
Overview

This standard is about the procedures and protocols used to produce good quality live sound, regardless of the amount of equipment being used. Professional results will depend on correct use and recognition of industry standard sound equipment, while considerations such as optimal loudspeaker positioning and sightlines are paramount. An awareness of the overall product and a clear understanding of the supporting role of the sound technician are essential elements.

Understanding and assessing the needs of a performance and the necessary technical requirements is essential for sound technicians. This could range from spoken word such as a political speech at a conference, to the sound, acoustical and technical requirements of a heavy metal concert. This standard will enable you to demonstrate installing and using live sound reinforcement equipment. Working in a live environment demands high levels of vigilance and health and safety understanding due to the constantly changing environment and often poorly lit working areas within venues. This standard utilises the knowledge and management expected of today's Live sound engineers, OB mix and recording engineers, with a particular focus for Technical support and maintenance teams within larger touring PA companies.

You are required to follow health and safety procedures, communicate with your team and follow set production schedules

You will need to know emergency/evacuation procedures and meeting points, venue specific codes and procedures, first aid points, environment specific equipment and lighting

You should also be aware of legal requirements: COSHH regulations, LOLER regulations, PUWER regulations, risk assessment, hazardous noise, environmental health (ie sanitation, noise pollution), lifting, electricity, crowd safety, first aid, security

CCSMT34 Prepare and operate live sound and performance technology

Performance criteria

You must be able to:

- P1 analyse and evaluate live venue properties and acoustics
- P2 communicate health and safety information
- P3 produce a risk assessment for performance areas
- P4 select appropriate PA equipment for events
- P5 plan the signal flow and positioning of PA systems
- P6 plan production schedules implementing appropriate health and safety measures
- P7 work safely and productively within a team following a set production schedule
- P8 rig, and operate equipment and mix live sound
- P9 video performance
- P10 de-rig and tidy all areas
- P11 undertake post production evaluation

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Knowledge and understanding

You need to know and understand:

- K1 the PA and performance requirements for events
- K2 relevant health and safety procedures and requirements for the event
- K3 rig and operation process for PA equipment for live events
- K4 the production team roles and responsibilities
- K5 the acoustical properties of venues
- K6 the selection of PA equipment for event
- K7 the importance of venue specific information
- K8 the relevant health and safety organisations and their role
- K9 mains power requirements for PA
- K10 the live sound production process
- K11 how to review the video of the performance

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Validity	Current
Status	Original
Originating organisation	Creative & Cultural Skills
Original URN	CCSMT34
Relevant occupations	Live sound engineers; Live OB mix; recording engineers; FOH engineers; OB/post engineers; Performers;
Suite	Music Technology; Live Events
Key words	Live venue properties; remedial improvements to acoustics; room layout; upstage; downstage; Delay lines; centre cluster; side fills; IEM; mono; stereo; active crossover networks; limiters; Director; Promoter; Producer; Stage Manager; Tour Manager; Production Manager; ASM; DSM; Operators; Designers; Lighting crew; FoH Engineer; Foldback Engineer; Stage Technician; Technical rehearsal; performers needs; plot/cue scripts; choreography; production meetings; reverberation time (RT60); room constant; diffusion; inverse square law; standing waves; spectrum analysis; show relay; communications systems; show control; backline equipment; sound checks; technical rehearsals; DI; radio microphones; clean feeds; HSE; local authority; ABTT; PLASA; EQ; sound; music; music technology; Live Events, Exhibitions;