

Overview

This Standard is about positioning and operating microphones to capture sound. This is likely to be for music but can apply to other contexts.

This involves connecting and positioning microphones, maintaining required separation, checking sound quality before and during use, identifying and resolving faults with equipment or sound quality and recording positions for future use.

This standard is recording engineers, sound engineers and programmers who set up and operate microphones.

Performance criteria

You must be able to:

1. connect microphones and accessories in line with safety requirements
2. determine appropriate placement and movement of microphones and accessories during set up and rehearsal
3. position microphones to ensure levels and characteristics of sound meet required standards
4. maintain required separation between different microphone parts
5. achieve a balance between practicality of working positions and expectations for sound quality that are most effective
6. confirm signal-processing requirements and make test recordings to ensure no audible defects are present
7. position microphones and other equipment to avoid impeding or endangering, contributors and colleagues
8. check that final microphone positions achieve best possible quality of sound within environmental constraints
9. use microphones to monitor sound quality throughout use
10. resolve faults, equipment failure and audible defects that are within your area of expertise
11. notify relevant people of any problems with any faults, failures, audible defects and extraneous background sound that you cannot resolve
12. record positions of microphones in formats appropriate for repeated use
13. reset, shut down and tidy recording equipment when work is complete
14. comply within health and safety requirements at all times

Knowledge and understanding

You need to know and understand:

1. health and safety requirements including those related to safe listening, safeguards against hearing loss and working with electrical equipment
2. the characteristics and applications of microphone types in use including sound signatures and quality of sound
3. appropriate accessories and how to use them
4. the characteristics of the required sound, what the sound sources are, and what changes or movements in sources may be expected
5. the requirements for separation between microphones when setting up around sound sources including how to position microphones around a standard drum kit
6. the effects of microphone placement and acoustics on sound including how the 'sweet spot' of instruments, tonal colour and room reflections are affected by microphone positioning and movement
7. how to evaluate the difference between the sounds of microphones in different positions
8. the differences between using microphones for outside broadcast and in a studio
9. how to position microphones to minimise unwanted sound or noise
10. the criteria used to evaluate sound
11. how to use microphones to monitor sound quality
12. when it is necessary to adjust expectations of sound quality and the parameters for doing so
13. compatibility issues between mono, stereo, multi-channel and multi-track in the current context
14. indicators of faults, failures and breakdowns, and how to control and contain them
15. when it is appropriate to report defects and malfunctions to other people and how to do so

Set up and operate microphones

Developed by	ScreenSkills
Version Number	2
Date Approved	29 Mar 2020
Indicative Review Date	30 Mar 2024
Validity	Current
Status	Original
Originating Organisation	Creative & Cultural Skills
Original URN	SKSS11
Relevant Occupations	Recording Engineers, Recording Producers, Mix Engineers, Assistant Engineers, Programmers, Tape Ops, Writers, OB/Post Engineers, Editing Engineers, Maintenance Engineers, Technical support roles for Sound Recording and Music Technology, Live Sound Engineers, Mastering Engineers, Co-writers, Studio Manager, Facility Managers
Suite	Sound Recording and Music Technology
Keywords	Microphone; Sound quality; Audio material; Outside Broadcast; Sound; Music; Sound Recording; Music Technology;