

-SQA-SCOTTISH QUALIFICATIONS AUTHORITY

HIGHER NATIONAL UNIT SPECIFICATION

GENERAL INFORMATION

-Unit number-	D7YN 04
-Unit title-	CCTV CONTROL EQUIPMENT
-Superclass category-	QH
-Date of publication- (month and year)	JANUARY 2002
-Originating centre for unit-	SQA

-DESCRIPTION-

GENERAL COMPETENCE FOR UNIT: Developing knowledge and understanding of CCTV Control Equipment in the Security Industry.

OUTCOMES:

1. describe types and methods of video switching;
2. describe types and practically demonstrate methods of control line switching.

CREDIT VALUE: 1 HN Credit.

ACCESS STATEMENT: Access to this unit is at the discretion of the centre. However, it would be beneficial if the candidate has completed Introduction to the Security Industry CCTV unit and prior knowledge of Electrical/Electronic Principles and Components.

Additional copies of this unit can be obtained from:

The Committee and Administration Unit, SQA, Hanover House, 24 Douglas Street, Glasgow G2 7NQ, (Tel: 0141-242 2168).

At the time of publication the cost is £2.50 per unit (minimum order £5.00).

HIGHER NATIONAL UNIT SPECIFICATION**STATEMENT OF STANDARDS**

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Acceptable performance in this Unit will be the satisfactory achievement of the standards set out in this part of the specification. All sections of the statement of standards are mandatory and cannot be altered without reference to SQA.

OUTCOME**1. DESCRIBE TYPES AND METHODS OF VIDEO SWITCHING****PERFORMANCE CRITERIA**

- (a) Describe the types of video switching listed in the range.
- (b) Identify the effect of switching between “unlocked” cameras.
- (c) Describe how video signals can be locked or timed to overcome the effects in (b) above.
- (d) Describe the methods by which video signals from various sources may be multiplexed on to a single video-recording device.
- (e) Identify the use of a personal computer to control a CCTV system.

RANGE STATEMENT

Matrix switching, manual switching, automatic switching.
Genlock, mains locked, crystal controlled, phase shifting.
Terminals, Health and Safety, video printers.

EVIDENCE REQUIREMENTS

Written and/or oral evidence of the candidate’s ability to explain the features for all performance criteria and the range.

OUTCOME**2. DESCRIBE TYPES AND PRACTICALLY DEMONSTRATE METHODS OF CONTROL LINE SWITCHING****PERFORMANCE CRITERIA**

- (a) Describe the types of control line switching listed under technology.
- (b) Describe the methods of switching in control functions to appropriate camera positions.

- (c) Configure a typical matrix system with 4 or more cameras and present a practical demonstration.
- (d) Practically demonstration the ability to configure a system with telemetry control of PTZ unit.

RANGE STATEMENT

Matrix switching, manual switching, automatic switching.
Genlock, mains locked, crystal controlled, phase shifting.
Control switching: direct wired, relay interface, telemetry.
RS232, RS422, RS485. Simplex, half and full duplex.

EVIDENCE REQUIREMENTS

Practical demonstration of ability to configure a typical matrix system with 4 or more cameras. Practical demonstration of ability to configure a system with telemetry control of PTZ unit. PCs (c) and (d).

Written and/or oral evidence for PCs (a) and (b) which satisfies all the performance criteria and covers the range.

MERIT STATEMENT: To gain a pass in this unit, a candidate must meet the standards set out in the outcomes, performance criteria, range statements and evidence requirements.

To achieve a merit in this unit, a candidate must demonstrate a superior or more sophisticated level of performance. In this unit this might be shown in the following ways:

- (i) Working independently with minimum supervision by relating theory to practice.
- (ii) Demonstrating systems capabilities using computer control facilities.

ASSESSMENT

In order to achieve this unit, candidates are required to present sufficient evidence that they have met all the performance criteria for each outcome within the range specified. Details of these requirements are given for each outcome. The assessment instruments used should follow the general guidance offered by the Scottish Qualifications Authority (SQA) assessment model and an integrative approach to assessment is encouraged. (See references at the end of support notes).

Accurate records should be made of the assessment instruments used showing how evidence is generated for each outcome and giving marking schemes and/or checklists, etc. Records of candidates' achievements should be kept. These records will be available for external verification.

SPECIAL NEEDS

Proposals to modify outcomes, range statements or agreed assessment arrangements should be discussed in the first place with the external verifier.

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HIGHER NATIONAL UNIT SPECIFICATION**SUPPORT NOTES**

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SUPPORT NOTES: This part of the unit specification is offered as guidance. None of the sections of the support notes is mandatory.

Outcome 1

The candidate must have an understanding of the different types of system control switching for a CCTV system. The candidate needs to understand the functions of the control equipment and how to identify and resolve problems with switching effects. Candidates should understand the theory of multiplexing and compression of signals (Simplex and Duplex) for storage to tape or digital systems and how these signals can be recovered and displayed.

Outcome 2

Candidate must have an understanding of the functions of control equipment to enable the operation and control of functional cameras, camera selection via different signal methods, as manufacturer's equipment varies in its methods of transmission.

NOTIONAL DESIGN LENGTH: SQA allocates a notional design length to a unit on the basis of time estimated for achievement of the stated standards by a candidate whose starting point is as described in the access statement. The notional design length for this unit is 40 hours. The use of notional design length for programme design and timetabling is advisory only.

PURPOSE SQA published summaries of HN units for easy reference, publicity purposes, centre handbooks, etc. The summary statement for this unit is as follows:

On completion of this module, the candidate will have a good knowledge of the Security Industry CCTV Sector.

RECOGNITION This unit has been developed in conjunction with SQA and the unit has the full support of the Security Industry, as forming part of the underpinning knowledge component for the Security Industry PDA in CCTV.

Many SQA HN units are recognised for entry/recruitment purposes. For up-to-date information see the SQA guide 'Recognised Groupings of Higher National Certificate Modules'.

REFERENCES

1. Guide to unit writing, SQA, 1993 (Code: A018).
2. Guide to assessment, SQA, 1993 (Code: B005).
3. Guide to certification, SQA, 1996 (Code: F025).
4. Notes for unit writers, SQA, 1995 (Code: A041).

For details of other SQA publications, please contact staff in the Sales and Despatch section (Tel: 0141-242 2168) who can supply you with a copy of the publication list (Code: X037).

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