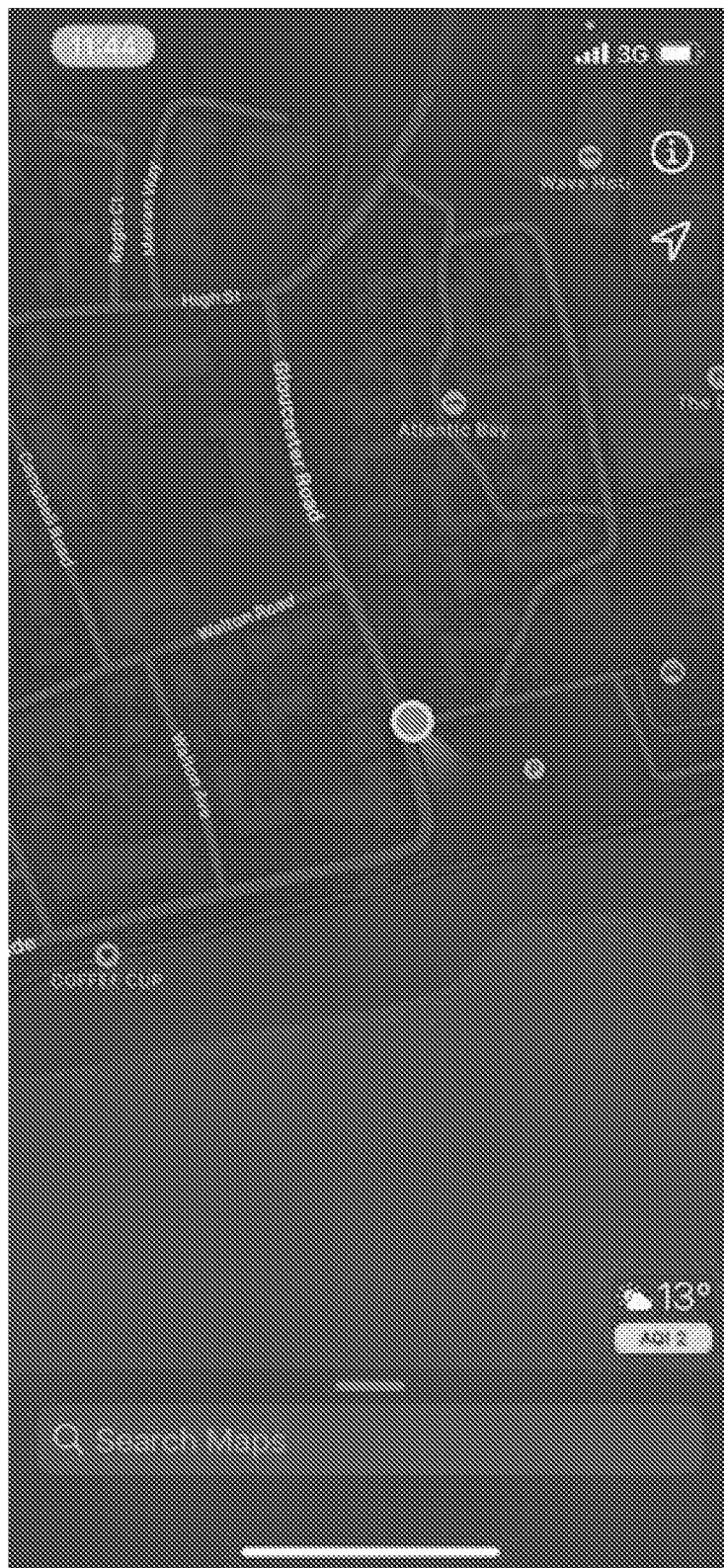
Test conditions

- 1) Following the results of testing at the other two venues, the audio system was set to limit the sound at 87 dB(A) which has been found to be acceptable for event use. Levels were taken at the mixing desk, outside the roller shutter behind the stage and at five different Noise Sensitive Receptors (NSR). Ambient background levels were also taken at the five NSRs.
- 2) Testing was carried out using full frequency 'house' music to give a worst-case scenario.
- 3) Measurements were taken at Leq5min as being more onerous than 15 minute measurements, which would typically include breaks and talking between tracks played by a DJ or artist.
- 4) The system compressor/limiter was set up to avoid 'hard' compression (which sounds bad) allowing short duration peaks of around 2dB to pass through.

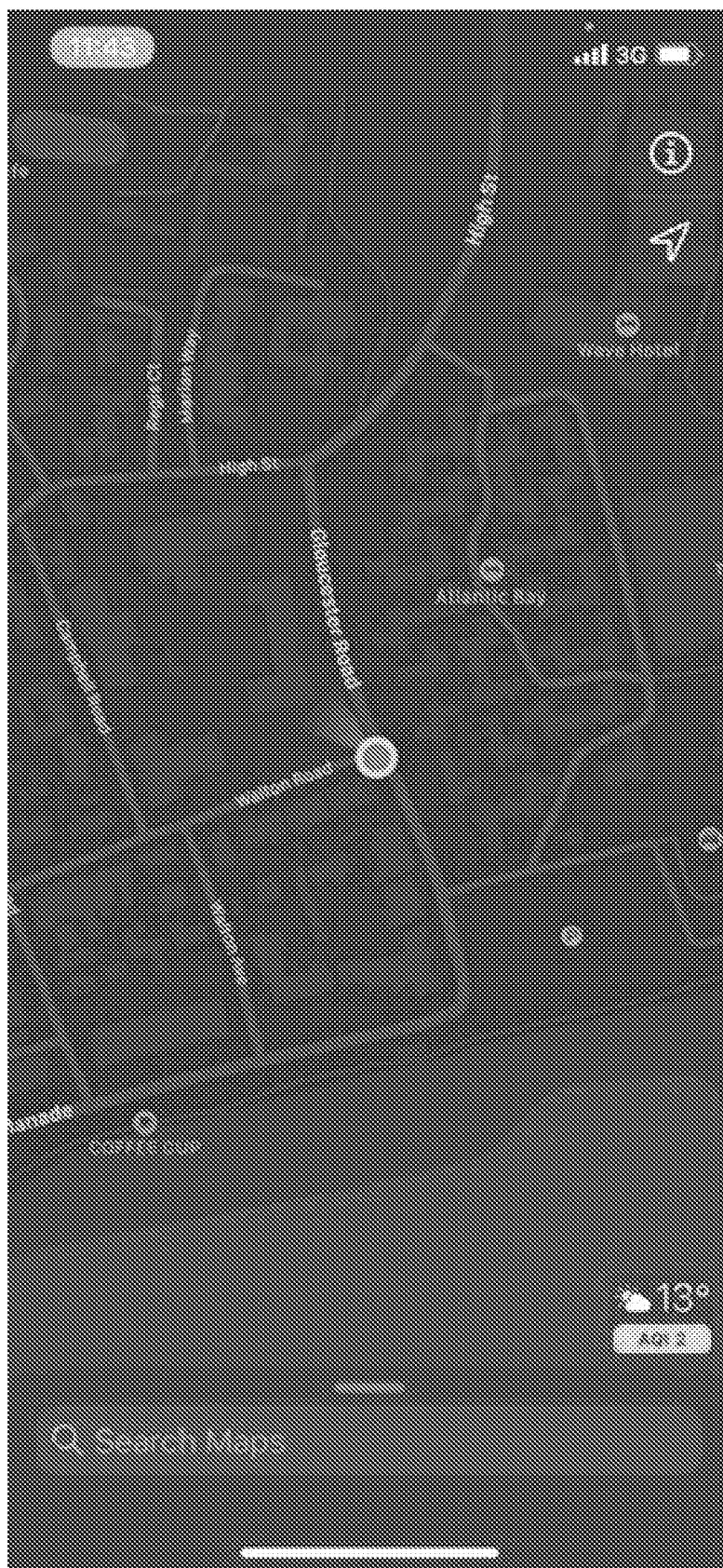
Locations

These screen grabs show the NSR locations.

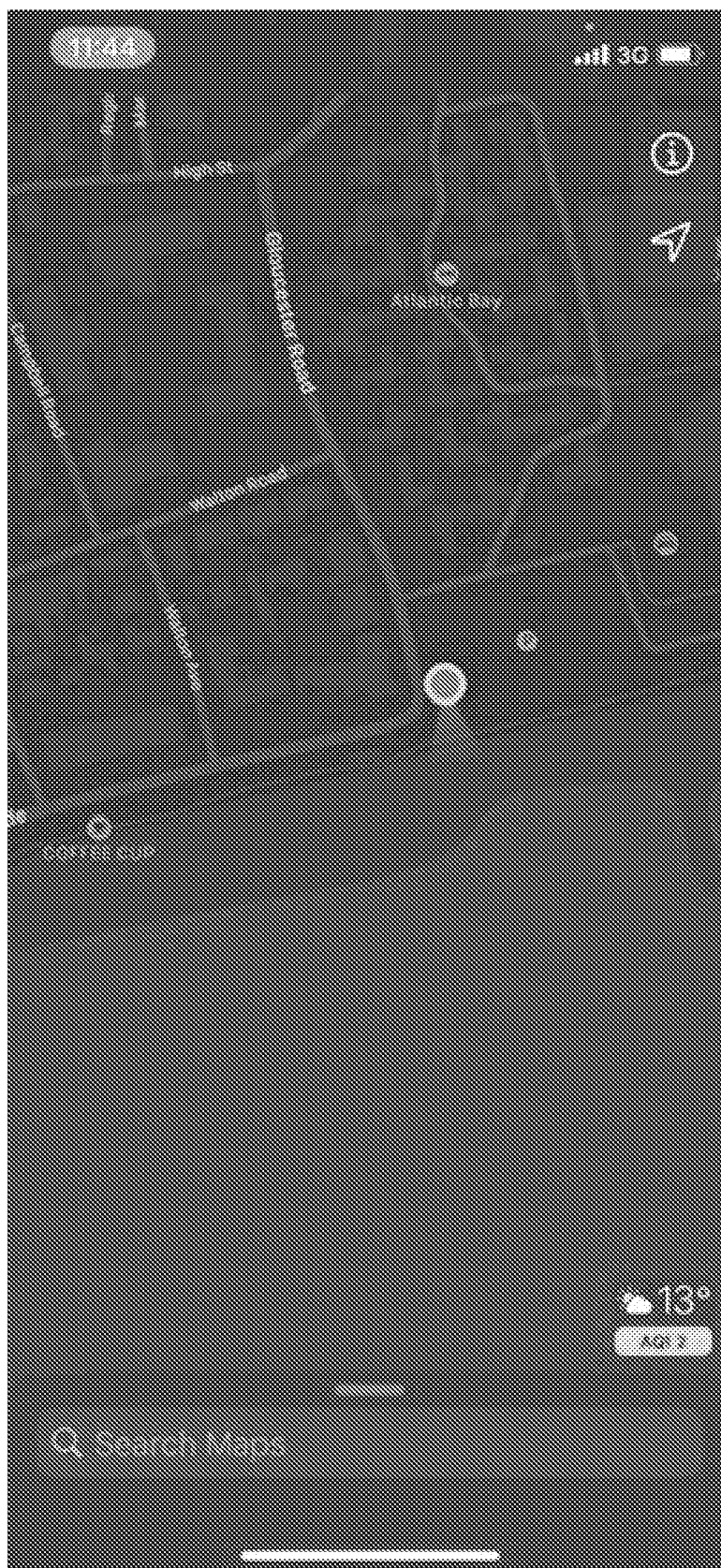
NSR 1



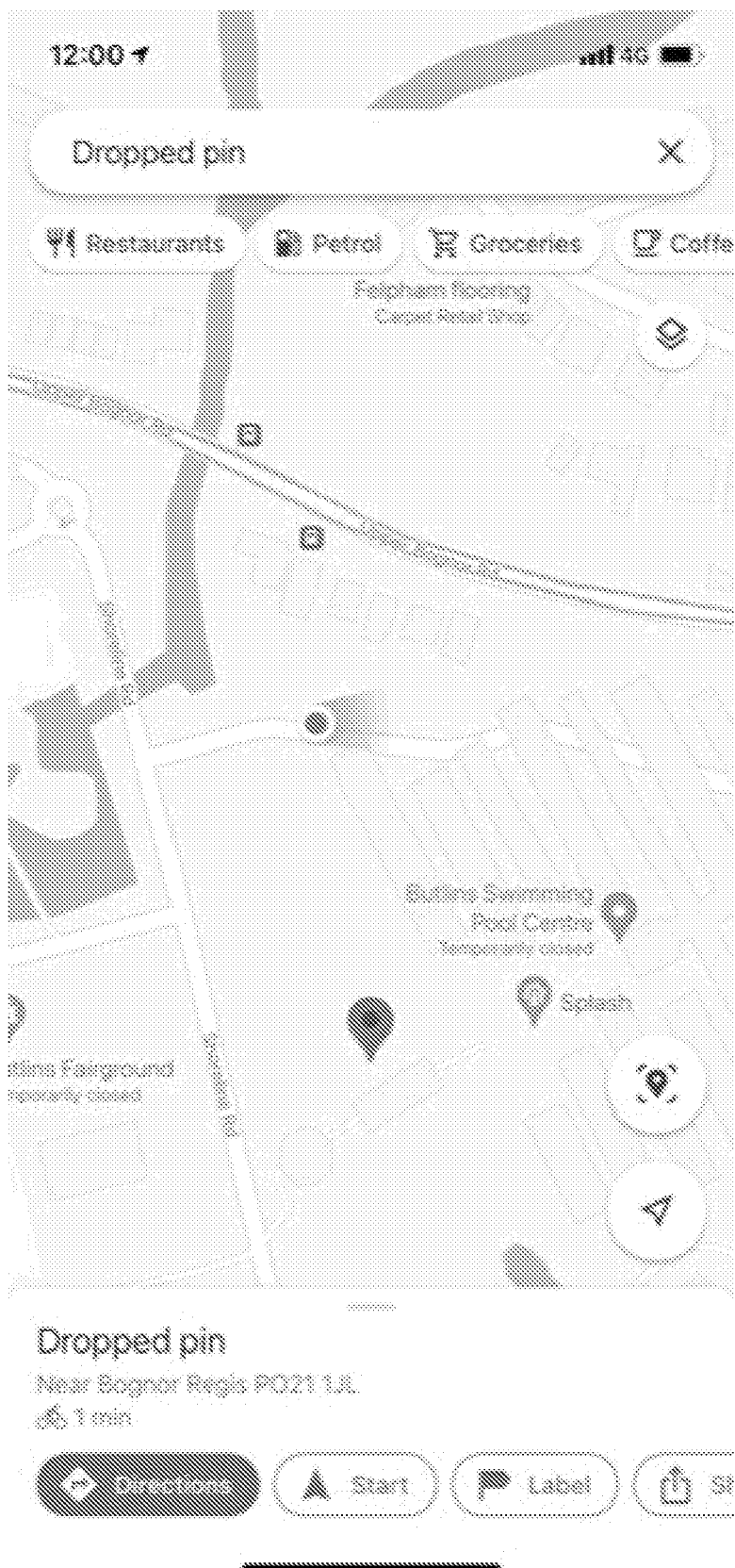
NSR 2



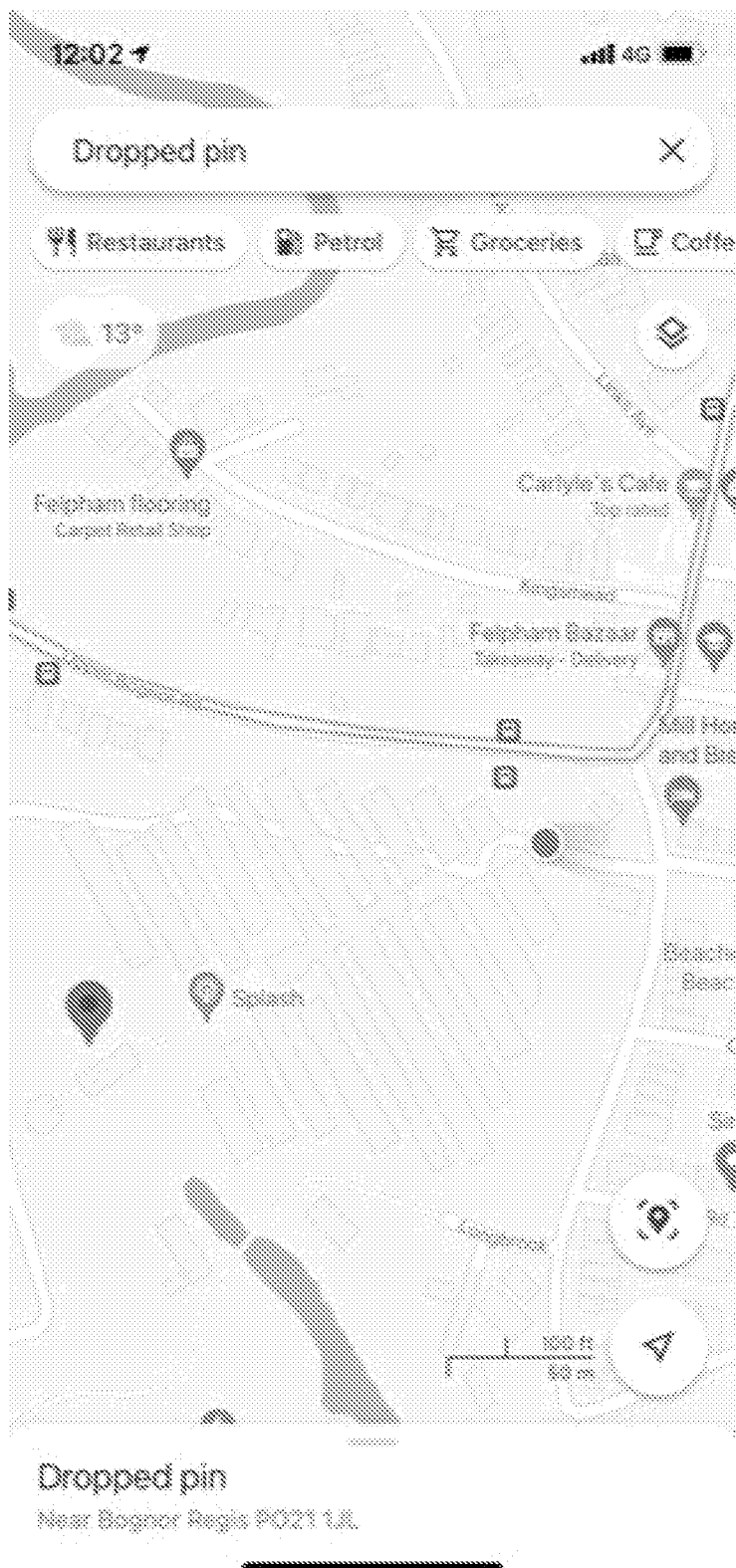
NSR 3



NSR 4



NSR 5



Results:

Inside venue -		87.0 dB(A)
Outside roller shutter		65.0 dB(A)
Position 1	Background -	49.3 dB(A)
Position 1	System On -	53.7 dB(A)
Position 2	Background	52.3 dB(A)
Position 2	System On -	53.1 dB(A)
Position 3	Background -	55.0 dB(A)
Position 3	System On -	55.7 dB(A)
Position 4	Background-	47.3 dB(A)
Position 4	System On -	48.0 dB(A)
Position 5	Background-	45.0 dB(A)
Position 5	System On -	45.0 dB(A)

Conclusion

All NSRs were within +5dB(A) of the ambient background level and NSRs 2 to 5 were within 1dB(A). This can be expected to improve further with a live audience.