

**SATELLITE TV ANTENNA INSTALLATION AND
MAINTENANCE**

QCF LEVEL II: SATELLITE TV INSTALLER

QCF LEVEL 2:**SATELLITE TV ANTENNA INSTALLER****Mandatory Units**

S/No /Unit No	Reference Number	NOS Title	Credit Value	Guided Learning Hours	Remark
1	ICT/SIM/001/L2	Principles and practices of Health and Safety	3	30	Level 2 QCF
2	ICT/SIM/002/L2	Communication Skills in Work Environment	2	20	Level 2 QCF
3	ICT/SIM/003/L2	Teamwork in Satellite TV Antenna Installation Work	2	20	Level 2 QCF
4	ICT/SIM/004/L2	Carry out Satellite TV Antenna Mounting	3	30	Level 2 QCF
5	ICT/SIM/005/L2	Carry out Satellite TV Antenna Installation	3	30	Level 2 QCF
6.	ICT/SIM/006/L2	Carry out Testing of Satellite TV Antenna Installation.	3	30	Level 2 QCF
7.	ICT/SIM/007/L2	Troubleshoot and Maintain Satellite TV Antenna Installation	3	30	Level 2 QCF
			19	190	

OPTIONAL UNITS

S/No /Unit No	Reference Number	NOS Title	Credit Value	Guided Learning Hours	Remark
8	ICT/SIM/008/L2	Develop Small Business Practice	2	20	Level 2 QCF
9	ICT/SIM/009/L2	Install Motorized TV Satellite Antenna Jack	2	20	Level 2 QCF

NOTE: This is a 21 credit qualification, to achieve this qualification; Learners are required to achieve 19 credits from mandatory units and 2 credits from the optional units. Each Credit is equivalent to approx. 10 Guided Learning Hours (GLH). The Total Learning Hours will therefore consist of the GLH *plus* the independent learning hours of the candidate, which is generally 50% – 150% of the GLH. *The actual Total Learning Hours for each Credit will then be a minimum of 15 hours.*

Qualification Purpose:

This qualification is for **Satellite TV Antenna Installer**, who is responsible for assembling, mounting, installation and maintenance of a Satellite TV Antenna.

At the end of the Units, the learner will be able to:

1. Know the basic health and safety requirements in workplace environment.
2. Understand the importance of Communication in workplace environment
3. Understand Team work in workplace environment.
4. Carry out Satellite TV Antenna Mounting
5. Carry out Satellite TV Antenna Installation.
6. Carry out Testing of Satellite TV Antenna Installation.
7. Troubleshoot Satellite TV Antenna Installation.
8. Develop Small Business Practices
9. Install Motorized TV Satellite Antenna Jack

Unit 1: Principles and Practices of Health and Safety

Unit Reference Number: ICT/SIM/001/L2

QCF Level: 2

Credit Value: 3

Guided Learning Hours: 30

Unit Purpose: This unit is about health and safety in the working environment. At the end of the Unit learners will be able to maintain good personal hygiene and carry out work activity in a safe manner to prevent hazards.

Unit assessment requirements/evidence requirements:

Assessment must be carried out in real workplace environment in which learning and human development is carried out. **Simulation is allowed** in this unit and level.

The evidences required for this Unit include:

Assessment methods to be used include:

1. Direct Observation/oral questions (DO)
2. Question and Answer (QA)
3. Witness Testimony (WT)
4. Assignment (ASS)

UNIT 01

LEARNING OBJECTIVE (LO) The learner will:		PERFORMANCE CRITERIA The learner can:	Evidence Type				Evidence Ref. Page No.				
LO 1: Health, Safety and Environment	1.1	Explain occupational health and safety									
	1.2	Identify health and safety risks in satellite installation and maintenance									
	1.3	Explain environmental hazards in satellite TV antenna installation and maintenance									
	1.4	Explain the effects of environmental hazards									
	1.5	Apply environmental protection methods									
LO 2: Observe Personal Safety Measures in Satellite TV Antenna Installation	2.1	Demonstrate the application of Personal Protective Equipment such as Head Protection, Foot Protection, Face and eye protection, Hand and Body protection and regulatory protection									
	2.2	Demonstrate compliance with health and safety and other relevant regulations and guidelines									
	2.3	Explain the procedures of treating cuts, graze and wounds									
	2.4	Explain the procedures of reporting illness and infection									
	2.5	State own responsibility under the (Nigeria factory Health and Safety Act, 2015) as it relates to own occupation									
	2.6	State general rules on hygiene that must be followed									
	2.7	State the importance of maintaining good personal hygiene									
LO 3: First Aid Procedures and Security of Work Environment	3.1	Explain first aid procedures for defined situations									
	3.2	Identify first aid materials/equipment and their location									
	3.3	Select first aid materials									
	3.4	Apply first aid methods									
	3.5	State the importance of working in a healthy, safe and secure workplace									
	3.6	Explain procedures of reporting accidents or near misses.									
	3.7	Explain the procedures of waste disposal of organic and inorganic waste and Pollution control									

LEARNING OBJECTIVE (LO)		PERFORMANCE CRITERIA	Evidence Type				Evidence Ref. Page No.			
The learner will:		The learner can:								
	3.8	explain sound and noise control and protection methods and guidelines								
LO 4: Emergency Procedures	4.1	State the possible causes of fire in the workplace								
	4.2	Identify emergencies that may happen in your own occupation								
	4.3	Explain where to find the first-aid equipment and identify who registered first-aider is in the work place								
	4.4	Explain organizational emergencies procedures, in particular fire, and how these should be followed								
	4.5	Explain how to minimize the possibility of fire in the workplace								
	4.6	State where to find the alarms and how to set them off								

Learners Signature:	Date:
Assessors Signature:	Date:
IQA Signature (if sampled)	Date:
EQA Signature (if sampled)	Date:

Unit 2: Communication Skills in Work Environment

Unit Reference Number: ICT/SIM/002/L2

QCF Level: 2

Credit Value: 2

Guided Learning Hours: 20

Unit Purpose: This unit is about effective communication skills in the working environment. At the end of the Unit, learners will be able to maintain good communication system among workers/clients in the work environment.

Unit assessment requirements/evidence requirements:

Assessment must be carried out in real workplace environment in which learning and human development is carried out. ***Simulation is not allowed*** in this unit and level.

The evidences required for this Unit include:

Assessment methods to be used include:

1. Direct Observation/oral questions (DO)
2. Question and Answer (QA)
3. Witness Testimony (WT)
4. Assignment (ASS)

UNIT 02

LEARNING OBJECTIVE (LO) The learner will:		PERFORMANCE CRITERIA The learner can:	Evidence Type	Evidence Ref. Page No.
LO 1: Use of a non-complex Communication in Work Environment	1.1	Explain communication methods and use a simple verbal means to pass on necessary information		
	1.2	apply non-verbal means to pass necessary information, e.g. body language		
	1.3	Interpret symbols and signs appropriately		
LO 2: Identify the source of information in a work environment	2.1	identify the source of information in an organization		
	2.2	explain source of information		
	2.3	Explain the general information flow systems in a work environment		
	2.4	Report findings in accordance to procedure in a work environment		
LO 3: Use of a various Communication means in a work environment	3.1	Locate the various communication equipment in the work environment		
	3.2	Use effectively the general communication equipment in a work environment		
	3.3	Pass information effectively to the right personnel		
	3.4	Pass information effectively using symbols, signs and codes		
	3.5	Comply with general instructions in line with ethics of the work environment		

Learners Signature:	Date:
Assessors Signature:	Date:
IQA Signature (if sampled)	Date:
EQA Signature (if sampled)	Date:

Unit 3: Teamwork in Work Environment

Unit Reference Number: ICT/SIM/003/L2

QCF Level: 2

Credit Value: 2

Guided Learning Hours: 20

Unit Purpose: At the end of this Unit, the learners will be able to understand the importance of team spirit and develop positive working relationship with colleagues.

Unit assessment requirements/evidence requirements:

Assessment must be carried out in real workplace environment in which learning and human development is carried out. ***Simulation is not allowed*** in this unit and level.

The evidences required for this Unit include:

Assessment methods to be used include:

1. Direct Observation/oral questions (DO)
2. Question and Answer (QA)
3. Witness Testimony (WT)
4. Assignment (ASS)

UNIT 03

LEARNING OBJECTIVE (LO) The learner will:		PERFORMANCE CRITERIA The learner can:	Evidence Type	Evidence Ref. Page No.
LO 1: Establish Positive working relationship with colleagues	1.1	Explain positive working relationship		
	1.2	Describe the importance of relating with others in the work environment.		
	1.3	Explain procedure of Communicating information to colleagues.		
LO 2: Take responsibilities within the team	2.1	Explain own role and responsibilities within a team		
	2.2	Explain own tasks in line with the team rules and regulations		
	2.3	Explain team work		
LO 3: Work in compliance with policy of organisation	3.1	Explain organization code of practice		
	3.2	Explain organisation standards		
	3.3	Differentiate between code of practice and standards		

Learners Signature:	Date:
Assessors Signature:	Date:
IQA Signature (if sampled)	Date:
EQA Signature (if sampled)	Date:

Unit 4: Carry out Satellite TV Antenna Mounting.

Unit Reference Number: ICT/SIM/004/L2

QCF Level: 2

Credit Value: 3

Guided Learning Hours: 30

Unit Purpose: At the end of this Unit the learners will be competent in mounting different types of satellite TV antennas on the masts and fix LNB.

Unit assessment requirements/evidence requirements:

Assessment must be carried out in real workplace environment in which learning and human development is carried out. ***Simulation is not allowed*** in this unit and level.

The evidences required for this Unit include:

Assessment methods to be used include:

1. Direct Observation/oral questions (DO)
2. Question and Answer (QA)
3. Witness Testimony (WT)
4. Personal Statement (PS)
5. Work Product (WP)
6. Assignment (ASS)

UNIT 04

LEARNING OBJECTIVE (LO)	PERFORMANCE CRITERIA		Evidence Type	Evidence Ref. Page No.			
The learner will:	The learner can:						
LO 1: Mount the Satellite TV Antenna on the Mast	1.1	Identify suitable location for mounting a satellite TV Antenna considering line-of-sight view					
	1.2	Discuss factors to be considered when mounting the satellite TV antenna					
	1.3	Describe the steps involved in mounting the dish on the mast or roof tops					
	1.4	Observe safety measures by using User Guide Manual when mounting the antenna					
	1.5	Carry out the activities of mounting a satellite TV Antenna on the mast					
LO 2: Demonstrate how to mount the LNB on the Antenna	2.1	Describe types of LNB commonly used for satellite TV Antenna installation, e.g. C-Band and Ku- Band					
	2.2	Identify the satellite stations needed to determine the number of LNBs to be mounted					
	2.3	Describe step-by-step the procedures for mounting the LNB					
	2.4	Observe safety measures for the mounting of the LNB					
	2.5	Carry out the mounting of the LNB following the correct procedures.					

Learners Signature:	Date:
Assessors Signature:	Date:
IQA Signature (if sampled)	Date:
EQA Signature (if sampled)	Date:

Unit 5: Carry out Satellite TV Antenna Installation

Unit Reference Number: ICT/SIM/005/L2

QCF Level: 2

Credit Value: 3

Guided Learning Hours: 30

Unit Purpose: At the end of the Unit the learner will be able to carry out installation by connecting the receiver to the antenna and other accessories.

Unit assessment requirements/evidence requirements:

Assessment must be carried out in real workplace environment in which learning and human development is carried out. ***Simulation is not allowed*** in this unit and level.

The evidences required for this Unit include:

Assessment methods to be used include:

1. Direct Observation/oral questions (DO)
2. Question and Answer (QA)
3. Witness Testimony (WT)
4. Personal Statement (PS)
5. Work Product (WP)
6. Assignment (ASS)

UNIT 05

LEARNING OBJECTIVE (LO)	PERFORMANCE CRITERIA		Evidence Type				Evidence Ref. Page No.				
The learner will:	The learner can:										
Lo 1: Carry out various Connections in the Satellite TV Antenna Installation	1.1	Identify cable specifications used in satellite dish installation									
	1.2	Determine the appropriate cable lengths to be used in the installation									
	1,3	Demonstrate the ability to connect F-connector to the cable and State the step-by-step procedures for grounding the coaxial cable.									
	1.4	Connect the cable from the satellite dish to the receiver terminals using F-Connectors									
	1.5	Adjust the dish to determine the signal strength and quality using satellite finder									
Lo 2: Set the Receiver of the TV Satellite	2.1	Demonstrate the use of Splitter and DiSEqC									
	2.2	Connect the Splitter and DiSEqC in the satellite dish installation									
	2.3	Identify the configuration menu of the receiver using remote control									
	2.4	Illustrate the procedures involved in satellite signal reception from the antenna									
	2.5	Describe how to add a satellite station to a receiver									
	2.6	Identify the types of satellite receiver set-up (First-time setup, alternate setup)									
Lo 3: Carry out Signal Tracking	3.1	Carry out declination and elevation adjustment of satellite dish to determine the signal strength									
	3.2	Carry out the process of encoding and decoding satellite programme									
	3.3	Explain how reflector and LNB gains are related to receiver gain									
	3.4	Explain the gain of a dish reflector									
Learners Signature:			Date:								
Assessors Signature:			Date:								
IQA Signature (if sampled)			Date:								
EQA Signature (if sampled)			Date:								

Unit 6: Carry out Testing of Satellite TV Antenna Installation.

Unit Reference Number: ICT/SIM/006/L2

QCF Level: 2

Credit Value: 3

Guided Learning Hours: 30

Unit Purpose: At the end of this Unit the learners will be able to test completed installation of the Satellite TV Antenna using appropriate measuring instruments.

Unit assessment requirements/evidence requirements:

Assessment must be carried out in real workplace environment in which learning and human development is carried out. ***Simulation is not allowed*** in this unit and level.

The evidences required for this Unit include:

Assessment methods to be used include:

1. Direct Observation/oral questions (DO)
2. Question and Answer (QA)
3. Witness Testimony (WT)
4. Assignment (ASS)

UNIT 06

LEARNING OBJECTIVE (LO)	PERFORMANCE CRITERIA			Evidence Type	Evidence Ref. Page No.
The learner will:	The learner can:				
Lo 1: Discuss the Applications of Testing Instruments Used In Satellite TV Antenna Installation	1.1	Identify types of testing instruments for satellite TV antenna installation.			
	1.2	Identify types of tests to be carried out in satellite TV antenna installation.			
	1.3	Demonstrate polarity tests			
	1.4	Describe hardware test of satellite TV antenna			
	1.5	Describe software tests in satellite receiver			
Lo 2: Carry out different types of Tests in Complete Satellite TV Antenna Installation	2.1	Sketch a simple circuit showing a polarity test			
	2.2	Carry out Polarity tests			
	2.3	Carry out software test of TV satellite receiver			
	2.4	Carry out hardware test of the satellite TV Antenna			

Learners Signature:	Date:
Assessors Signature:	Date:
IQA Signature (if sampled)	Date:
EQA Signature (if sampled)	Date:

Unit 7: Troubleshoot and Maintain Satellite TV Antenna Installation

Unit Reference Number: ICT/SIM/007/L2

QCF Level: 2

Credit Value: 3

Guided Learning Hours: 30

Unit Purpose: At the end of this Unit the learners will be able to detect and rectify faults as well as carry out maintenance in a Satellite TV Antenna Installation.

Unit assessment requirements/evidence requirements:

Assessment must be carried out in real workplace environment in which learning and human development is carried out. ***Simulation is not allowed*** in this unit and level.

The evidences required for this Unit include:

Assessment methods to be used include:

1. Direct Observation/oral questions (DO)
2. Question and Answer (QA)
3. Witness Testimony (WT)
4. Personal Statement (PS)
5. Assignment (ASS)

UNIT 07

LEARNING OBJECTIVE (LO)		PERFORMANCE CRITERIA	Evidence Type				Evidence Ref. Page No.			
The learner will:		The learner can:								
LO 1: Describe common faults in Satellite TV Antenna installation	1.1	Identify symptoms of signal failure display								
	1.2	Explain the common symptoms of no picture or sound on the screen								
	1.3	State the symptoms of remote control faults.								
	1.4	Describe the symptoms of picture cracking/fading								
	1.5	Describe the symptom of insufficient picture quality								
	1.6	Explain the symptom of friction in a motorized jack								
LO 2: Trace Faults in Satellite TV Antenna Installation	2.1	Read out error fault from the front panel display								
	2.2	Carry out tracing of missing video and audio signals								
	2.3	Diagnose causes of missing pictures on the TV screen								
	2.4	Diagnose faults on a faulty remote control								
	2.5	Trace the causes of weak or no signal								
	2.6	Trace the possible causes of deflection on the picture quality								
	2.7	Diagnose the causes of friction in motorized jack								
	2.8	Trace the possible causes of picture fading from a receiver								
LO 3: Rectify faults in Satellite TV Antenna Installation	3.1	Demonstrate the remedy for missing display at the front panel								
	3.2	Demonstrate the remedy for loss of signal								
	3.3	Demonstrate the remedy of no picture or sound								
	3.4	Carry out the remedy of the remote control.								
	3.5	Carry out the remedy of weak signal and no signal								
	3.6	Carry out the remedy of unstable picture resolutions								
	3.7	Hooking up of motorize jack								
	3.8	Demonstrate the remedy of cracking pictures								
	3.9	Carry out periodic maintenance of the installation								

Learners Signature:	Date:
Assessors Signature:	Date:
IQA Signature (if sampled)	Date:
EQA Signature (if sampled)	Date:

Unit 8: Develop Business Practice

Unit Reference Number: ICT/SIM/008/L2

QCF Level: 2

Credit Value: 2

Guided Learning Hours: 20

Unit Purpose: At the end of this Unit the learners will be able to set up small scale business for the installation and selling of components and accessories of Satellite TV Antennas

Unit assessment requirements/evidence requirements:

Assessment must be carried out in real workplace environment in which learning and human development is carried out. ***Simulation is not allowed*** in this unit and level.

The evidences required for this Unit include:

Assessment methods to be used include:

1. Direct Observation/oral questions (DO)
2. Question and Answer (QA)
3. Witness Testimony (WT)
4. Assignment (ASS)

SUGGESTED LIST OF TOOLS AND EQUIPMENT

- Hand-held magnetic compass
- Spirit level
- Satellite Finder
- Digital Multimeter
- Pipe wrench
- Stripper
- Pairs of pliers
- Cleaver
- Ladder
- Socket Wrench Set
- Open end wrenches
- Assorted screw drivers
- Dielectric grease
- Extension Ladder
- Pocket knife
- Flashlight
- Rope
- Sunscreen
- Extra battery
- Packing tape
- Rubber tape
- Coax wire stripper
- Snap on coax connectors
- Measuring Tape
- Types of LNBS
- Set of spanners
- Set of screw drivers
- F-Connectors
- Splitter
- Antenna Booster Amplifier
- Receiver
- TV Set
- Extension wire
- Multiswitch
- HDMI cable
- DiSEqC
- Physical observation
- Tracking satellite
- Continuity tester
- Shifting spanner
- Soldering iron
- lead
- Magnifying lens
- Grease