

Title	Diagnose and repair faulty electronic office equipment to module level		
Level	4	Credits	25

Purpose	<p>This unit standard is intended for electronics technicians and covers the diagnosis and repair of electronic office equipment to module level. Excluded are personal computers and peripherals, which are covered by the unit standards listed in Explanatory Note 4.</p> <p>People credited with this unit standard are able to:</p> <ul style="list-style-type: none"> – prepare to diagnose and repair electronic office equipment; – diagnose faults in electronic office equipment; – repair and test electronic office equipment; and – complete post-repair procedures.
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Classification	Electronic Engineering > Electronic Installation and Maintenance
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Available grade	Achieved
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Entry information	
Recommended skills and knowledge	Unit 26725, <i>Demonstrate and apply knowledge of electronic product reliability and advanced electronic measurement and diagnosis</i> , or equivalent knowledge and skills.

Explanatory notes

- 1 This unit standard has been developed for learning and assessment on-job.
- 2 References
Electricity Act 1992;
Electricity (Safety) Regulations 2010;
Health and Safety in Employment Act 1992 and associated regulations;
and all subsequent amendments and replacements.
- 3 Definitions
Enterprise practice – those practices and procedures that have been promulgated by the company or enterprise for use by their employees.
Industry practice – those practices that competent practitioners within the industry recognise as current industry best practice.

4 Range

- a Electronic office equipment includes copy machines, facsimile machines and other electronic equipment normally found in an office environment. Excluded are personal computers and peripherals, which are covered by unit standards 6873, 6874, and 6875.
- b The type of diagnosis and repair work required to achieve this unit standard must include:
 - i diagnosis and repair of equipment to module level;
 - ii use of test instruments to identify faults, measure and adjust equipment, and confirm proper performance. Typical instruments include multimeters, oscilloscopes, signal generators, and signal tracers. More specialised instruments may be required depending on the nature of the equipment.
- c Electrical, radiation, and workshop or laboratory safety practices are to be observed at all times.
- d Measurements may be expressed in Système Internationale (SI) or Imperial units, and, where required, converted from Imperial units to SI units and vice versa.
- e Recognised industrial standards are to be used for calculations.
- f All activities and evidence presented for all outcomes and evidence requirements in this unit standard must be in accordance with legislation, policies, procedures, ethical codes, Standards, applicable site and enterprise practice, and industry practice; and, where appropriate, manufacturers' instructions, specifications, and data sheets.
- g Evidence is required of at least 30 different types of repairs covering a variety of faults on a range of equipment. The number and type of equipment chosen are left to the discretion of the assessor, but must be sufficient to assess competence in all outcomes of the unit standard.

Outcomes and evidence requirements

Outcome 1

Prepare to diagnose and repair electronic office equipment.

Evidence requirements

- 1.1 Fault symptoms are identified, verified against the customer's detailed fault description, and recorded.
- 1.2 Agreed expenditure and repair turn around time expectations are identified.
- 1.3 All site occupational safety and health implications for self and others are identified, and hazard control measures are put in place.
- 1.4 Service information is available for the commencement of repair.

Range typically this may include – manuals, schematic diagrams, modification sheets, fault and service guides.
- 1.5 Accessories are handled in a manner that prevents loss or damage.

Outcome 2

Diagnose faults in electronic office equipment.

Evidence requirements

- 2.1 Cause of fault and faulty modules are identified using logical diagnostic techniques, tools, test instruments, and servicing data.
- 2.2 Repair feasibility is established with respect to agreed expenditure and repair reliability.
- 2.3 Modules are protected from static damage by anti-static precautions.
- 2.4 Diagnostic processes do not damage the equipment.
- 2.5 Diagnostic report is in accordance with enterprise practice.
- 2.6 General maintenance is performed in accordance with servicing data and customer expectations.

Outcome 3

Repair and test electronic office equipment.

Evidence requirements

- 3.1 Faulty modules are replaced in accordance with service information, and where appropriate, soldered joints are in accordance with industry practice.

Range industry practice – joints are smooth; without short circuits, dry joints, no excess solder.
- 3.2 Equipment is reassembled in a manner that prevents damage and conforms to manufacturers' layout.

Range layout – lead dress, screw location, shields and screens, board positioning and securing, cover positioning and fastening.
- 3.3 Testing confirms electrical safety.
- 3.4 Testing confirms that the repaired equipment is ready for service.

Outcome 4

Complete post-repair procedures.

Evidence requirements

4.1 Fault repair documentation is in accordance with enterprise practice.

Range may include but is not limited to – workshop register, job card, invoice, order forms, warranty forms, fault manuals, fault database, instructions to customer.
Evidence of two is required.

4.2 All traces of servicing and repair work are removed from equipment, and in the case of on-site repairs, premises are left in their original state of cleanliness and tidiness.

Planned review date	31 December 2016
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Status information and last date for assessment for superseded versions

Process	Version	Date	Last Date for Assessment
Registration	1	23 May 1996	31 December 2011
Revision	2	3 April 2001	31 December 2011
Review	3	26 July 2004	31 December 2012
Review	4	21 July 2011	N/A

Consent and Moderation Requirements (CMR) reference	0003
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This CMR can be accessed at <http://www.nzqa.govt.nz/framework/search/index.do>.

Please note

Providers must be granted consent to assess against standards (accredited) by NZQA, before they can report credits from assessment against unit standards or deliver courses of study leading to that assessment.

Industry Training Organisations must be granted consent to assess against standards by NZQA before they can register credits from assessment against unit standards.

Providers and Industry Training Organisations, which have been granted consent and which are assessing against unit standards must engage with the moderation system that applies to those standards.

Requirements for consent to assess and an outline of the moderation system that applies to this standard are outlined in the Consent and Moderation Requirements (CMRs). The CMR also includes useful information about special requirements for organisations wishing to develop education and training programmes, such as minimum qualifications for tutors and assessors, and special resource requirements.

Comments on this unit standard

Please contact the ElectroTechnology Industry Training Organisation reviewcomments@etito.co.nz if you wish to suggest changes to the content of this unit standard.