

## Higher National Unit Specification

### General information for centres

**Unit title:** Digital Audio Workstations 2

**Unit code:** DR0P 35

**Unit purpose:** This Unit is designed to give the candidate an advanced level of understanding of digital audio workstation operation and the ability to engineer a multi-track recording session for sound production. It will give the candidate the knowledge required to utilise complex functions and the synchronous running of dual applications in a digital audio workstation. It is also designed to give the candidate the knowledge and skills to take a sound production project to a conclusion by creating an edited production master. It is intended for those wishing to develop a career in sound production.

On completion of the Unit the candidate should be able to:

- 1 Utilise multiple software application synchronisation.
- 2 Perform multi-track recording.
- 3 Perform automated signal processing.
- 4 Produce a multiple programme audio master.

**Credit points and level:** 2 HN Credits at SCQF level 8: (16 SCQF credit points at SCQF level 8\*).

*\*SCQF credit points are used to allocate credit to qualifications in the Scottish Credit and Qualifications Framework (SCQF). Each qualification in the Framework is allocated a number of SCQF credit points at an SCQF level. There are 12 SCQF levels, ranging from Access 1 to Doctorates.*

**Recommended prior knowledge and skills:** Candidates must have achieved the HN Unit: Digital Audio Workstations 1 (DJ23 34). Access to this Unit will be at the discretion of the centre.

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**Core skills:** There may be opportunities to gather evidence towards Core Skills in this Unit, although there is no automatic certification of Core Skills or Core Skills components.

**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.

**Assessment:** The Unit should be practically assessed.

It lends itself to holistic assessment. This assessment would encompass all the practical elements of the Unit and could be done as project based coursework carried out in controlled conditions. The candidate would be required to complete a project task encompassing all the knowledge and skills stated for each of the Outcomes. Evidence will take the form of a multiple programme audio master and observation checklist.

## **General information for centres (cont)**

### **Unit title:** Digital Audio Workstations 2

Alternatively, an approach where Outcomes 1 and 2 are combined and conducted at a single assessment event lasting four hours (guidance only) could be utilised. Outcomes 3 and 4 could also be combined and conducted at a single assessment event lasting four hours (guidance only).

However, each of the Outcomes in this Unit could be assessed separately.

## Higher National Unit specification: statement of standards

**Unit title:** Digital Audio Workstations 2

**Unit code:** DR0P 35

The sections of the Unit stating the Outcomes, knowledge and/or skills, and evidence requirements are mandatory.

Where evidence for Outcomes is assessed on a sample basis, the whole of the content listed in the knowledge and/or skills section must be taught and available for assessment. Candidates should not know in advance the items on which they will be assessed and different items should be sampled on each assessment occasion.

### Outcome 1

Utilise multiple software application synchronisation

#### Knowledge and/or skills

- ◆ Slave software configuration
- ◆ Master software configuration
- ◆ Hardware configuration
- ◆ Multiple application synchronisation
- ◆ Virtual instrument integration

#### Evidence requirements

Candidates will need to provide evidence to demonstrate their knowledge and/or skills by showing that they can, in relation to project requirements, configure a digital audio workstation to run multiple application software synchronisation:

- ◆ configure slave software parameters, such as track and audio bus, to facilitate audio data output synchronisation
- ◆ configure master software parameters, such as track and audio bus, to facilitate audio data input synchronisation
- ◆ configure hardware parameters, such as gain, monitoring and latency, to facilitate the recording of external audio sources
- ◆ utilise multiple application synchronisation to facilitate the playback and recording from internal audio bussing
- ◆ utilise virtual software instrumentation, such as samplers and synthesisers, to provide audio sources to a master application

Evidence could be generated at a single assessment event lasting two hours (guidance only) and carried out in controlled conditions.

An alternative approach where this Outcome is combined with Outcome 2 and conducted at a single assessment event lasting four hours (guidance only) could be utilised.

For information on a single holistic assessment see Outcome 4 below.

## **Higher National Unit specification: statement of standards (cont)**

**Unit title:** Digital Audio Workstations 2

### **Assessment guidelines**

Should there be ambiguity regarding a candidate's response, oral questioning may be used to eliminate any doubt as to the candidate's understanding. The lecturer should note questions and responses.

### **Outcome 2**

Perform multi-track recording

#### **Knowledge and/or skills**

- ◆ Recording and overdubbing multiple audio tracks
- ◆ Audio track waveform file editing
- ◆ Project file transfer
- ◆ Project file back up and retrieval

#### **Evidence requirements**

Candidates will need to provide evidence to demonstrate their knowledge and/or skills by showing that they can, in relation to project requirements, record multiple tracks of audio including overdubbing.

Candidates will need to provide evidence to demonstrate that they can:

- ◆ perform multiple audio track recording and overdubbing to disk correctly which is acceptable in terms of level and clarity
- ◆ perform audio track file editing and trimming using relevant edit points with glitch-free results
- ◆ perform project file transfer to and from disk showing the ability to locate, utilise and store project data files correctly and efficiently
- ◆ perform project file back up and retrieval to disk showing the ability to locate, utilise and store project data files correctly and efficiently

Evidence could be generated at a single assessment event last two hours (guidance only) and carried out in controlled conditions.

An alternative approach where this Outcome is combined with Outcome 1 and conducted at a single assessment event last four hours (guidance only) could be utilised.

For information on a single holistic assessment see Outcome 4 below.

A tutor checklist should be used to record achievement of each of the evidence requirements.

### **Assessment guidelines**

Should there be ambiguity regarding a candidate's response, oral questioning may be used to eliminate any doubt as to the candidate's understanding. The lecturer should note questions and responses.

## **Higher National Unit specification: statement of standards (cont)**

**Unit title:** Digital Audio Workstations 2

### **Outcome 3**

Perform automated signal processing

#### **Knowledge and/or skills**

- ◆ Channel mix parameter automation
- ◆ DSP plug-in automation
- ◆ Virtual instrument automation
- ◆ Prepare a mix pre-master

#### **Evidence requirements**

Candidates will need to provide evidence to demonstrate their knowledge and/or skills by showing that they can, in relation to project requirements, automate audio processing parameters for a digital audio workstation project.

Candidates will need to provide evidence to demonstrate that they can:

- ◆ perform channel mix parameter automation, such as mute, level and pan, correctly and appropriately
- ◆ perform DSP plug-in mix processing automation, such as time domain, dynamic and spectral equalisation, correctly and appropriately
- ◆ perform virtual instrument automation, using at least two parameters, correctly and appropriately
- ◆ create a mix pre-master correctly and show the ability to control master output levels and overall spectral content in a relevant manner

Evidence could be generated at a single assessment event lasting two hours (guidance only) and carried out in controlled conditions.

An alternative approach where this Outcome is combined with Outcome 4 and conducted at a single assessment event lasting four hours (guidance only) could be utilised.

For information on a single holistic assessment see Outcome 4 below.

A tutor checklist should be used to record achievement of each of the evidence requirements.

#### **Assessment guidelines**

Should there be ambiguity regarding a candidate's response, oral questioning may be used to eliminate any doubt as to the candidate's understanding. The lecturer should note questions and responses.

## Higher National Unit specification: statement of standards (cont)

**Unit title:** Digital Audio Workstations 2

### Outcome 4

Produce a multiple programme audio master

#### Knowledge and/or skills

- ◆ Audio master waveform file editing
- ◆ Audio dynamics control
- ◆ Audio frequency content compatibility control
- ◆ Final format production

#### Evidence requirements

Candidates will need to provide evidence to demonstrate their knowledge and/or skills by showing that they can, in relation to project requirements, demonstrate the ability to sequentially arrange a multiple program audio master and control differences in programme dynamics and frequency spectrum.

Candidates will need to provide evidence to demonstrate that they can:

- ◆ perform audio track file editing and trimming using relevant edit points with glitch-free results
- ◆ perform audio level dynamic control, using parameter automation for multiple programmes, achieving alterations to dynamic range with glitch free results
- ◆ perform spectral content compatibility using parameter automation for multiple programmes, achieving alterations to frequency content with glitch-free results
- ◆ perform final format production transferring a completed master version to an industry standard format acceptable in terms of level and clarity

Evidence could be generated at a single assessment event lasting two hours (guidance only) and carried out in controlled conditions.

An alternative approach where this Outcome is combined with Outcome 3 and conducted at a single assessment event lasting four hours (guidance only) could be utilised.

Evidence for this Unit would benefit from being produced as a single holistic assessment combining all Outcomes. This could be conducted at a single assessment event lasting eight hours (guidance only) and carried out in controlled conditions. The candidate would be required to complete a project task encompassing all the knowledge and/or skills stated for the Outcome and for each of the combined Outcomes.

A tutor checklist should be used to record achievement of each of the evidence requirements.

#### Assessment guidelines

Should there be ambiguity regarding a candidate's response, oral questioning may be used to eliminate any doubt as to the candidate's understanding. The lecturer should note questions and responses.

## **Administrative Information**

<b>Unit code:</b>	DR0P 35
<b>Unit title:</b>	Digital Audio Workstations 2
<b>Superclass category:</b>	XL
<b>Date of publication:</b>	August 2005
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## Higher National Unit specification: support notes

### Unit title: Digital Audio Workstations 2

This part of the Unit specification is offered as guidance. The support notes 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 intended to give candidates an understanding of using more than one music creation software package in a synchronised manner within a digital audio workstation. It is intended to give candidates the knowledge and skills they may require, as a workstation programmer or sound production engineer, for a complex music project. It is a requirement that candidates have successfully completed and passed Digital Audio Workstations 1 (DJ23 34), and this Unit will allow them to improve their skills at a higher and more complex level.

Candidates are likely to work predominantly with supplied MIDI and/or audio project material, and use this to operate a workstation to manipulate a complex and sound production project. Candidates will use this material to demonstrate their ability to take a project to a conclusion by creating an edited production master.

**Outcome 1** — is designed to show the candidate how to set up, more than one music creation software application to facilitate synchronous transfer of MIDI and audio data between the applications. They will learn what parameters are required to be configured, such as master and slave set-up, internal routing and bussing between the applications to allow for the recording of both external and internal audio. Hardware set up is required, such as gain, latency buffering control, monitoring and input bussing. The internal audio sources should come from virtual instruments such as samplers, synthesisers and tone generators.

**Outcome 2** — candidates are required to record and overdub multiple audio tracks from external and internal audio sources. They are required to perform audio track waveform editing within the audio programme. Opportunities for the candidates to perform dialogue recording and editing may be appropriate. Candidates should understand how to import and export project files, perform project file transfer and project file back-up and retrieval.

**Outcome 3** — candidates will learn how to perform mix automation by using mute, level and pan parameters. They will also learn how to apply and use DSP plug-in mix-processing automation, such as time domain, dynamic and spectral equalisation parameters. Within the project, the candidates must perform virtual instrument automation using such parameter as LFO, VCA, TVF or any creative parameter than the chosen instrument(s) offer, and show the ability to use changes in a relevant creative manner. They will create a mix pre-master showing the ability to control master output levels and overall spectral content in a relevant manner.

**Outcome 4** — should cover audio master waveform editing, topping and tailing, with the use of more than one mix pre-master collated in a sequential manner on the master software timeline. The candidates will learn how to control the spectral content and dynamic content for continuity and compatibility across the multiple programs being processed by using automated parameters for dynamic compression/limiting and equalisation. The final product will be in an industry standard format for delivery, distribution and/or duplication and the candidate will show the ability to transfer pre-masters and create masters within a digital audio workstation.

## **Higher National Unit specification: support notes (cont)**

**Unit title:** Digital Audio Workstations 2

### **Guidance on the delivery and assessment of this Unit**

This is a mandatory Unit in the HND Sound Production Group Award and an optional Unit in the HND Music Group Award. It is primarily designed to provide candidates with an understanding of using music creation software packages, in a synchronised manner, within a digital audio workstation environment. It is intended to give the candidates the knowledge and skills required to work as a workstation programmer or sound production engineer for a complex music project.

The Unit can be assessed using a single holistic assessment or separate assessments for each Outcome as above. Where required evidence is not available through practical activities written or oral evidence may be generated as a supplement.

### **Open learning**

Due to nature of assessment and technical nature it is not envisaged that this Unit could be delivered by open learning.

For further information and advice please refer to *Assessment and Quality Assurance for Open and Distance Learning* (SQA, — publication code A1030).

### **Candidates with additional support needs**

This Unit specification is intended to ensure that there are no artificial barriers to learning or assessment. The additional support needs of individual candidates should be taken into account when planning learning experiences, selecting assessment instruments or considering alternative Outcomes for Units. For information on these, please refer to the SQA document *Guidance on Assessment Arrangements for Candidates with Disabilities and/or Additional Support Needs*, which is available on the SQA website **[www.sqa.org.uk](http://www.sqa.org.uk)**.

## General information for candidates

### Unit title: Digital Audio Workstations 2

This Unit is designed to give you an understanding of utilising multiple music creation software applications synchronised within a digital audio workstation. It is designed to give you the knowledge and skills required to configure software applications and hardware parameters in order to complete a complex multi-track music project.

You will learn how to set up input and output internal audio bussing and routing between more than one music creation software application. You will record internal audio and external audio sources.

The Unit will give you the opportunity to use more than one audio software package, in conjunction with virtual instruments and DSP plug-ins, to produce a music sequence. You will learn how to use automation for mixing, processing in a creative manner with virtual instrument parameters.

You will also learn how to produce a final product in the form of multiple program audio master, using sequential track automation techniques, to an industry standard format for delivery and distribution.

On completion of the Unit you should be able to:

- 1 Utilise multiple software application synchronisation.
- 2 Perform multi-track recording.
- 3 Perform automated signal processing.
- 4 Produce a multiple programme audio master.

Assessments for the Unit are as follows:

A single assessment combining the requirements of Outcomes 1, 2, 3 and 4 could be used. This would encompass all the practical elements of the Unit and could be done as project based coursework carried out in controlled conditions where you would be required to complete a project task.

Alternatively:

Outcomes 1 and 2 could be combined as a single assessment event.

Outcomes 3 and 4 could be combined as a single assessment event.

However, each of the Outcomes in this Unit could be assessed separately.