



Australian Government

ICTTEN435 Solve electrical-based telecommunications circuitry and cabling problems

Release: 1

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Modification History

Release	Comments
Release 1	This version released with ICT Information and Communications Technology Training Package Version 5.0.

Application

This unit describes the skills and knowledge required to solve electrical-based problems encountered in analog and digital signal equipment, signal cabling and wireless networking in the telecommunications sector.

It applies to technicians who undertake a range of functions requiring advanced techniques in testing, fault-finding and rectification for electrical circuitry common to telecommunications signal transmission and operation. These technicians may work in domestic, commercial or industrial situations.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

ICTTEN208 Use electrical skills when working with telecommunications networks

Unit Sector

Telecommunications – Telecommunications Network Engineering

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Prepare to solve problems within given telecommunications circuitry/cable	1.1 Determine need to test live or isolate circuitry 1.2 Use specifications or job documentation to verify circuit/signal parameters that are to be measured for a given problem 1.3 Select appropriate test equipment and measure output voltage of

ELEMENT	PERFORMANCE CRITERIA
	<p>digital device for <i>high</i> and <i>low</i> logic states</p> <p>1.4 Identify by calculation or given specifications and record expected values within given electrical circuit</p> <p>1.5 Determine appropriate fault-finding technique to be used for given problem</p> <p>1.6 Select appropriate test equipment and measure circuit according to methodologies already determined</p> <p>1.7 Select and source required hand tools/equipment for problem-solving telecommunications circuitry</p>
2. Test and record electrical operating parameters within given telecommunications circuitry/cable	<p>2.1 Apply work health and safety (WHS) procedures to given task</p> <p>2.2 Isolate circuitry from live source when risk process has indicated that action be taken</p> <p>2.3 Connect appropriate test devices within electrical circuit to obtain operational measurements as pre-determined</p> <p>2.4 Reduce circuit path following accepted fault-finding methodologies and test</p> <p>2.5 Record measured results obtained</p>
3. Analyse and report findings	<p>3.1 Analyse results obtained against specifications and parameters provided</p> <p>3.2 Determine appropriate circuits and actions to rectify circuitry necessary to resolve given problem</p> <p>3.3 Supply customer with report on fault/s and options to resolve issue/s</p>

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance, but not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Reads and responds to complex workplace information contained in specification manuals and standards
Writing	<ul style="list-style-type: none"> Writes reports for customer on complex issues
Oral Communication	<ul style="list-style-type: none"> Uses oral communication skills to participate in workplace teams and to liaise with customers and stakeholders.

Skill	Description
Numeracy	<ul style="list-style-type: none"> • Calculates with whole numbers, decimals and percentages for work • Uses common functions of a scientific calculator for work • Uses and calculate with complex measurements for work
Learning	<ul style="list-style-type: none"> • Uses strategies for work-related learning • Plans and manages complex workplace tasks
Get the work done	<ul style="list-style-type: none"> • Works logically and systematically to undertake clearly defined tasks • Analyses task requirements to decide on appropriate equipment and practices • Applies problem-solving processes to locate and resolve faults, and reviews impact of decisions • Determines WHS and risk mitigation required for given tasks

Unit Mapping Information

No equivalent unit. New unit.

Links

Companion Volume Implementation Guides are available from VETNet - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=a53af4e4-b400-484e-b778-71c9e9d6aff2>