



Higher National Unit specification

General information

Unit title: Radio: Technical Operations, Recording and Editing
(SCQF level 7)

Unit code: H9DM 34

Superclass: KA

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Unit purpose

This Unit is designed to enable learners to acquire the skills and knowledge necessary to prepare and operate a radio studio and record single and multitrack recordings.

Outcomes

On successful completion of the Unit the learner will be able to:

- 1 Demonstrate competent audio practice.
- 2 Record broadcast quality sound in a studio.
- 3 Edit for broadcast.

Credit points and level

2 Higher National Unit credits at SCQF level 7: (16 SCQF credit points at SCQF level 7)

Recommended entry to the Unit

Access to this Unit is at the discretion of the centre. However, it would be beneficial if learners had some prior knowledge and skills in, for example, community or hospital radio or have successfully completed NC Media Units, eg *Radio: Making a Programme 1 and 2*.

Higher National Unit specification: General information (cont)

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Core Skills

Opportunities to develop aspects of Core Skills are highlighted in the Support Notes for this Unit specification.

There is no automatic certification of Core Skills or Core Skill components in this Unit.

Context for delivery

If this Unit is delivered as part of a Group Award, it is recommended that it should be taught and assessed within the subject area of the Group Award to which it contributes.

Equality and inclusion

This Unit specification has been designed to ensure that there are no unnecessary barriers to learning or assessment. The individual needs of learners should be taken into account when planning learning experiences, selecting assessment methods or considering alternative evidence.

Further advice can be found on our website www.sqa.org.uk/assessmentarrangements.

Higher National Unit specification: Statement of standards

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Acceptable performance in this Unit will be the satisfactory achievement of the standards set out in this part of the Unit specification. All sections of the statement of standards are mandatory and cannot be altered without reference to SQA.

Outcome 1

Demonstrate competent audio practice.

Knowledge and/or Skills

- ◆ Microphone techniques
- ◆ File types and formats
- ◆ Common faults
- ◆ The broadcast signal path
- ◆ Broadcast audio terminology

Outcome 2

Record broadcast quality sound in the studio.

Knowledge and/or Skills

- ◆ Select, prepare and operate suitable equipment correctly
- ◆ Resolve any faults in the recording
- ◆ Health and safety

Outcome 3

Edit for broadcast.

Knowledge and/or Skills

- ◆ Editorial and artistic context
- ◆ Use of effects in editing
- ◆ Editing in the timeline
- ◆ Mastering in appropriate file formats

Higher National Unit specification: Statement of standards (cont)

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Evidence Requirements for this Unit

Learners will need to provide evidence to demonstrate their Knowledge and/or Skills across all Outcomes by showing that they can:

Outcome 1

- ◆ select and use microphones appropriately.
- ◆ describe the difference between compressed and uncompressed, lossy and lossless file formats and their appropriateness for different platforms.
- ◆ identify and resolve common recording faults.
- ◆ demonstrate understanding of a signal flow in a typical radio environment.
- ◆ use correct radio broadcast terminology.

Outcome 2

- ◆ correctly set up and use equipment which is appropriate to the brief.
- ◆ identify and remedy faults.
- ◆ record audio to broadcast quality: mastered to appropriate levels, free of distortion and other technical issues.
- ◆ maintain a safe environment and operate equipment safely at all times.

Outcome 3

- ◆ edit material to the required technical and artistic standard and appropriate to the production brief.
- ◆ use appropriate equalisation and dynamic range controls.
- ◆ save in a format appropriate to the brief.

Edits should comprise at least three tracks and should be free of unintended distortion while demonstrating good audio mixing between the tracks.



Higher National Unit Support Notes

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Unit Support Notes are offered as guidance and are not mandatory.

While the exact time allocated to this Unit is at the discretion of the centre, the notional design length is 80 hours.

Guidance on the content and context for this Unit

This Unit is primarily technical in nature, aimed at enabling the learner to set up and operate studios for recording and then edit the material using single-track or multitrack techniques before saving it in different file formats for distribution on different platforms.

The Unit is designed to provide learners with a good grounding in terms of both the theory and the skills required to be able to record, edit and distribute broadcast quality sound.

Standard equipment would consist of an audio mixer, microphones, audio sources, a computer with software recording and editing, outside audio sources and a second studio or booth with talkback facility.

The digital audio software package should include multitrack recording and editing capabilities.

To free up studio time learners' studio based recordings can be transferred to non-studio based computers for post-production.

Computer packages will of course differ but the basic principles underlying their operation tend to be the same, therefore a learner moving into industry should adapt quickly to whatever package is being used.

Guidance on approaches to delivery of this Unit

Outcomes 1 and 2

Good sound quality is fundamental in producing radio programmes to broadcast standard.

Learners should be taught the fundamentals of microphones and how different types have different response patterns. They should know how to select and use them in order to capture the required sound. This will include ensuring the microphone is placed correctly and recording without inappropriate artefacts like 'pops' or 'blasts'.

Higher National Unit Support Notes (cont)

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Learners might find the Phillips Golden Ear challenge useful in developing their listening skills.

<https://www.goldenears.philips.com/en/introduction.html>

In describing the difference between compressed and uncompressed, lossy and lossless file formats, learners should be aware of commonly used file types, for example linear formats like WAV or AIFF; compressed (lossy) types like MP3, AAC or OGG Vorbis; and lossless formats like FLAC. Learners should also be able to describe the effects of bit-rate in lossy formats.

Common faults in studio operations could include: sibilance, a speaker being 'off-mic', popping and blasting, inappropriate recording levels (too low/high).

To demonstrate their understanding of a signal path for a studio set up, Learners could illustrate it with a diagram or provide an oral or written explanation of how the audio gets from a microphone to a finished file or broadcast.

Outcome 3

For Outcome 3 it is recommended that learners do not create too complex a session. The purpose of the Outcome is to ensure that learners understand the basic principles of how to create a session and mix down. Learners should have the opportunity to create several different types of session but as they gain in confidence there can be a temptation to spend too much time creating overly complex pieces which unnecessarily tie up resources beyond the need of assessment requirements. The session (or sessions) should demonstrate the skills outlined below. This Outcome will be particularly useful to learners going on to complete the *Radio Commercials* Unit which is part of the *HNC: Radio* framework.

This is a mandatory Unit of the *HNC Radio* framework. There may be opportunities to integrate this Unit with other mandatory Units which are part of the Group Award as centres deem appropriate.

Outcome 1 and 2 of *Radio: Technical Operations, Recording and Editing* requiring the preparation and operation of studios for broadcast and the operation of studio equipment, can integrate with the Unit *Radio Interviewing* Outcome 4 which requires the recording of a studio based interview (if the interviewee for the studio is located in another studio for the operation of studio talkback.)

This would include the mixing desk and any level and equalisation adjustments; loudspeaker and headphone volumes. Check operation of any cue lights, talkback, mic-live lights for mic and studio.

Acoustic checks might include placing of any acoustic screens and ensuring studio speakers are not on and doors closed. The learner should be able to undertake these tasks with a reasonable degree of speed and confidence. The preparation should be done just prior to a recording. Any trailing cables should be dealt with effectively, scripts and materials arranged in a safe and orderly manner ready for use.

Higher National Unit Support Notes (cont)

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Operation of basic equipment includes the operation of any headphones, mics, and computer playout system. Use of talkback can be applied via means of a contribution from a contributor in another studio or an outside source (eg Telephone or VOIP (voice over internet protocol) session).

Good studio discipline includes polite behaviour and ensuring 'red light protocol' is observed. Learners will require practice time in the studio before attempting this assessment. As an aid, assessors might draw up short formative exercises for each learner to complete. It is important that learners check throughout the operation for any signs of under or over recording of levels and make appropriate adjustments.

Outcomes 1 and 2 requiring the preparation of studios for broadcast and the operation of studio equipment can also integrate with the Unit *Radio Presentation* Outcomes 2 or 3 where Learners record music shows (but it must also include a talkback facility to another studio).

Guidance on approaches to assessment of this Unit

Evidence can be generated using different types of assessment. The following are suggestions only. There may be other methods that would be more suitable to learners.

Centres are reminded that prior verification of centre-devised assessments would help to ensure that the national standard is being met. Where learners experience a range of assessment methods, this helps them to develop different skills that should be transferable to work or further and higher education.

Definition of 'as live'/'live'

'As live' is unedited material that is **not broadcast in real time**; it is pre-recorded for future transmission without editing. As-live content might be a whole programme or part of a programme and is designed to be put to air quickly. The recording takes place in real time and there is no editing; everything that occurs must be dealt with as it happens

'Live', as the word implies, goes straight to air in real time and should comply with both technical standards and regulatory standards (eg those set by OFCOM).

Due to the opportunities for integration within this Unit, it is recommended that checklists are used to record student progress.

Assessments should be explicitly flagged within project briefs, eg one of the multitrack sessions from Outcome 3 could also be a finished commercial from *the Radio Commercial Production* Unit.

Higher National Unit Support Notes (cont)

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Outcome 1 could be treated as closed-book or assessed in the studio, as a set of responses to questions or a mixture of both.

Outcome 2 is a practical exercise which could be open-book, the assessor recording the learners' progress using a checklist. This assessment could be treated as a 'driving test', which students pass before being allowed to use the studio independently.

Outcome 3 could be open-book with learners editing short pieces to a brief. The pieces might be jingles, commercials, station imaging or other pieces as appropriate.

Opportunities for e-assessment

E-assessment may be appropriate for some assessments in this Unit. By e-assessment we mean assessment which is supported by Information and Communication Technology (ICT), such as e-testing or the use of e-portfolios or social software. Centres which wish to use e-assessment must ensure that the national standard is applied to all learner evidence and that conditions of assessment as specified in the Evidence Requirements are met, regardless of the mode of gathering evidence. The most up-to-date guidance on the use of e-assessment to support SQA's qualifications is available at www.sqa.org.uk/e-assessment.

Opportunities for developing Core and other essential skills

Throughout the Unit there are opportunities for learners to develop aspects of the Core Skills of *Communication, Problem Solving, ICT and Working with Others*.

History of changes to Unit

Version	Description of change	Date

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General information for learners

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This section will help you decide whether this is the Unit for you by explaining what the Unit is about, what you should know or be able to do before you start, what you will need to do during the Unit and opportunities for further learning and employment.

This Unit is designed to enable you to prepare and operate a radio studio for recording and editing purposes. You will become familiar with digital recording and editing and learn how to record single and multitrack recordings. The skills and knowledge inherent in this Unit are basic requirements for any radio station. The material you record can tie in with other core Units which are part of the *HNC Radio* framework, ie *Radio Presentation* and *Radio Interviewing*.

You will learn about how to set up the various parts of the studio in preparation for a recording and ready for broadcast. This includes the mixing desk, associated equipment such as payout systems, microphones, telephones, etc.

Observing studio protocol, discipline and safety will be considered an essential part of any studio preparation and recording. Recording will include setting levels, making any tonal adjustments and operating equipment to basic on air standards.

As part of recording and editing you will learn how to do a studio recording and how to save it in appropriate format for editing. Finally you will be introduced to the basics of multitrack recording and editing, skills you will find particularly useful for quickly making up trails, commercials, programme or station imaging.