

	Unit ID: 2265
Domain	BROADCASTING
Title:	Implement fault-finding techniques in electronic systems
Level: 4	Credits: 10

Purpose

This unit standard is intended for those who implement fault-finding techniques in electronic systems. People credited with this unit standard are able to read and interpret schematic diagrams, compile block diagrams of operations and functions of equipment, relate information of the block diagrams to circuit boards, perform test on electronic systems using instrumentation, select electronic system fault location strategies and locate faults in electronic systems.

This unit standard is intended for those who work in the broadcasting working environment.

Special Notes

1. Entry information:

Prerequisites:

- None

2. This unit standard is to be delivered and assessed in the context of information and communication technology.

3. Assessment evidence may be collected from a real or a simulated workplace in which broadcasting operations are carried out.

4. Performance of all elements in this unit standard must comply with industry standards.

5. Regulations and legislation relevant to this unit standard include the following:

- Labour Act 2007(Act No 11, 2007)
- Regulations relating to the health and Safety of employees at work under Schedule 1 (2) of the Labour Act No.11 of 2007 and all subsequent amendments.

Quality Assurance Requirements

This unit standard and others within this sub-field may be awarded by institutions which meet the accreditation requirements set by the Namibia Qualifications Authority and the Namibia Training Authority and which comply with the national assessment and moderation requirements. Details of specific accreditation requirements and the national assessment arrangements are available from the Namibia Qualifications Authority on www.namqa.org and the Namibia Training Authority on www.nta.com.na

Elements and Performance Criteria

Element 1: Read and interpret schematic diagrams

Performance Criteria

- 1.1 Component symbols are analysed and identified.
- 1.2 Functions of the components are defined.
- 1.3 Signal types and levels are explained and indicated.

Element 2: Compile block diagrams of operations and functions of equipment

Performance Criteria

- 2.1 Block symbols are identified and applied in a compiled block diagram.
- 2.2 Functions of the blocks are defined in a compiled block diagram.
- 2.3 Block inputs and outputs signal points are identified and waveform/levels are applied in the compiled block diagram.
- 2.4 Block inputs and outputs signal points are identified and waveform/levels are applied and pointed out on the schematic diagram.

Element 3: Relate information of the block diagrams to circuit boards

Performance Criteria

- 3.1 Components associated with each block are identified.
- 3.2 Functions of the components are defined and the position on the board is identified and noted.
- 3.3 Block inputs and outputs test points are identified, and pointed out on the printed circuit boards.

Element 4: Perform test on electronic systems using instrumentation

Performance Criteria

- 4.1 Test instrumentation common functions are defined.
- 4.2 Test instrumentation is selected for a given type of circuit.
- 4.3 Test points are identified on the hardware and readings are taken.
- 4.4 Operation/function of the circuit is evaluated.

Element 5: Select electronic system fault location strategies

Performance Criteria

- 5.1 Fault location methods are selected according to the system type.
- 5.2 Systematic fault location methods are selected.
- 5.3 Individual tests are selected and arranged in logical order.
- 5.4 Recording/procedural documentation is applied.

Element 6: Locate faults in electronic systems

Performance Criteria

- 6.1 Fault location strategy is executed in the predetermined order.
- 6.2 Selected test equipment is used to locate the fault.
- 6.3 System documentation is used for board-level fault location.

Registration Data

Subfield:	Information and Communication Technology
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