National Occupational Skill Standard (NOSS)

Occupational Title : **Low Voltage Technician**

Level : **1**

Sector : **Electronics**

Sub - Sector : **Consumer Electronics**

NOSS ID/NSCO ID :

ISCO NO :

Council for Technical Education and Vocational Training

NATIONAL SKILL TESTING BOARD

Madhyapur Thimi-17, Sanothimi, Bhaktapur, Nepal

Developed: 12-01-2022 (28-09-2078)

2045

DACUM Panel

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2.	Ms. Anjali Shrestha	Member	Nepal Telecom, Indrayani, Kathmandu
3.	Ms. Pramila Niraula (Timsina)	Member	Nepal Telecom, Babarmahal, Kathmandu
4.	Mr. Shalikram Acharya	Member	Nepal Telecom, Sundhara, Kathmandu
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DACUM Workshop on 4 & 5 December2018

Customized DACUM Panel

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The National Occupational Skill Standard Developed by:

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Recommended by Electronics Technical Sub Committee: 12 January 2022 (28 Paush 2078)

1	**Occupational Title: Low Voltage Technician** **Level: 1**
2	**Job Description:** Low Voltage Technician, L-1 performs cable installation and installs low voltage electronic devices.
3	**UNITS OF COMPETENCY:** 1. Perform cable installation. 2. Install low voltage electronic devices. 3. Perform communication. 4. Develop professionalism. ***Note: Units 3 and 4 are not for testing purpose.***
4	**Qualifying Notes/Prerequisites:** • Physical Requirements: Sound health • Entry Requirements: As per NSTB rules **Additional Information:** • Assessment Types: Performance Test only • Assessment Duration: 4 to 5 Hours • Recommended Group Size: 8 to 10 candidates

5	**Unit No: 1** **Unit Title: Perform cable installation**	**Unit code:**
	Elements of competency	**Performance standards**
	1.1 Prepare tools, equipment and materials	1.1.1 ***Personal protective equipment*** (PPE) used in accordance with task requirements. 1.1.2 Tools and equipment collected and checked for working conditions in accordance with task requirements. 1.1.3 Materials collected and checked in accordance with task requirements.
	1.2 Install Unshielded Twisted Pair (UTP) cable	1.2.1 Ceiling/wall/floor clearly marked as per layout diagram. 1.2.2 Size of ***protective cable route*** selected as per number of cable and firmly fixed along marked location. 1.2.3 Length of cable measured and cut including ***spare*** and laid as per layout diagram. 1.2.4 Cabinet and PVC boxes firmly fixed in line and level in marked location. 1.2.5 Wires punched down on network module as per ***T568B cabling standard*** and mounted on PVC box. 1.2.6 Two identical labels are placed on each side of cable. 1.2.7 Individual wires separated, straightened and arranged as per T568B cabling standard. 1.2.8 Wires trimmed to same length and inserted into front of RJ 45 clip and clamped. 1.2.9 Connection tested and verified with T568B cabling standard.
	1.3 Install telephone cable	1.3.1 Ceiling/wall/floor clearly marked as per layout diagram. 1.3.2 Size of protective cable route selected as per number of cable and firmly fixed along marked location. 1.3.3 Length of cable measured and cut including spare and laid as per layout diagram.

		1.3.4 Junction box and PVC boxes firmly fixed in line and level in marked location. 1.3.5 Wires punched down on telephone module and junction box as per color code. 1.3.6 Telephone module mounted on PVC box. 1.3.7 Two identical labels are placed on each side of cable. 1.3.8 RJ11 patch cable/cord prepared as per color code. 1.3.9 Continuity of cable tested.
	1.4 Install electrical wire/cable	1.4.1 ***Wire/cable types*** selected as per wiring diagram. 1.4.2 Ceiling/wall/floor clearly marked as per layout diagram. 1.4.3 Size of protective cable route selected as per number of wire/cable and firmly fixed along marked location. 1.4.4 Wire/cable checked for physical damage and continuity tested. 1.4.5 Length of cable measured and cut including spare and laid as per layout diagram. 1.4.6 PVC/metal boxes firmly fixed in line and level in marked location. 1.4.7 Adequate insulation removed at termination point without damaging conductor. 1.4.8 Wire and cable tightly connected to respective terminal of power socket and mounted on PVC/metal box. 1.4.9 Supply voltage checked.
	1.5 Install coaxial cable	1.5.1 Ceiling/wall/floor clearly marked as per layout diagram. 1.5.2 Size of protective cable route selected as per number of cable and firmly fixed along marked location. 1.5.3 ***Coaxial cable*** checked for physical damage, continuity and short circuit. 1.5.4 Length of cable measured and cut including spare and laid as per layout diagram.

		1.5.5 PVC/metal boxes fixed in line and level in marked location. 1.5.6 Adequate insulation removed at termination point without damaging conductors and tightly connected to respective terminals of ***connectors.*** 1.5.7 Coaxial module mounted on PVC/metal box. 1.5.8 Coaxial patch cord prepared with connectors at each end. 1.5.9 Continuity and short circuit checked in installed cable. 1.5.10 Two identical labels are placed on each side of cable.
	1.6 Install audio cable	1.6.1 Ceiling/wall/floor clearly marked as per layout diagram. 1.6.2 Size of protective cable route selected as per number of cable and firmly fixed along marked location. 1.6.3 ***Audio cable*** checked for physical damage, continuity and short circuit. 1.6.4 Length of cable measured and cut including spare and laid as per layout diagram. 1.6.5 Adequate insulation removed and tightly connected to respective terminals of ***audio jack/connector***.
	1.7 Perform site clearance	1.7.1 Remaining materials stored at designated location. 1.7.2 Tools and equipment cleaned and stored at designated location. 1.7.3 Work site cleaned and waste disposed as per ***3R's principle*** at designated location.
6	**Task Performance Requirements (Tools, Equipment and Materials):** • UTP cable, RJ 45 plug, crimping tools, network module, multi-meter, cable tester, plier, screwdriver, hammer, wire striper, wire cutter, cable tonner, hand grinder, hand drill machine, cable knife, scissor, crone puncher, pulling wire, Allen key, hacksaw, ladder, tweezer, sprit level, cable clip, grip, binding cable, cable tie, telephone cable, RJ11 plug, telephone module, coaxial module, junction box, telephone	

	crone, electrical wire/cable, power socket, audio cable, coaxial cable, face plate, PVC tape, double sided tape, coaxial cable connector, audio connector, PVC box, PVC duct/conduit/tray, nail, screw, insulation tape, bulb holder, torch light, audio jack, extension cord, soldering iron set, marker, masking tape, broom, dustbin, dust pan, cloth and Personal Protective Equipment (PPE).
7	**Safety and Hygiene (Occupational Health and Safety):** • Use personal protective equipment. • Safe handling of materials, tools and equipment. • Hazards involved in lifting tools, equipment and materials. • Prevent from electrical hazards.

8	Required Knowledge		
	Technical Knowledge	**Applied Calculation**	**Graphical Information**

	• Tools and equipment:
	  ○ Types
	  ○ Uses
	  ○ Safe handling
	• Site preparation
	• Methods of marking
	• Duct/conduit pipe/tray:
	  ○ Types
	  ○ Size
	  ○ Maximum/allowable no of wires /cables
	  ○ Installation technique
	• Network cable
	  ○ Types
	  ○ Cabling standard
	  ○ Network device and accessories
	  ○ Patch cable and connectors
	  ○ Cable installation and testing
	  ○ Cable labelling and tagging
	• Telephone cable
	  ○ Types
		• Perform four basic mathematical calculation	• Read and interpret instruction manual
			• Read and interpret layout diagram

	○ Telephone device and accessories ○ Patch cable and connectors ○ Cable installation and testing ○ Cable labelling and tagging • Coaxial cable ○ Types ○ CCTV device and accessories ○ DTH device and accessories ○ Patch cable and connectors ○ Cable installation and testing ○ Cable labelling and tagging • Electrical wiring ○ Introduction of conductor and insulators ○ Types and ratings of electrical wire/cable ○ Continuity and short circuit ○ Voltage, current and resistance ○ Series and parallel circuit ○ Types and uses of electrical symbols ○ Basic concept of layout and wiring diagram ○ Types of power socket ○ Phase, neutral and Earthing ○ Cabling, connection and testing		

	• Audio cable
	  ○ Types
	  ○ Audio device and accessories
	  ○ Patch cable and connectors
	  ○ Cable installation and testing
	  ○ Cable labelling and tagging
	• Purpose of spare wire/cables
	• Waste management
	• Occupational health and safety		

9	**Assessment of Competency**					
	Unit: 1 **Unit Title: Perform cable installation**					
	Candidate Details			**Assessors Detail**		
	Candidate's Name: Registration Number: Symbol No: Test Centre: Test Date:			Assessors' Name 1. 2. 3.		ID/License No:

Element of competency	**Performance Standards**	**Standard Met**	**Standard Not Met**	**Evidence Type**	**Comments**
1.1 Prepare tools, equipment and materials	1.1.1 ***Personal protective equipment*** (PPE) used in accordance with task requirements. 1.1.2 Tools and equipment collected and checked for working conditions in accordance with task requirements. 1.1.3 Materials collected and checked in accordance with task requirements.				
1.2 Install Unshielded Twisted Pair (UTP) cable	1.2.1 Ceiling/wall/floor clearly marked as per layout diagram. 1.2.2 Size of ***protective cable route*** selected as per number of cable and firmly fixed along marked location. 1.2.3 Length of cable measured and cut including ***spare*** and laid as per layout diagram.				

	1.2.4 Cabinet and PVC boxes firmly fixed in line and level in marked location. 1.2.5 Wires punched down on network module as per ***T568B cabling standard*** and mounted on PVC box. 1.2.6 Two identical labels are placed on each side of cable. 1.2.7 Individual wires separated, straightened and arranged as per T568B cabling standard. 1.2.8 Wires trimmed to same length and inserted into front of RJ 45 clip and clamped. 1.2.9 Connection tested and verified with T568B cabling standard.				
1.3 Install telephone cable	1.3.1 Ceiling/wall/floor clearly marked as per layout diagram. 1.3.2 Size of protective cable route selected as per number of cable and firmly fixed along marked location. 1.3.3 Length of cable measured and cut including spare and laid as per layout diagram. 1.3.4 Junction box and PVC boxes firmly fixed in line and level in marked location. 1.3.5 Wires punched down on telephone module and junction box as per color code. 1.3.6 Telephone module mounted on PVC box. 1.3.7 Two identical labels are placed on each side of cable.				

	1.3.8 RJ11 patch cable/cord prepared as per color code. 1.3.9 Continuity of cable tested.				
1.4 Install electrical wire/cable	1.4.1 ***Wire/cable types*** selected as per wiring diagram. 1.4.2 Ceiling/wall/floor clearly marked as per layout diagram. 1.4.3 Size of protective cable route selected as per number of wire/cable and firmly fixed along marked location. 1.4.4 Wire/cable checked for physical damage and continuity tested. 1.4.5 Length of cable measured and cut including spare and laid as per layout diagram. 1.4.6 PVC/metal boxes firmly fixed in line and level in marked location. 1.4.7 Adequate insulation removed at termination point without damaging conductor. 1.4.8 Wire and cable tightly connected to respective terminal of power socket and mounted on PVC/metal box. 1.4.9 Supply voltage checked.				
1.5 Install coaxial cable	1.5.1 Ceiling/wall/floor clearly marked as per layout diagram. 1.5.2 Size of protective cable route selected as per number of cable and firmly fixed along marked location. 1.5.3 ***Coaxial cable*** checked for physical damage, continuity and short circuit.				

	1.5.4 Length of cable measured and cut including spare and laid as per layout diagram. 1.5.5 PVC/metal boxes fixed in line and level in marked location. 1.5.6 Adequate insulation removed at termination point without damaging conductors and tightly connected to respective terminals of ***connectors.*** 1.5.7 Coaxial module mounted on PVC/metal box. 1.5.8 Coaxial patch cord prepared with connectors at each end. 1.5.9 Continuity and short circuit checked in installed cable. 1.5.10 Two identical labels are placed on each side of cable.				
1.6 Install audio cable	1.6.1 Ceiling/wall/floor clearly marked as per layout diagram. 1.6.2 Size of protective cable route selected as per number of cable and firmly fixed along marked location. 1.6.3 ***Audio cable*** checked for physical damage, continuity and short circuit. 1.6.4 Length of cable measured and cut including spare and laid as per layout diagram. 1.6.5 Adequate insulation removed and tightly connected to respective terminals of ***audio jack/connector***.				
1.7 Perform site clearance	1.7.1 Remaining materials stored at designated location. 1.7.2 Tools and equipment cleaned and stored at designated location.				

	1.7.3 Work site cleaned and waste disposed as per ***3R's principle*** at designated location.				

WT- Written Test **OQ**- Oral Question **PT-** Practical Test **DO** – Direct Observation **SR**- Supervisor's report **SN**–Simulation

RP- Role Play **PG –**Photographs **VD**- Video **CT** – Certificates **TS** – Testimonials (Reward) **PP** – Product Produced

CS – Case Study

Range Statement

Variable	Range
Personal protective equipment	*May include but not limited to:* • Helmet • Apron/Protective Jacket • Mask • Goggles • Gloves • Protective shoes • Safety belt
Protective cable route	*May include but not limited to:* • Duct • Conduit • Pipe • Tray • Lystic
Spare	*May include but not limited to:* • In PVC/Metal box: 6 inch • In Junction: 6 inch • In Cabinet: 2 feet

T568B Cabling standard	*May include but not limited to:* • White Orange, Full Orange, White Green, Full Blue, White Blue, Full Green, White Brown and Full Brown
Wire/cables types	*May include but not limited to:* • AC wire/cable • DC wire/cable
Coaxial cable	*May include but not limited to:* • Radio Grade (RG)59/U • RG6/U • RG11/U • 2+1 • 3+1
Connectors	*May include but not limited to:* • Bayonet Neill Concelman (BNC) • Radio Corporation of America (RCA) • Direct Current (DC) Jack • Radio Frequency (RF) Jack • F type
Audio cable	*May include but not limited to:* • Speaker cable • Microphone cable • Shield wire cable

Audio jack/connector	*May include but not limited to:* • Bayonet Neill Concelman (BNC) • External Line Return (XLR) • Stereo/Mono jack • Musical Instrument Digital Interface (MIDI)
3R's principle	*May include but not limited to:* • Reduce • Recycle • Reuse

5	**Unit No: 2** **Unit Title: Install low voltage electronic devices**	**Unit code:**
	Elements of competency	**Performance standards**
	2.1 Prepare tools, equipment and materials	2.1.1 ***Personal protective equipment*** (PPE) used in accordance with task requirements. 2.1.2 Tools and equipment collected and checked for working conditions in accordance with task requirements. 2.1.3 Materials collected and prepared in accordance with task requirements.
	2.2 Install CCTV camera	2.2.1 ***CCTV camera*** selected and checked for physical damage. 2.2.2 Ceiling/wall clearly marked as per layout diagram. 2.2.3 Hole drilled on marked place. 2.2.4 CCTV camera firmly fixed as per manufacturer's instruction on marked place. 2.2.5 ***Connector*** tightly connected on respective ports of CCTV camera. 2.2.6 CCTV camera ports and power supply connected to respective ports of Digital Video Recorder (DVR)/Network Video Recorder (NVR).
	2.3 Install Digital Light Emitting Diode (LED) board	2.3.1 Frame installed on marked location. 2.3.2 Digital LED board checked for physical damage. 2.3.3 Individual LED panel mounted on installed frame and connected as per connection diagram. 2.3.4 Power supply and data cable securely connected to respective terminals of LED board. 2.3.5 Display of LED board checked.
	2.4 Install electronic door lock system	2.4.1 Position of door lock located and marked as per layout diagram. 2.4.2 Hole drilled on marked place.

		2.4.3 Door lock mounted and firmly fixed. 2.4.4 Power and control cable/wires tightly connected with control panel and door lock. 2.4.5 Electronic door lock checked for normal operation.
	2.5 Install network cabinet and switch	2.5.1 Cabinet checked for physical damage and fixed on marked location. 2.5.2 Network switch fixed in line and level. 2.5.3 Power socket installed and connected to network devices. 2.5.4 Network cable connected to network switch as per label.
	2.6 Install Private Automated Branch Exchange (PABX)	2.6.1 PABX checked for physical damage. 2.6.2 Position of PABX located and marked as per layout diagram. 2.6.3 Hole drilled on marked place. 2.6.4 PABX fixed on marked place in line and level. 2.6.5 AC supply connected and power indicator checked on PABX. 2.6.6 Telecom supply connected in Co-line of PABX 2.6.7 Telephone extension line connected in output of PABX as per label. 2.6.8 Telephone set connected and dial tone checked.
	2.7 Install attendance device	2.7.1 Attendance device checked for physical damage. 2.7.2 Position of device located and marked at 120±10cm height from the floor/base. 2.7.3 Hole drilled on marked place and attendance device firmly fixed in line and level. 2.7.4 Power supply and data cable connected to respective port. 2.7.5 Display and indicator of attendance checked.
	2.8 Install audio device	2.8.1 ***Audio device*** placed on designated location. 2.8.2 ***Audio cable*** and power cable connected to respective terminals of audio device.

		2.8.3 Function of audio device tested.
	2.9 Install Direct To Home (DTH) device	2.9.1 Dish location identified and marked for installation. 2.9.2 Hole drilled on marked place. 2.9.3 Stand firmly fixed on marked place in line and level. 2.9.4 Reflector and Low Noise Block downconverter (LNB) fitted in sequence. 2.9.5 Angle and polarization adjusted as per satellite. 2.9.6 Coaxial cable connected to respective terminals and receiver. 2.9.7 Function of DTH checked.
	2.10 Perform site clearance	2.10.1 Remaining materials stored at designated location. 2.10.2 Tools and equipment cleaned and stored at designated location. 2.10.3 Work site cleaned and waste disposed as per ***3R's principle*** at designated location.
6	**Task Performance Requirements (Tools, Equipment, and Materials):** • Screw, nail, grip, hand drill machine, cable clamps, DTH devices, speaker, mixture, amplifier, microphone, attendance device, PABX, telephone set, networking switch, cabinet, LED display board, CCTV camera, DVR/NVR, power supply (SMPS), electronic door lock, measuring tape, multi-meter, cable tester, satellite finder, wrench, plier, screwdriver, hammer, wire stripper, wire cutter, cable tonner, crimping tools, hand grinder, cable knife, scissor, crone puncher, Allen key, hacksaw, ladder, tweezer, spirit level, cable clip, cable tie, audio cables, USB cable, OTG cables, UTP cable, coaxial cable, RJ11 plug, RJ 45 plug, patch cable, binding wire, PVC copper wire, connector, PVC box, insulation tape, bulb holder, VGA/HDMI cable, extension cord, marker, broom, dustbin and Personal Protective Equipment (PPE).	

7	**Safety and Hygiene (Occupational Health and Safety):** • Use personal protective equipment. • Safe handling of materials, tools and equipment. • Hazards involved in lifting tools, equipment and materials. • Prevent from electrical hazards.

8	Required Knowledge		
	Technical Knowledge	**Applied Calculation**	**Graphical Information**

	• Tools and equipment:
	  ○ Types
	  ○ Uses
	  ○ Safe handling
	• CCTV camera
	  ○ Introduction
	  ○ Types
	  ○ Use
	  ○ CCTV accessories
	  ○ Connection procedure
	• Light Emitting Diode (LED) board
	  ○ Introduction
	  ○ Types
	  ○ Use
	  ○ Connection procedure
	• Electronic door lock
	  ○ Introduction
	  ○ Types
		• Perform four basic mathematical calculation	• Read and interpret instruction manual.
			• Read and interpret layout diagram.

	○ Use ○ Accessories ○ Connection procedure • Network switch ○ Introduction ○ Types ○ Use • Private Automated Branch Exchange (PABX) ○ Introduction ○ Types ○ Use ○ Accessories ○ Connection procedure • Attendance device ○ Introduction ○ Types ○ Use ○ Connection procedure • Audio device ○ Introduction ○ Types		

	○ Use ○ Accessories ○ Connection procedure • Direct To Home (DTH) device ○ Introduction ○ Types ○ Use ○ Satellite location ○ Connection procedure • Waste management • Occupational Health and safety		

9	**Assessment of Competency**					
	Unit: 2 **Unit Title: Install low voltage electronic devices**					
	Candidate Details		**Assessors Detail**			
	Candidate's Name: Registration Number: Symbol No: Test Centre: Test Date:		Assessors' Name 1. 2. 3.		ID/License No:	
Element of competency	**Performance Standards**		**Standard Met**	**Standard Not Met**	**Evidence Type**	**Comments**
2.1 Prepare tools, equipment and materials	2.1.1 ***Personal protective equipment*** (PPE) used in accordance with task requirements. 2.1.2 Tools and equipment collected and checked for working conditions in accordance with task requirements. 2.1.3 Materials collected and prepared in accordance with task requirements.					
2.2 Install CCTV camera	2.2.1 ***CCTV camera*** selected and checked for physical damage. 2.2.2 Ceiling/wall clearly marked as per layout diagram. 2.2.3 Hole drilled on marked place.					

	2.2.4 CCTV camera firmly fixed as per manufacturer's instruction on marked place. 2.2.5 ***Connector*** tightly connected on respective ports of CCTV camera. 2.2.6 CCTV camera ports and power supply connected to respective ports of Digital Video Recorder (DVR)/Network Video Recorder (NVR).				
2.3 Install Digital Light Emitting Diode (LED) board	2.3.1 Frame installed on marked location. 2.3.2 Digital LED board checked for physical damage. 2.3.3 Individual LED panel mounted on installed frame and connected as per connection diagram. 2.3.4 Power supply and data cable securely connected to respective terminals of LED board. 2.3.5 Display of LED board checked.				
2.4 Install electronic door lock system	2.4.1 Position of door lock located and marked as per layout diagram. 2.4.2 Hole drilled on marked place. 2.4.3 Door lock mounted and firmly fixed. 2.4.4 Power and control cable/wires tightly connected with control panel and door lock. 2.4.5 Electronic door lock checked for normal operation.				

2.5 Install network cabinet and switch	2.5.1 Cabinet checked for physical damage and fixed on marked location. 2.5.2 Network switch fixed in line and level. 2.5.3 Power socket installed and connected to network devices. 2.5.4 Network cable connected to network switch as per label.				
2.6 Install Private Automated Branch Exchange (PABX)	2.6.1 PABX checked for physical damage. 2.6.2 Position of PABX located and marked as per layout diagram. 2.6.3 Hole drilled on marked place. 2.6.4 PABX fixed on marked place in line and level. 2.6.5 AC supply connected and power indicator checked on PABX. 2.6.6 Telecom supply connected in Co-line of PABX 2.6.7 Telephone extension line connected in output of PABX as per label. 2.6.8 Telephone set connected and dial tone checked.				
2.7 Install attendance device	2.7.1 Attendance device checked for physical damage. 2.7.2 Position of device located and marked at 120±10cm height from the floor/base.				

	2.7.3 Hole drilled on marked place and attendance device firmly fixed in line and level. 2.7.4 Power supply and data cable connected to respective port. 2.6.1 Display and indicator of attendance checked.				
2.8 Install audio device	2.8.1 ***Audio device*** placed on designated location. 2.8.2 ***Audio cable*** and power cable connected to respective terminals of audio device. 2.8.3 Function of audio device tested.				
2.9 Install Direct To Home (DTH) device	2.9.1 Dish location identified and marked for installation. 2.9.2 Hole drilled on marked place. 2.9.3 Stand firmly fixed on marked place in line and level. 2.9.4 Reflector and Low Noise Block downconverter (LNB) fitted in sequence. 2.9.5 Angle and polarization adjusted as per satellite. 2.9.6 Coaxial cable connected to respective terminals and receiver. 2.9.7 Function of DTH checked.				
2.10 Perform site clearance	2.10.1 Remaining materials stored at designated location. 2.10.2 Tools and equipment cleaned and stored at designated location.				

	2.10.3 Work site cleaned and waste disposed as per ***3R's principle*** at designated location.				

WT- Written Test **OQ**- Oral Question **PT-** Practical Test **DO** – Direct Observation **SR**- Supervisor's report **SN**–Simulation

RP- Role Play **PG –**Photographs **VD**- Video **CT** – Certificates **TS** – Testimonials (Reward) **PP** – Product Produced

CS – Case Study

Range Statement

Variable	Range
Personal protective equipment	*May include but not limited to:* • Helmet • Apron/Protective Jacket • Mask • Goggles • Gloves • Protective shoes • Safety belt
CCTV camera	*May include but not limited to:* • Analog camera • Internet Protocol (IP) camera • Wireless camera
Connector	*May include but not limited to:* • DC Jack • Audio jack • BNC • RJ 45 plug

Audio device	*May include but not limited to:* • Speaker • Amplifier • Mixture • Microphone
Audio cable	*May include but not limited to:* • Speaker cable • Microphone cable • Shield wire cable
3R's principle	*May include but not limited to:* • Reduce • Recycle • Reuse