



Australian Government

ICTDRE303 Install a complex digital reception system

Release: 2

ICTDRE303 Install a complex digital reception system

Modification History

Release	Comments
Release 2	This version released with ICT Information and Communications Technology Training Package Version 5.0.
Release 1	This version first released with ICT Information and Communications Technology Training Package Version 2.0.

Application

This unit describes the skills and knowledge required to design, install, test and commission a complex digital reception broadband service system.

It applies to individuals who work on complex radio frequency (RF) and digital distribution systems, such as master antenna television (MATV) and satellite master antenna television (SMATV), in commercial or multi-dwelling unit (MDU) environments.

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

Unit Sector

Telecommunications – Digital Reception Technology

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. Plan installation of a complex digital reception system	1.1 Notify customer to arrange access to site and identify customer equipment 1.2 Select type of complex digital systems and consequent constraints on installation according to customer specifications 1.3 Complete a job safety analysis (JSA) identifying work health and safety (WHS) issues 1.4 Prepare for installation according to relevant legislation, codes, regulations and standards 1.5 Verify design requirements are suitable for site application and

ELEMENT	PERFORMANCE CRITERIA
	required system performance
2. Assemble complex digital reception system	2.1 Select and obtain materials, tools and equipment for installation 2.2 Select suitable headend location and cable access 2.3 Build headend according to design requirements and manufacturer's specifications 2.4 Configure headend and distribution devices to operate according to design and manufacturer's specifications 2.5 Run cables along identified routes 2.6 Terminate cables according to both design and manufacturer's specifications
3. Test and commission system	3.1 Conduct performance test operation of headend and distribution devices 3.2 Activate system and conduct signal measurement using test equipment 3.3 Record and analyse initial test results for quality of service according to design specifications 3.4 Rectify identified faults and adjust system to optimal operation 3.5 Conduct final signal measurement using test equipment to optimise performance 3.6 Update design plans to 'as built' status
4. Complete administrative tasks	4.1 Record final commissioning test results and settings in line with client requirements 4.2 Complete appropriate records and test results, and store according to policy 4.3 Complete all financial and other documentation 4.4 Hand over to customer and obtain sign off

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	• Interprets textual information from relevant sources to identify relevant and key information

Writing	• Uses clear, specific and industry related terminology to complete workplace documentation
Oral Communication	• Articulates clearly using appropriate language for environment and uses listening techniques to confirm understanding
Numeracy	• Takes readings and measurements and interprets results
Navigate the world of work	• Takes responsibility for following safe, sustainable, appropriate, and efficient workplace procedures
Interact with others	• Makes contact with customer • Deals with customer to obtain sign-off on completed work
Get the work done	• Plans, organises and implements tasks efficiently to meet customer requirements • Identifies and resolves problems

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
ICTDRE303 Install a complex digital reception system	ICTDRE303 Install a complex digital reception system	Updates to application and knowledge evidence. Updates to template to apply consistent format between units.	Equivalent unit

Links

Companion Volume Implementation Guides are available from VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=a53af4e4-b400-484e-b778-71c9e9d6aff2>

Assessment Requirements for ICTDRE303 Install a complex digital reception system

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Performance Evidence

The candidate must demonstrate the ability to complete the tasks outlined in the elements, performance criteria and foundation skills of this unit, including evidence of the ability to:

- obtain relevant approvals for access to site and equipment
- plan, assemble and install a complex digital reception system
- conduct functionality tests and interpret results
- examine performance of adjustments (tuning, balancing and replacing components)
- perform handover with customer
- apply related work health and safety (WHS) requirements and work practices.

Note: If a specific volume or frequency is not stated, then evidence must be provided at least once.

Knowledge Evidence

The candidate must be able to demonstrate knowledge to complete the tasks outlined in the elements, performance criteria and foundation skills of this unit, including knowledge of:

- procedures and equipment required for measurement of:
 - forward and reflected radio frequency (RF) power
 - feedline insertion loss
 - distance to fault
 - modulation error rate (MER) and bit error rate (BER) for purpose of signal integrity
- features of instruments, test equipment and performance requirements
- legislation, codes of practice and other formal agreements directly impacting operation and testing of radio communications antennas and equipment

- principles of master antenna television (MATV) and satellite master antenna television (SMATV)
- RF spectrum and its relationship to digital reception systems
- RF awareness, electromagnetic radiation (EMR) standards and specific WHS requirements impacting use and testing of radio communications instruments and equipment
- typical issues and challenges that occur in telecommunications antenna installations.

Assessment Conditions

Skills in this unit must be demonstrated in a workplace or simulated environment where the conditions are typical of those in a working environment in this industry.

This includes access to:

- site for complex digital reception system installation
- complex digital reception systems currently used in industry
- test equipment required for digital reception system installation and testing.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

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