

## **Domestic use of CCTV**

### **Is it worth getting CCTV at home?**

It has been estimated that there is one CCTV camera for every 32 people in the UK.

Since CCTV became an option for premises protection, certain sections of the security industry have hailed CCTV as the great solution to crime and disorder.

However, despite the proliferation of systems in this country over the past few decades, there has been no equivalent reduction in the crime types that CCTV protect us from.

Furthermore, even the most sophisticated CCTV can be defeated by an offender wearing a hat, mask or hood!

CCTV can have value, but only as part of a multi-layered security system.

It is important to remember the primary difference between CCTV in commercial and domestic settings. Many large commercial systems are monitored with a staff member watching the footage, allowing for an immediate response to incidents.

Domestic systems are rarely monitored so the response will occur retrospectively often many hours later. However, some technologies are available that deliver an immediate response in the domestic setting.

Prior to considering an investment in CCTV, householders should improve existing areas of home security such as an intruder alarm and locks for doors and windows.

### **Planning Permission**

Some external CCTV cameras may require planning permission (this will differ dependent on the Local Authority area you live in. Before installation, it is worth checking with your local planning department.

If you do require planning permission, it's prudent to discuss your plans with neighbours before submitting an application to reduce the chances of them raising objections.

### **Dummy CCTV**

Some people like to save money by installing 'dummy' CCTV cameras that give the appearance of a functioning, CCTV system that is recording but in reality, are empty boxes that look like working cameras.

Dummy cameras are indistinguishable from real cameras and some even have blinking lights attached to give the impression the camera is 'recording'.

Whilst an attractive, low cost option. Experience shows that offenders will 'test' CCTV systems and when nothing happens, ignore the 'cameras' and commit the intended offence.

As a result, we do not recommend the use of dummy CCTV.

### **What will the CCTV be for?**

This may seem like a redundant question, as your answer would be "to stop my home being targeted by criminals", or "to catch offenders on my property"!

However, this is the first question we ask as different crime types demand differing CCTV deployment. It is important to consider what you want your CCTV to do.

Options may include:

- Deterring and detecting burglars.
- Protecting vehicles on the premise.
- Deterring and detecting people causing ASB against the property.
- Gaining evidence of someone committing harassment or stalking offences.
- Identifying con artists visiting the home.

### **CCTV image storage**

All CCTV systems store images digitally, either on a physical hard-drive or with cloud based data storage.

Data storage is often the most costly part of a CCTV system with some installers convincing owners to purchase storage of a far higher capacity than is required.

There are some simple measures that can be taken to reduce the amount of data storage:

Frame Rates: This is the number of images that are recorded by the camera on the data storage device and is measured in frames per second (fps). The frame rate can be adjusted on most CCTV systems. The lower the frame rate, the less data storage is required (the images take up less room).

To provide perspective, since 1936 the BBC have broadcast at a rate of 25 fps and still do today for regular programming. In the cinema, films are projected at 24fps.

Another aspect to consider is the frame rate that the human eye (and brain) can perceive. The author has found a frame rate of 7.5 fps to be enough to still perceive all detail. Anecdotally, there is little visual difference between this and 25 fps.

To determine the ideal frame rate for yourself, search 'CCTV frame rate comparison' on YouTube. You will find that a comfortable frame rate for security purposes will be much lower than the 30 fps that some CCTV installers consider the industry standard.

Retention of footage: CCTV systems can be adjusted to vary the period of time that images are kept on the system before they are overwritten with newly recorded footage.

The shorter period that images are retained, the less data storage is required.

There is no legal time limit for keeping footage for domestic CCTV systems.

The usual period of retention for commercial systems registered with the Information Commissioners Office is 28 days. Pragmatically, this covers a number of delays that can occur between incidents being reported to the police, and an investigating officer attending to view CCTV.

Regardless of the retention period selected, all system owners are strongly encouraged to burn a copy of all footage to disc as soon as possible after the incident. The following should be included:

- A copy of viewing software included on the disc.
- A note of the time and date that the footage was burned to disc.
- The crime reference number.

Detection and camera activation: It is possible to configure CCTV systems so that they only record when there is a need, such as an intruder strays within range of a camera.

As the system will not be recording constantly, data storage requirements of the system will be greatly reduced.

### **Wired vs Wireless CCTV**

The decision to use wired CCTV (cameras attached by data cables to the image storage device), or wireless (connected by wi-fi) will be different for each household dependant on individual needs and advice from an accredited installer.

#### Wired CCTV

- Hardware is generally cheaper than wireless systems (this does not include any installation costs).
- No risk of signal interference.
- Unable to be remotely infiltrated (hacked).
- Installation will require holes to be drilled, and cables installed in your home.

#### Wireless CCTV

- 'Plug and play' installation.
- No intrusive installation (drilling) in your home.
- Option of for remote monitoring via mobile phone or tablet.
- Vulnerable to signal interference.
- Hardware more costly than wired system.

- Possible vulnerability of remote infiltration (although this is considered unlikely).

## Recording at night

The majority of CCTV cameras will provide an image in low or zero light conditions. However, the quality of a night-time image does vary as can be seen below:



This image demonstrates how poor quality zero light footage can make offender identification challenging. Whilst systems with improved capabilities are available, they are likely to be more expensive.

## Lighting

When CCTV cameras record in low or zero light conditions, the location, brightness, and colour of nearby lighting such as streetlamps; security lights; celebratory decoration lights; and passing vehicle headlights can all affect the quality of images recorded.

When installing CCTV, it is important to view images at night before confirming camera placement.

In some circumstances, lighting will need to be removed or added to accommodate the installation of CCTV.

## Common myths about Domestic CCTV

- CCTV is a single purchase: Most CCTV systems will benefit from annual servicing by an accredited contractor. Both cameras and storage system may require replacement during the lifetime of the system.

- *I can record what people are saying on CCTV:* Although many CCTV systems have an audio recording facility, in almost all cases, audio recording is considered legally intrusive. Domestic CCTV users are strongly advised to disable this function.
- *I have to be aware of the Human Rights Act in relation to CCTV:* The Human Rights Act 1998 (HRA) applies only to statutory government agencies such as the police. Owners of domestic CCTV are not covered by the provisions and requirements of the HRA.

The police have allowances under the DPA to use and distribute CCTV footage to the public.

If you have footage of criminal activity, report it immediately to the police and retain the footage for them to collect during the investigation.

- *I can direct my cameras onto the pavement outside my house:* Whilst it is not illegal to direct your cameras onto public areas, you and your CCTV system will become subject to the provisions of the Data Protection Act 1998 (DPA) and be legally required to undertake the following:
  - Register your system with the Information Commissioners Office (ICO).
  - Justify your directing camera(s) into public areas with the ICO, and seek their permission to do so.
  - Display clear signage advising the public of the presence of CCTV.
  - Keep a data access log, and system maintenance log.
  - Assess, administer, and respond within a legal time limit to requests for footage.
  - Store footage securely within the requirements of the DPA.
- *I can circulate footage and images from my CCTV on social media:* This would require permission from the ICO. It is also possible that any footage circulated in this manner would be inadmissible (could not be used) as evidence in court.
- *I can direct my cameras into my neighbour's garden:* In the vast majority of cases it will be neither legally proportionate nor justifiable to direct your cameras into your neighbour's property.

Examples of circumstances that **would not** justify directing CCTV at your neighbour's property:

- Next doors children kicking a ball into your garden.
- Neighbour's dog acting in an anti-social or dangerous manner.
- Obtaining evidence as part of a party wall dispute.
- Recording evidence of neighbour's involvement in criminal activity.

If you do, you will be legally subject to the requirements of the DPA (as described above).

Even with the ICO's permission to do this, your neighbours may have grounds to use civil law to sue you for breach of privacy.

Furthermore, any evidence obtained in this manner may be inadmissible in court and would not be allowed to be used in a case.

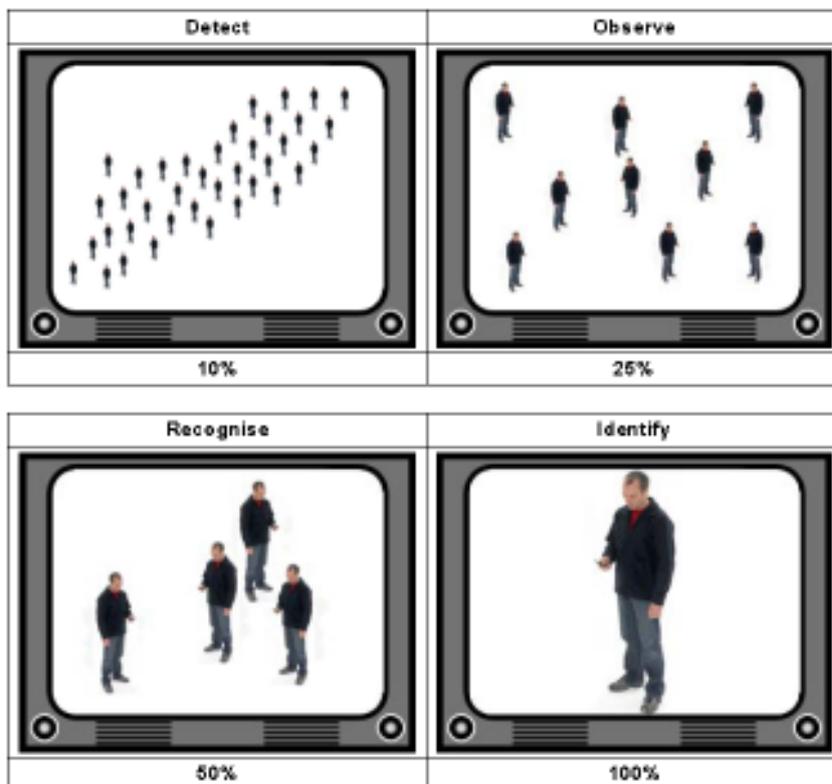
## Image size

This relates to the size of a person or object on the screen when viewing CCTV footage.

As domestic CCTV systems are not monitored, image size cannot be altered during an incident, so it is important to set image size to allow you to determine who is in the footage; but also to be able to see their actions if they are moving around a large area.

An accredited CCTV installer will be able to advise you about this.

Within the criminal justice system of England & Wales, different image sizes within CCTV footage have differing evidential classifications:



The Crown Prosecution Service in some areas of England & Wales require person images to be 120% screen size for identification in court.

## Guidelines for identification



At the time of writing, this is not a requirement in the South West prosecution area, however this is best practice.

### Where do I get a good system from?

There are two primary accreditation bodies for CCTV installers and suppliers in the UK:

- The **Security Systems & Alarms Inspection Board (SSAIB)** whose website can be found at <https://ssaib.org/>
- The **National Security Inspectorate (NSI)** who have a website at <http://www.nsi.org.uk/>

Those looking for a reliable trader for the supply and installation of domestic CCTV are strongly advised to use a company that is accredited by one or both of these schemes.

### New Technology

A number of new products are now available that provide CCTV based home security solutions in affordable packages:

#### Ring Doorbell

The ring device combines a doorbell and covert CCTV camera. When a visitor approaches the doorbell, the camera is activated. The image is then transmitted to the householder's smart phone, and allows a live-time conversation to take place.

Ring transmits using home wi-fi, and is battery powered and so it does not need to be wired, allowing easy installation.

Furthermore with payment of a subscription, the images can be recorded for viewing at a later date.

This device is ideal for reducing crime types such as rogue traders; distraction burglars; stalking; and door related Anti-Social Behaviour.

This device is supported by Crimestoppers and accredited by the police Secured by Design scheme. More details can be found by visiting <https://ring.com>

At the time of writing, it is not known if devices that include a view of a public area (such as the street), will be subject to provisions of the DPA.

### Smart Home Security Devices

Smart Home Security Devices combine CCTV and numerous other features to keep you home safe whilst you are away.

These are designed to be used indoors and have basic 'plug and play' set-up. As they are indoor devices, there is no requirement to meet DPA requirements.

Numerous products are available with a variety of additional functions including:

- Automatic activation / deactivation when homeowner leaves / returns.
- Broadcast of 'domestic noise' to give the illusion of occupancy.
- Differentiation between presence of pets and intruders.
- Live view of camera on smartphone.
- Intruder Alarm.
- Temperature, humidity, and air monitor.
- Cloud based image retention.
- Microphone to shout at intruders.
- Sound detection.

An internet search using the term 'smart indoor camera' will provide a range of products. At the time of writing, this technology is emerging and therefore has not undergone independent testing or accreditation.