



CCTV Systems within Licensed Premises

Operational Requirements (O.R)

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1.0 Introduction

Cheshire Constabulary recognises and supports the effective use of CCTV technology in preventing and detecting criminal behaviour and providing good quality images that can be later used for investigation purposes.

The majority of towns and city centres in Cheshire are monitored and protected by the Police and Local Authority (Crime and Disorder Partnerships) CCTV public surveillance systems, however many incidences of alcohol related offences occur in and around licensed premises.

Alcohol-fuelled violence is on the increase and with crime figures showing almost half of all violent crime being carried out by people under the influence of alcohol and approximately 70 per cent of weekend A&E admissions being drink-related then it is imperative that managers and designated supervisors of licensed premises consider their obligations to providing a safe drinking venue.

The purpose of this guidance document is to assist in providing technical advice and guidance to managers and supervisors of licensed premises when purchasing, specifying or installing a CCTV system.

The primary objectives of installing a CCTV system within licensed premises are:

- To seek to influence behaviour of patrons.
- To prevent or detect underage alcohol sales.
- To protect staff and property.
- To assist with good management practices.
- Where necessary, to provide unequivocal evidence of an incident to assist subsequent prosecution.

The following guidance also seeks to assist the manager in the CCTV procurement process. It provides a checklist of criteria, which is required for the specification of an effective CCTV system and has been produced in accordance with the advice provided by the Police Scientific Development Branch (PSDB).

Proposed CCTV installations for licensed premises in Cheshire, Halton and Warrington are advised to consult with the Force Architectural/CCTV Liaison Officer on 01244-61-4567 or the local Crime Reduction advisor **prior to installation** to ensure that they comply with the requirements of this guidance document. The advice and support is provided free of charge.

2.0 Common problems associated with CCTV recorded images.

Here are some examples of faults often found with poor quality systems: -

- a) The subject is too small and it is out of focus.
- b) The images of moving subjects are blurred and contain no detail.
- c) Cameras are sited in the wrong place or are not pointed in the right direction.
- d) There is insufficient light or too much glare on the subject.
- e) The digital recorder was not working.
- f) The digital recorder did not have a large enough hard drive to record all cameras over a 21-day period.
- g) The system has never been maintained and quality checks have never been carried out.

3.0 Operational Requirement Analysis

What is an Operational Requirement?

“A statement of needs based on a thorough and systematic assessment of the problems to be solved and the hoped for solutions.”

In its simplest form an Operational Requirement (O.R.) makes the reader ask a series of simple questions:

- Why am I installing a CCTV system?
- What do I want it to do?
- Where should I install cameras?
- How should I record the images?
- Is the digital video recorder capable of retaining images for 21 days?
- Will it provide adequate images for investigative purposes?

When a client contracts an installer to design a CCTV system the installer will require certain information to enable them to create the specification for an effective system.

It is unlikely that you as the client will have sufficient technological knowledge to specify which equipment is required.

The use of an O.R. approach simplifies the process and reduces the opportunities for confusion which may lead to a non-compliant installation.

The O.R. should answer the following questions:

Who and/or where is to be observed?

- Who - Patrons and/or staff
- Where - Areas of Interest
 - Staircase for Health and Safety purposes (prevent litigation)
 - Main Entrance
 - Till / Bar area – Overt and/or Covert cameras (integrated cash register CCTV transactions)
 - Areas out of view from the bar area
 - Area outside Toilets
 - Cash Machine / Gambling Machines
 - Office / Storage
 - Car Park

Which activities are of concern?

- Incidents of disorder
- Assaults
- Theft of property
- Damage to property
- Dealing of drugs
- Drug abuse
- Suspicious actions

Why are the activities being observed?

- To monitor behaviour
- To recognise and identify offenders
- To produce physical evidence of incidents which may subsequently be used in Court

Picture quality

The quality of images recorded is of paramount importance. They should therefore:

- Clearly show actions of persons involved in an incident
- Give evidence of identity of offenders
- Show an overall view of the scene (show possible witnesses)
- Confirm date and time of incident

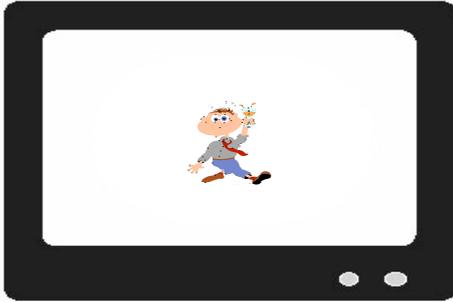
Digital Video Recorder Specification

- What is the size of the harddrive?
- Is it capable of doing what I ask?
- Can I download evidential images onto a removable medium e.g CD-R.

Page 13 of this document can be used as a template for recording your O.R.

4.0 Images

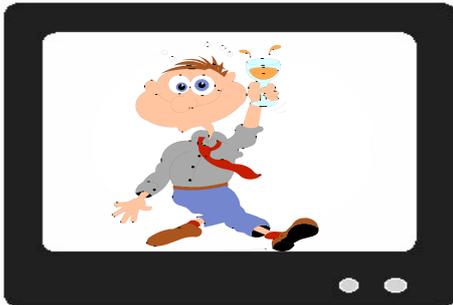
There are four image standards:



Monitor



Detect



Recognition



Identification

The quantity and location of cameras will be site specific. They must meet the requirements identified within the O.R. procedure.

All cameras must produce colour images to enable accurate identification of offenders.

All external public access doors must be fitted with cameras, which enable clear, unobstructed images of all persons entering/exiting the premises.

Where practicable, these cameras should be mounted internally. Such cameras must be mounted at a suitable height - looking towards, rather than down at the doorway.

CCTV Cameras are susceptible to interference and vandalism and should therefore be fitted with robust anti-tamper housings to prevent such actions.

Cheshire Constabulary would recommend that a drawing be used to plan on the location of each camera. The performance requirements for each camera should also be presented to the installer as per the O.R on page 13.

5.0 Monitors

A colour monitor must be provided with the system to view recorded images. This monitor must be located in a secure location so that unauthorised personnel cannot view it.

However, consideration should also be given to having monitors located behind the bar area so that vulnerable areas can be observed e.g. upstairs, behind recesses.

Cheshire Constabulary recommends that some premises install a 'deterrent' monitor in the vicinity of the main entrance public access doorway(s). This monitor should display images produced by the camera covering the said doorway. It **must not** display images produced by any other camera located within the premises. Patrons entering the premises will then be made aware of the quality of the images and the fact that their images are being recorded thus enhancing the systems potential deterrent value.

6.0 Image Retention

The Data Protection Legislation states that images should be kept for no longer than is necessary. Cheshire Constabulary recommends that images for the purposes of prevention and detection of crime in Licensed Premises should be **retained for at least 21 days on a digital system and 31 days on a video tape (analogue) system.**

The frame rate (compression type) should include **6 frames per second per camera and more than 12 frames per second at the camera located at the main entrance.**

Managers of licensed premises may determine that in accordance with the Data Protection Act, their images, for the purposes of Health and Safety and Good Management be retained for longer than the 21-day period. Managers may decide to increase the retention period over the 21-day police preferred period so that claims for injuries associated within licensed premises can be reduced.

Managers of licensed premises have used recorded images as a valuable source of evidence to prevent litigation and prove that the injury was not sustained and caused in their premises. The images may also be used to show any witnesses at the scene of the accident.

Ultimately, it is up to the manager (Data Controller) of the premises and the CCTV system to determine how long they need to store images for the purposes in which it was intended.

Some facts that you may find useful includes: -

- ❑ Digital storage is much more expensive than conventional Super VHS for the same picture quality.
- ❑ To meet the requirement for storing 31 days of digital pictures, excessive data compression is used to minimise the size of the digital recorder and reduce the capital cost. Compression techniques can compromise image quality.
- ❑ DVR's can have a huge storage capacity and so eliminate the need to frequently change tapes.

- ❑ Cheshire Constabulary guidance is 21 days of good digital evidential picture rather than 31 days of poor picture quality (low resolution, low frame rate and small hard drive).

7.0 Digital Video Recording Systems (DVR).

The majority of Digital Recording CCTV systems record images onto a computer hard-drive. If such a system is installed it **must** incorporate a means of transferring images from the hard-drive to a format that can be used as evidence in Court. This can be achieved by transferring images to a Compact Recordable Disk or Digital Versatile Disk (CD-R or DVD-R). CD-R and DVD-R are often referred to as a WORM medium (Write Once Read Many).

The software required for viewing proprietary recorded formats must also be made available to the investigating officer, together with the recorded images so that the images can be replayed on a standard windows operating system. It is therefore advisable that any replay software required is automatically copied onto the WORM recording to enable the correct viewing of the file.

In order to ensure that your digital recorder has the capability to record your Operational Requirements and provide good picture quality then you should consider the following requirements: -

- ❑ How many cameras are recorded?
- ❑ What is the frame rate per camera? e.g. 6 or 12(frames) frames per second per camera.
- ❑ All DVR's have a maximum frame rate. This simply refers to the maximum number of frames that a DVR can record in one second at any one time. For example: a four camera DVR with a maximum frame rate of 50 frames per second (fps) can record at up to 50fps. If all four cameras are set to their maximum recording rate this will achieve $(50/4)$ 12.5fps per camera. Television is displayed at approximately 25 fps.
- ❑ The frame rate that is right for you depends on your needs, for example if you are just counting bodies then 1fps will be plenty. On the other hand if you wish to catch people stealing small items from a shop or monitor the movement of people then 6fps will normally be enough.

More advanced DVR's will automatically increase the fps rate on a camera where motion has been detected, providing more footage on an event.

- ❑ What is the retention period? e.g. 21 days or 31 days
- ❑ How many hours do you need to record? e.g. 6, 12 or 24 hours
- ❑ How will you present evidential video footage from the DVR to Cheshire Constabulary? The best DVR's come with a built-in CD writer or the ability to download large video and audio files onto a memory stick.

- What does the DVR do if there is a powercut? Although some DVR's will switch off when there is a powercut, more sophisticated DVR's will come with a built in UPS (Uninterrupted Power Supply) and all settings will remain programmed.
- What are the different resolutions on a DVR? Most DVR's have different resolution options such as 1024 x 768, 720 x 586, 640 x 480 or 320 x 240. The numbers simply represent the number of pixels in the picture (length x height). Higher numbers of pixels means higher clarity on the picture. However, higher numbers of pixels also take up more hard disk space. Cheshire Constabulary recommends that medium to high picture resolution is used as per the PC industry standards. e.g. 1024 x 768

8.0 Image Integrity

The integrity of images removed from a hard-drive for evidential purposes is vital. They must be protected at the earliest opportunity to reduce opportunities for challenges in Court. Accidental alteration or erasure can be prevented by designating the image file as read only. The image file should be transferred to WORM (Write Once Read Many times) media such as a CD-R disc. CD-R must be 'finalised' 'closed' in the CD-writer before the disc is removed; otherwise the image file may not be viewable.

9.0 Security of Equipment

The monitor and recording equipment should be located in a secure room. Where this is not practicable, the recording equipment must be stored in a secure cabinet to prevent unauthorised access, tampering, or removal of images.

10.0 Lighting

Lighting schemes must take into consideration the following factors which will dramatically reduce the quality of images recorded:

- Excessive shadows
- Glare into the lens
- Back-lighting
- External lighting

Steps must be taken to eliminate or reduce the impact of such factors.

Particular attention must be given to lighting in the area of public access doors. The lighting must produce 'white light' to enable clear images and accurate colour rendition.

The fields of view of **all** cameras must be sufficiently well lit to enable them to operate as required under normal working conditions.

11.0 Signage

A4 size advisory CCTV signage must be erected on the exterior of the building at, and adjacent to, all public access doors. The sign should consist of a camera pictograph and the wording 'CCTV in Operation', the name of the premises, and a contact telephone number.

For Example:



Further A5 repeater signs should be located at strategic locations throughout the premises.

12.0 CCTV and the Data Protection Act 2002

To maintain people's privacy the Data Protection Act 2002 has introduced legally enforceable standards that apply to the collection and processing of CCTV images relating to individuals. These standards are designed to inform operators of CCTV systems to understand their legal obligations while also reassuring the public about the safeguards that should be in place.

The Information Commissioner has produced guidance in relation to how the Act should be interpreted, including advice on the required signage.

For further information please refer to the CCTV Code of Practice – July 2000 telephone 01625-545740 or access their website on www.dataprotection.gov.uk.

13.0 Installation

All electrical installation works must be carried out to 16th edition IEE Wiring Regulations BS7671: 2001, and current revisions. A Minor Works certificate for design, construction, inspection and testing must be provided before completion. The contractor will need to satisfy themselves that existing electrical circuits comply with the current 16th edition electrical regulations before commencing the installation.

14.0 Procurement / Commissioning

Once you have determined your O.R for each camera and provided a specification/calculation for your digital recorder we would recommend that you contact at least 3 reputable CCTV installers and compare each tender. (Refer to Page 12 for a full checklist of questions). The National Security Inspectorate (NSI) Body telephone number for approved and accredited CCTV companies is 0870-2050000. N.S.I now supersedes NACOSS and SSAIB.

The complete system must be fully tested, and commissioned in the presence of a representative of the client. The purpose of this test is to determine whether or not the cameras cover the required areas, and if they are capable of providing images to the required standards. An acceptance certificate will need to be signed to prove the installation meets the specification defined. This must be made under the conditions that would be expected during normal operation.

Include a Commissioning Procedure in the contract. Devise a performance test, which will assure you that the installed system satisfies your Operational Requirement. Include in the contract a sum of money, say 15% of contract value, which is only paid to the contractor on satisfactory completion of commissioning tests.

A suitably qualified company should be engaged to design and install the system to ensure compliance.

15.0 Training/ System Management

As part of the commissioning procedure the installer must train the client, or the client's representative, to operate the system and associated equipment effectively. The training should include the provision of user manuals, all relevant handbooks, and technical data. Two full workshop manuals should be provided. A separate operator's manual should be provided for system users.

The client must appoint a trained Data Controller who will be responsible for the general administration, operation, maintenance and supervision of the system.

All users must be fully trained in the operation of the system and be made aware of their general legal responsibilities.

An operations manual and code of practice must be produced to cover staff training, fault reporting, maintenance, management and evidence handling procedures. The management section should identify the person responsible for the system and daily checking.

16.0 Service / Maintenance Support

The system must be regularly serviced by qualified operatives to ensure that the quality of images are maintained. Cheshire Constabulary would recommend that managers keep an original recording on a CD-R as a benchmark for quality.

The maintenance schedule should include: -

- Periodic full system tests to measure performance against set criteria.
- Confirmation of correct operation of equipment
- Inspection and cleansing of cameras

17.0 Crime Reduction Initiatives.

Cheshire Constabulary would also like to draw to your attention other initiatives that are relevant to licensing. Whilst CCTV is an effective tool in the fight against crime it has to be considered as part of a package of other crime reduction initiatives.

- Night/City-safe schemes.
- Crystal Clear Initiatives.
- Proof of age schemes.
- Door Supervisors Licensing Scheme (Security Industry Association Licensing).
- CCTV coverage of town centres.
- Exclusion Orders from Town Centres.
- Safer Clubbing Guide.
- Licensed property: Secured By Design Award scheme.
- Safer Transport Schemes.
- Pubwatch Scheme.
- Radio/Communication schemes.

Cheshire Constabulary would encourage managers of licensed premises to actively work in partnership with their respective Crime and Disorder Partnership working groups to combat the problems of alcohol fuelled violence.

18.0 Cheshire Constabulary CCTV Summary Checklist

- Complete the OR Checklist as provided on Page 13 for each camera.

- ❑ Plot on a detailed drawing the proposed location of each camera.
- ❑ Install ant-vandal colour cameras. Cameras to record at a minimum of 6fps per camera.
- ❑ All external access doors to be covered by CCTV at Recognition / Identification standard.
- ❑ 2 or 3 monitors to be installed. 1st monitor located with the DVR. 2nd monitor as a “deterrent” at the main entrance and a 3rd monitor located behind the bar area to observe vulnerable areas.
- ❑ Ensure that images are retained on the digital recorder for at least 21 days.
- ❑ Digital Recorder to have a minimum specification as indicated on Page 7 and 8.
 - ❑ 24 hours recording.
 - ❑ CD-writer
 - ❑ Uninterrupted Power Supply (UPS) built in.
 - ❑ Resolution to be medium to high resolution (640 x 480 pixels) minimum.
- ❑ Equipment stored in a secure location.
- ❑ White lighting to be designed and installed to compliment CCTV images.
- ❑ Signage to be erected in strategic positions.
- ❑ Register the system with the Information Commissioner (Data Protection Act).
- ❑ Provide your O.R`'s (Page 13) and DVR specification to at least 3 CCTV installers.
- ❑ Ensure that the 2 or 3 manager(s) are fully trained on the recording equipment (playback).
- ❑ Keep an original recording of all cameras at different operating hours of the day.
- ❑ Keep a logbook of all crime incidents including details of the reporting officer and crime number.
- ❑ Contact your local Crime and Disorder Partnership regarding other crime reduction initiatives.

CCTV Operational Requirement	<h1 style="margin: 0;">Checklist</h1>
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Highlight as appropriate

Premises		Date	
		Sheet/ Camera No.	
Location within premises	External	Main Entrance	Internal – Area? Bar Area
Who/What/Where is to be observed			
Which activity is to be observed			
Why is the activity being observed			
Likelihood of an activity occurring - frequency	High	Medium	Low
Picture quality to be achieved	50%R Recognition		120%R Identification
Lighting conditions under which camera(s) needs to be effective?	Natural	Artificial	Both
	White Light Requirement? <small>(Public Access Doorway)</small>		Y/N
	Comment		
Notes			
Recording System?			
Record of Incident? Officer details? CD-R provided? Date of Maintenance? Date of quality check?			

N.B. A checklist should be used for each camera or location within the premises.