WILTON SECURITY SYSTEMS
Electronic Security Specialists

A GUIDE TO

CCTV

WARNING
CCTV in operation.
24hr recording
in progress

HIKVISION
First Choice for Security Professionals

Wilton Security Systems Ltd has been engaged in the installation of electronic security systems for over 25 years.

We are certified as a CCTV installer and Maintainer by the SSAIB

We generally only install CCTV products from HIKVISION, the world's leading manufacturer of CCTV equipment.

As an installer of electronic security systems, we are pleased that CCTV systems have now become affordable for use in your home or business.

That's the good news, but the bad news is that there is now a plethora of CCTV systems available ranging from the D-I-Y systems you can buy from places like Maplin's or online, (mostly Chinese imports) to very sophisticated systems designed for high-risk public spaces etc., which makes it very difficult for you the end customer to decide what is best for you.

You can buy a complete system with a couple of cameras from a retail store for around £400, but as you might expect the equipment, particularly the cameras, will be far inferior to those used in a professionally installed system, in terms of picture resolution, build quality, reliability, low-light capability, resistance to rain etc. etc. etc.

CCTV equipment is one of the few things in life where you can truly say

"You get what you pay for"

Our best advice has and will always be:

Decide how much you want to spend and then get the best
Available equipment for your budget.

CCTV Basics:

Number of cameras and channels

You can in theory have as many cameras as you want on a CCTV system; the limiting factor is the number of channels on your Network Video Recorder. *(Digital Video recorder on Analogue systems).*

They basically come in 4, 8, 16 and 32 channel versions.

Most domestic and small commercial properties normally only need 4 cameras and therefore a 4 channel NVR will be specified.

You really need to ensure that there is sufficient recording capability within your NVR/DVR to allow for prolonged recording of high definition imagery.

The higher the resolution of the camera(s) used, the more 'data' it generates and the more space will be required on the systems hard drive to record and store high definition images.

We would normally recommend and fit 'Super High-Definition' 5 Mega-Pixel(MP) systems as standard, although 4K (8MP) are available.

In order to achieve a 5MP picture on your screen, all parts of the system, Camera's, Recorder and Monitor must be able to handle a 5MP data rate, if you use a 2MP camera on a 5MP monitor you will only get a 2MP image!

Please note: That for Data Protection reasons, the screenshots etc that we have used in this guide are rather old and at only 2MP resolution, are not representative of the quality that you will expect from the latest equivalent cameras. In all cases, the quality will be greater than shown in these examples.

Cameras

There are many different types of camera available, all fitted with Infra-Red for Night applications, the three most common being:

1. Bullet Cameras
   (White or Grey)

2. Dome Cameras

3. Turret Cameras
   (White or Grey)

(Pictures are not to scale)

We find that in most cases, a Turret camera will provide the best aesthetic solution:

(A typical White Finish, Turret camera mounted under an eave)

The main consideration is whether you want them to be very visible to provide a deterrent or whether you want them fitted discreetly.

All of our cameras are designed for external use and have the highest environment rating of 'IP66 or IP67', against water and dust ingress *(Something to consider if looking at cheaper cameras)*

The IP Code, International Protection Marking, IEC standard 60529, sometimes interpreted as 'Ingress Protection Marking', classifies and rates the degree of protection provided against intrusion (body parts such as hands and fingers), dust, accidental contact, and water by mechanical casings and electrical enclosures. It is published by the International Electrotechnical Commission (IEC). The equivalent European standard is EN 60529.

Infrared night vision

You obviously want to use your CCTV system at night. Whilst during the day your cameras will give you a perfect colour picture, Colour cameras cannot work in low-light conditions. Therefore, you will need additional lighting or you can use 'Low-Light' cameras.

Different cameras have different levels of IR illumination, most illuminate up to 40 metres from the Camera, therefore this is another important consideration in camera selection.

<u>All of our camera's come with IR illumination capability.</u>

Note: This is a low-resolution screengrab of a night time image

The following two images are examples of a specific scene view during the day and the night when, despite being pitch black, the infra-red becomes illuminated.

08-01-2013 Thu 01:10:25 PM

08-01-2013 Thu 10:35:39 PM

*Please Note; these are **low resolution** screen grabs from an older system (2013) and not therefore indicative of the quality you would expect from a current 5MP system.*

NVR/DVR capacity

The capacity refers to the amount of storage the NVR/DVR has for saving footage. Like a computer it will be fitted with one or more hard drives. Once the hard drive is full, the oldest files get recorded over, so a larger hard drive allows you to view footage from further back in time.

The higher the resolution of the camera(s) used, the more 'data' it generates and the more space will be required on the systems hard drive to record and store high definition images.

Therefore. the higher capacity of hard drive in your system, the more information you can record in the highest quality, for longer. Extra hard drives can add hundreds of pounds to the cost of a NVR/DVR so a compromise may need to be made.

We would normally recommend 1TB capacity per camera, with a 4-camera system having a 4TB hard drive fitted within the NVR/DVR.

Mobile connectivity

The DVR is able to connect to your home broadband which will enable it to be accessed remotely using a smart phone or computer. This means you can view your system even when you are away.