



Australian Government

Department of Education, Employment and Workplace Relations

CUESOU12B Set up and operate audio system control networks

Revision Number: 1

CUESOU12B Set up and operate audio system control networks

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the skills and knowledge required to set-up a basic data network as it relates to remote control and distribution for DSP audio. No licensing, legislative, regulatory or certification requirements apply to this unit at the time of endorsement.
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Application of the Unit

Application of the unit	Sound engineers apply the skills and knowledge outlined in this unit. Typically they are responsible for setting up and monitoring audio system control networks which include remote monitoring and control systems for amplifiers, remote control and matrix networks controlled over the Ethernet, and proprietary DSP control systems where different functions can be assigned remotely. This unit has linkages to other audio units and combined assessment and/or training with those units may be appropriate, e.g.: • CUSSOU22A Implement sound design • CUESOU04C Mix live audio • CUSSOU303A Set up and disassemble audio equipment.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Determine network requirements	1.1. Liaise with relevant stakeholders to establish system requirements 1.2. Investigate available system resources and ascertain capabilities 1.3. Draw an accurate system flow chart with all components in correct order 1.4. Correctly allocate audio stage boxes where analogue audio is required 1.5. Determine audio schedules with allowance for preset system configurations and dynamic system changes in accordance with needs
2. Set-up control network	2.1. Assemble relevant hardware components in accordance with system needs 2.2. Assemble network topography in accordance with system needs 2.3. Complete the interface with analogue audio as required
3. Test and commission network	3.1. Test the network topography and resources to ensure correct functioning 3.2. Commission analogue audio components appropriately 3.3. Correctly activate and implement all DSP system presets
4. Monitor network	4.1. Crosscheck performance of amplifiers and loudspeakers in accordance with DSP system assignments 4.2. Identify any problems with network, take appropriate action or report to relevant colleagues

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- problem solving and technology skills in the context of controlling wiring and audio routing options for a typical distributed audio control system
- literacy skills sufficient to interpret audio data and draw system flow chart
- numeracy skills sufficient to work with numerical data used in audio equipment

Required knowledge

- MIDI, SMPTE and show-based protocols and control mediums
- machine control, lighting control, other stage systems
- terminology and definitions for digital systems and network control, including modern Ethernet and RS 232 based systems
- overview of cues and their relationship to control networks
- overview of analogue forms of control and switching, versus digital control and networks
- overview of data transmission and error correction
- overview of data network distribution, network topologies, and basic network protocols
- overview of data communications, data interfacing, and interfacing with various common computer operating systems, including Windows and Macintosh
- overview of DSP processing, processor types and applications within control systems
- basic principles of transmission, limitations, latency (processing time) and typical network performance
- proprietary audio transmission protocols, examples, and other kinds of full bandwidth audio transmission topologies

Evidence Guide

EVIDENCE GUIDE

The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

Overview of assessment

Critical aspects for assessment and evidence required to demonstrate competency in this unit

The following evidence is critical to the judgement of competence in this unit:

- understanding of data interfacing and protocols
- ability to configure audio networks to meet specific requirements.

Context of and specific resources for assessment

The assessment context must provide for:

- practical demonstration of skills through the implementation of an audio network for more than one production
- involvement of, and interaction with, a production team to reflect the collaborative nature of the unit
- use industry-current equipment.

Method of assessment

Assessment may incorporate a range of methods to assess performance and the application of essential underpinning knowledge, and might include:

- evaluation of a network set-up by the candidate
- case studies to assess ability to create networks for different requirements
- oral or written questioning to assess knowledge of data protocols and interfacing
- review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.

Assessment methods should closely reflect workplace demands and the needs of particular groups (e.g. people with disabilities, and people who may have literacy or numeracy difficulties such as speakers of languages other than English, remote communities and those with interrupted schooling).

Guidance information for assessment

Assessment of this unit requires access to:

- industry-current audio networking devices

EVIDENCE GUIDE

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| | <ul style="list-style-type: none"> venue in which audio can be networked. |
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Range Statement**RANGE STATEMENT**

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

System requirements may include:

- liaison with sound designer
- operational overview
- signal flow diagram

Capabilities may include:

- output signal routing options
- remote control of processing equipment

Hardware components may include:

- amplifiers
- loudspeakers
- mixing consoles
- network control devices
- signal processors

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Media and entertainment production - audio/sound
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Co-requisite units

Co-requisite units		