



**Australian Government**

**Department of Education, Employment and Workplace Relations**

# **CUESOU01C Repair and maintain audio equipment**

**Revision Number: 1**

## CUESOU01C Repair and maintain audio equipment

### Modification History

Not applicable.

### Unit Descriptor

<b>Unit descriptor</b>	<p>This unit describes the skills and knowledge required to perform regular basic maintenance and simple repairs on audio equipment. It does not require the use of specific electrical or electronic knowledge and skills.</p> <p>In some States and Territories of Australia, a restricted electrical licence is required to repair and maintain production equipment. Restricted electrical licences allow a person to carry out electrical work incidental to a trade. Incidental work may include fault-finding on equipment or changing like for like equipment by disconnecting and reconnecting the fixed wiring. It does not include any other changes to the fixed wiring.</p> <p>Testing and tagging of electrical equipment must be carried out by a person with the relevant certificate of competency in accordance with the performance specifications of:</p> <ul style="list-style-type: none"><li>• Australian Standard 3760: 200 In-service safety inspection and testing of electrical equipment</li><li>• Australian Standard 3002: 1985 Electrical installations - shows and carnivals</li></ul>
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## Application of the Unit

<p><b>Application of the unit</b></p>	<p>Technicians working with equipment in the screen, media and entertainment industries typically apply the skills and knowledge described in this unit. Under the supervision of senior technical staff, they are responsible for basic repairs and maintenance of equipment and facilities needed for a wide range of productions.</p> <p>Complex repairs requiring specific mechanical, electrical or electronic skills are referred to specialist service technicians, e.g. major electrical repairs are carried out by licensed electricians.</p> <p>This unit has linkages to a range of other audio units, and combined assessment and/or training with those units may be appropriate.</p> <p>It is strongly recommended that this unit be assessed with or after the following units:</p> <ul style="list-style-type: none"> <li>• CUESOU07B Apply a general knowledge of audio to work activities</li> <li>• CUSOHS301A Follow occupational health and safety procedures.</li> </ul>
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## Licensing/Regulatory Information

Not applicable.

## Pre-Requisites

Prerequisite units		

## Employability Skills Information

<b>Employability skills</b>	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. Repair sound equipment	1.1. Diagnose and isolate faults in <i>equipment</i> using standard fault detection procedures 1.2. Label faulty equipment in accordance with organisational procedures 1.3. Conduct <i>minor repairs</i> and/or refer major repairs to the <i>relevant personnel</i> for action 1.4. Repair and replace cables and connectors as necessary 1.5. Document the causes of faults and repairs conducted or refer to appropriate personnel, in accordance with required procedures
2. Maintain sound equipment	2.1. Inspect, service, clean and store equipment as required in accordance with organisational procedures 2.2. Maintain, check, clean and store cables and accessories in accordance with organisational procedures 2.3. Check that <i>spares and consumables</i> are in working order, and replace as required 2.4. Conduct equipment safety checks as and when required in accordance with occupational health and safety guidelines 2.5. Maintain equipment to ensure that it is ready for use when required 2.6. Complete accurate <i>maintenance</i> and repair records as required

## Required Skills and Knowledge

### REQUIRED SKILLS AND KNOWLEDGE

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

#### Required skills

- literacy skills sufficient to interpret service documentation and manuals

#### Required knowledge

- typical maintenance needs and schedules for a range of audio equipment
- cleaning agents, equipment and techniques for the major types of audio equipment
- techniques and processes for detecting faults in major types of audio equipment
- common faults and associated repair procedures for the range of equipment in use
- spare parts and sub-assemblies used in audio equipment repair and maintenance
- the effects of bad ventilation on equipment
- the meaning and use of electrical measurements, including voltage, current resistance, power insulation and circuit continuity
- legal and licensing issues that impact on the repair and maintenance of audio equipment, including the role of the restricted electrical licence and the limitations on the type of work that can be undertaken without a licence
- specific occupational health and safety issues in relation to the repair and maintenance of audio equipment.

## Evidence Guide

<b>EVIDENCE GUIDE</b>	
<p>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.</p>	
<b>Overview of assessment</b>	
<b>Critical aspects for assessment and evidence required to demonstrate competency in this unit</b>	<p>The following evidence is critical to the judgement of competence in this unit:</p> <ul style="list-style-type: none"> <li>• ability to correctly use repair and maintenance techniques on multiple pieces of audio equipment</li> <li>• correct selection and use of tools</li> <li>• application of logical fault detection procedures</li> <li>• correct interpretation of service and technical manuals</li> <li>• knowledge of the technical features of major types of audio equipment</li> <li>• knowledge of occupational health and safety issues which impact on the repair and maintenance of audio equipment.</li> </ul>
<b>Context of and specific resources for assessment</b>	<p>The assessment context must provide for:</p> <ul style="list-style-type: none"> <li>• practical demonstration of skills within an environment which has a range of operational and industry-current audio equipment on which the candidate can work</li> <li>• completion of fault detection, repair and maintenance tasks within typical workplace time constraints.</li> </ul>
<b>Method of assessment</b>	<p>Assessment may incorporate a range of methods to assess performance and the application of essential underpinning knowledge, and might include:</p> <ul style="list-style-type: none"> <li>• direct observation of the candidate completing maintenance and repair tasks</li> <li>• inspection of equipment repaired or maintained by the candidate</li> <li>• review of maintenance schedules and repair reports prepared by the candidate</li> <li>• written or oral questioning to test knowledge of audio equipment and occupational health and safety issues and regulations</li> <li>• review of portfolios of evidence and third party workplace reports of on-the-job performance by the</li> </ul>

<b>EVIDENCE GUIDE</b>	
	<p>candidate.</p> <p>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).</p>
<b>Guidance information for assessment</b>	<p>This unit requires access to:</p> <ul style="list-style-type: none"> <li>• a range of industry-current audio equipment as identified in the Range Statement</li> <li>• a venue where maintenance and repairs can be completed</li> <li>• the tools required to complete repair and maintenance tasks.</li> </ul>



## 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.

<p>Audio <i>equipment</i> may include:</p>	<ul style="list-style-type: none"> <li>• amplifiers</li> <li>• CD player</li> <li>• computer DAT</li> <li>• DVD</li> <li>• effects rack</li> <li>• hard disc recorder</li> <li>• headphones</li> <li>• microphone</li> <li>• mini disc</li> <li>• mixing desk</li> <li>• radio microphones</li> <li>• reel-to-reel</li> <li>• sequencer/sampler</li> <li>• speakers</li> <li>• talkback communication headsets</li> <li>• tape machines</li> <li>• turntables</li> </ul>
<p><i>Minor repairs</i> may include:</p>	<ul style="list-style-type: none"> <li>• making up leads</li> <li>• replacing faders</li> <li>• replacing fuses</li> <li>• replacing or tagging items which do not require specific electronic or electrical skills</li> <li>• replacing parts of microphones and stands</li> <li>• replacing the range of connectors used in sound</li> </ul>
<p><i>Appropriate personnel</i> may include:</p>	<ul style="list-style-type: none"> <li>• colleagues from other specialist areas</li> <li>• external suppliers</li> <li>• production team</li> <li>• supervisors/managers</li> <li>• other technicians</li> </ul>
<p><i>Spares and consumables</i> may include:</p>	<ul style="list-style-type: none"> <li>• batteries</li> <li>• diskettes</li> <li>• fuses</li> </ul>

<b>RANGE STATEMENT</b>	
	<ul style="list-style-type: none"> <li>• head cleaner</li> <li>• pegs/screws</li> <li>• recording media</li> <li>• soldering iron and solder</li> <li>• splicing materials</li> <li>• springs</li> <li>• styluses</li> <li>• tapes</li> <li>• test tapes</li> <li>• testing equipment</li> <li>• volt meter</li> </ul>
<p><i>Maintenance</i> includes any periodic work undertaken to restore equipment to optimum working condition. Maintenance of equipment may include:</p>	<ul style="list-style-type: none"> <li>• alignment/adjustment of playback/recording equipment</li> <li>• checking continuity of cables</li> <li>• cleaning and dusting equipment</li> <li>• cleaning heads on recorders/playback units</li> <li>• cleaning microphones and replacing inserts</li> <li>• cleaning recording playback medium</li> <li>• correct storage of equipment</li> <li>• making back-up copies of recordings</li> <li>• replacing batteries</li> </ul>

## Unit Sector(s)

<b>Unit sector</b>	
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## Competency field

<b>Competency field</b>	Media and entertainment production - audio/sound
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## Co-requisite units

Co-requisite units		