Health and Safety
Executive

The control of exposure to noise in pubs and clubs

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Content

- Typical noise exposure levels in pubs and clubs.
- Good design to reduce noise.
- Risk assessment
- Management of noise.
- Hearing protection.
- Hearing health surveillance.
- Questions.

Typical noise exposure in pubs and clubs

Job	Range $L_{EP,d}$ dB(A)	Average $L_{EP,d}$ dB(A)
Bar staff	89 – 99	92
Floor staff	90 – 100	93
DJ	93 – 99	96
Security	-	96

Most entertainment venues playing amplified music will be over the Upper Action Value (i.e. 85 dB(A)).

Good design to reduce noise

- Physical separation.
- Sound equipment.
- Both require absorption.

Absorption

Without absorption the sound level will be similar throughout the club.

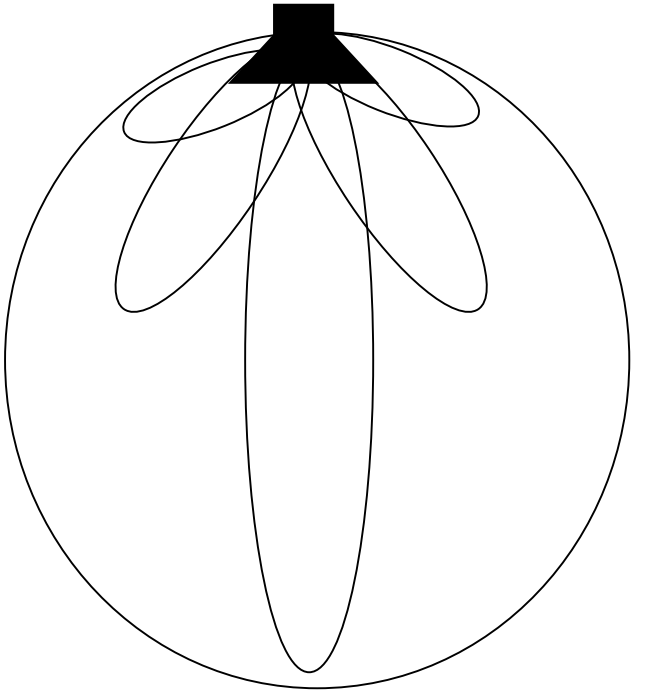
- Ceiling.
- Walls.
- Curtaining and carpets.

Physical separation

- Position bars away from dance floor.
- Provide staff off-duty areas with noise levels below 80dB.
- Produce quiet areas (chill-out rooms) and locate bars in these.
- Provide acoustic screening to protect work areas from noise sources.

Sound equipment

- Directional loudspeakers,
  - Increase the number (avoid hot-spots).
  - Do not point towards the bar.
  - Avoid peripheral loudspeakers (or keep them quite).
- Use anti-vibration mounts on loudspeakers.
- Use equipment that does not distort
- Equalise properly.



Case study

- Refit.
- Designed for low staff exposure,
  - Directional & isolated speakers.
  - Low reverberation with acoustic absorption.
  - Acoustic screens.
- Result: 9 dB reduction in staff exposures.

Risk assessment

- AIM – *guide towards effective control.*
- Should contain:
  - Estimate of noise exposure and compare with action values and limit values.
  - Who is at risk?
  - What needs to be done to comply (noise control, hearing protection etc)?
  - Who needs health surveillance?

Exposure calculator

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You can enter data in the white cells only

See L108 "Reducing Noise at Work" for guidance on exposure calculations.

Exposure Calculator

	Noise Level (L_{eq} dBA)	Exposure time Hours	Exposure time Minutes	Fractional exposure
Job or process 1	93	1		0.249
Job or process 2	85	4		0.158
Job or process 3	80	2		0.025
Job or process 4				
Job or process 5				
Job or process 6				
Job or process 7				
Job or process 8				
	$L_{EP,d}$	86.4 dBA		

Note: Fractional exposures can be used to prioritise noise control. The highest fractional exposure values are given by the job or processes which make the greatest contributions to daily noise exposure. Therefore, tackling these noise sources will have t

Instructions for exposure calculator

Enter the L_{eq} (in dBA) and the daily exposure duration (in hours and/or minutes) in the white areas for up to eight jobs or processes.
A factional exposure will appear for each entry and the overall daily personal noise exposure ($L_{EP,d}$) will be displayed.

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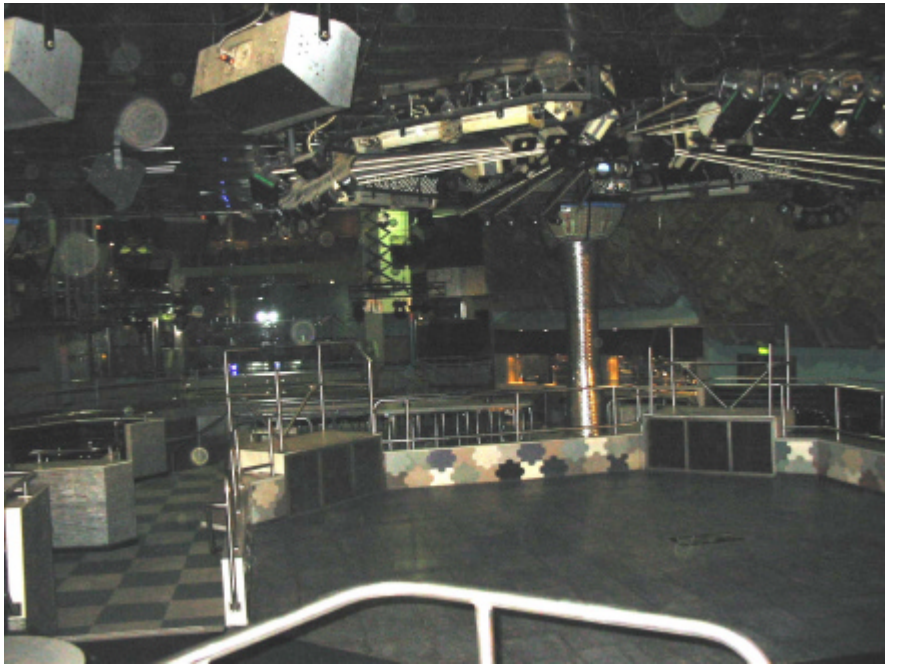
Points system

Sound pressure level, L_{Aeq} (dB)	Duration of exposure (hours)								Total exposure points	Noise exposure $L_{EP,d}$ (dB)
	1/4	1/2	1	2	4	8	10	12		
105	320	625	1250						3200	100
100	100	200	400	800					1600	97
97	50	100	200	400	800				1000	95
95	32	65	125	250	500	1000			800	94
94	25	50	100	200	400	800			630	93
93	20	40	80	160	320	630			500	92
92	16	32	65	125	250	500	625		400	91
91	12	25	50	100	200	400	500	600	320	90
90	10	20	40	80	160	320	400	470	250	89
89	8	16	32	65	130	250	310	380	200	88
88	6	12	25	50	100	200	250	300	160	87
87	5	10	20	40	80	160	200	240	130	86
86	4	8	16	32	65	130	160	190	100	85
85		6	12	25	50	100	125	150	80	84
84		5	10	20	40	80	100	120	65	83
83		4	8	16	32	65	80	95	50	82
82			6	12	25	50	65	75	40	81
81			5	10	20	40	50	60	32	80
80			4	8	16	32	40	48	25	79
79				6	13	25	32	38	20	78
78				5	10	20	25	30	16	77
75					5	10	13	15		

Management

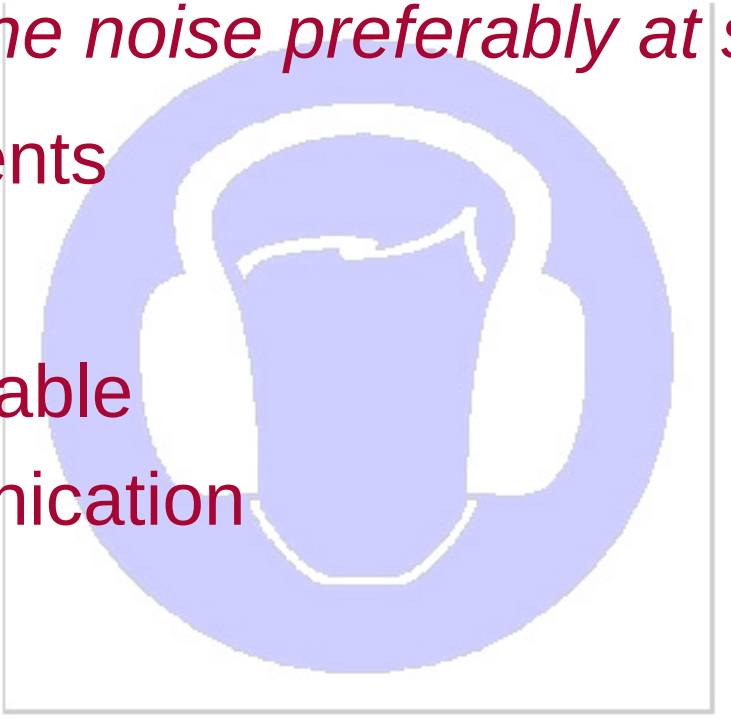
- Why is it so loud?
- Regulators.
- Maintenance.
- Job rotation / weekly averaging.
- Responsibility, communication and monitoring.



Hearing Protection

Before ear protection is even considered, reduce the noise preferably at source.

- Requirements
- Suitability
  - Comfortable
  - Communication



Information, instruction and training

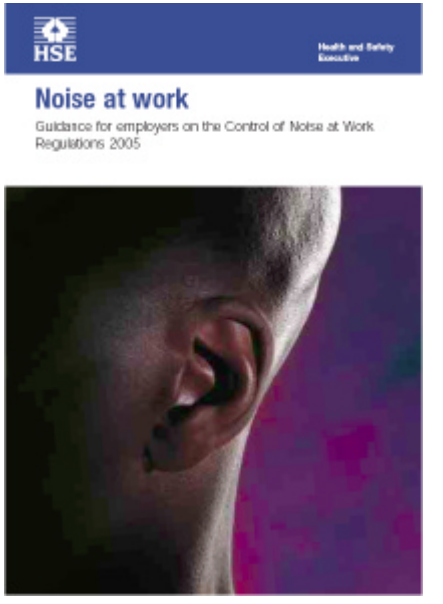
- Employees need to know,
  - The risks.
  - The control measures.
  - Hearing protection,
    - Where to get it.
    - How to look after it.
    - The importance of wearing it.
  - The purpose of health surveillance.

Health surveillance

- When?
  - Likely to regularly exceed the upper exposure action value.
- Purpose?
  - Warn that employees might be suffering early signs of hearing damage.
  - Provide an opportunity to do something to stop hearing damage getting worse.
  - Check control measures.
- Requires close consultation with employees and their representatives.
- How can this be achieved?

Guidance/Research

- Controlling noise at work: The Control of Noise at Work Regulations 2005 (L108).
- Noise levels and noise exposure of workers in pubs and clubs – A review of the literature. (http://213.212.77.20/research/rrpdf/rr026.pdf)
- Draft guidance for the music and entertainment sectors on how to comply with the Control of Noise at Work Regulations 2005.



Any questions?

Thank you for listening.

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