



WILTON SECURITY SYSTEMS
Electronic Security Specialists

A GUIDE TO CCTV



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 £500, 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.

To enable you to make that informed choice we are going to try and explain the difference between the various types of equipment available and the costs associated with each.

The first thing to consider is the quality of the images you want to obtain.

There are basically three levels of picture quality or 'Resolution' to consider:

1. Standard Definition (SD)
2. High Definition over Co-Axial cable (Often called 'HD TVI or TURBO HD-TVI')
3. High Definition over IP (IP CCTV)

Standard Definition (SD)

This is the cheapest type of CCTV and was until a couple of years ago, the main type of CCTV available. It can only produce a fairly low level of resolution.

HD-TVI over COAX (New for 2018)

Using the same standard COAX cable as a SD system, technology now allows for the transmission of a High-Definition CCTV image to be transmitted over conventional COAX cable.

The system is known as 'Turbo HD-TVI' and features H.265+ compression, which improves encoding efficiency by up to 50% & reduces data storage costs. It also provides 25fps recording at 2MP resolution, with resolution of up to 5MP now being available.

Turbo HD-TVI is the most cost-effective form of High Definition CCTV providing up to 1080p High Definition Imagery. Ideally suited for domestic installations, it is also ideal for use in an upgrade scenario where existing analogue cameras using COAX cabling can be changed without the need to run new cables. Some versions even allow the cameras to be powered using the same single cable going to each camera, saving installation time and meaning no separate power supplies are required. (Power over Coax or POC)

Because TURBO HD-TVI will provide such high-quality resolution and compatible Digital Video Recorders can even allow for remote viewing on a smart phone, this system is the one that we normally specify for domestic premises, unless our client particularly wants a Digital IP based system, which will be more expensive!

IP CCTV

This is now the industry standard for 'Digital' high-definition systems, with multi-Million Pixels definition and new 4K cameras now becoming available.

It uses CAT5 (CAT6) network cable which provides future-proofing to ensure compatibility with future technology but also allows the cameras to be powered using the same single cable going to each camera, saving installation time and meaning no separate power supplies are required.

Our Pricing Strategy

When we undertake a survey of your premises we always try to ascertain your exact requirements. People would always be reluctant, understandably, to tell us what their budget is, so we will, unless told otherwise, quote for what we think is the most appropriate e.g. IP or TURBO HD-TVI

If our quotation comes out at more than you wanted to spend then we may be able to re-quote for a cheaper (lower resolution/quality) system.

Please talk to us, we will always offer a price guarantee on any system we quote for.

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.

It's a false economy to buy cheaper units with smaller hard-drives fitted, but people do, normally because the hard-drives are often the most expensive component of the NVR. *(Remember to compare the size of hard-drive fitted when comparing quotes)*

Cameras

There are many different types of camera available, with the three most common being:

1. Bullet Cameras



2. Dome Cameras



3. Turret Cameras



(Pictures are not to scale)

Our surveyor will advise you on which type of camera is best for you, based on a number of considerations.

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 high 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.

Such cameras have built in Infrared illumination to enable the cameras to work in colour by day and also provide a high-quality image at night or during very low light conditions, albeit they will produce a high-quality monochrome image.



Different cameras have different levels of IR illumination, most illuminate up to 20-40 metres from the Camera, therefore this is another important consideration in camera selection.



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.



*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 a minimum of 1TB capacity per camera, with a 4-camera system having a 4TB hard drive fitted within the NVR/DVR.

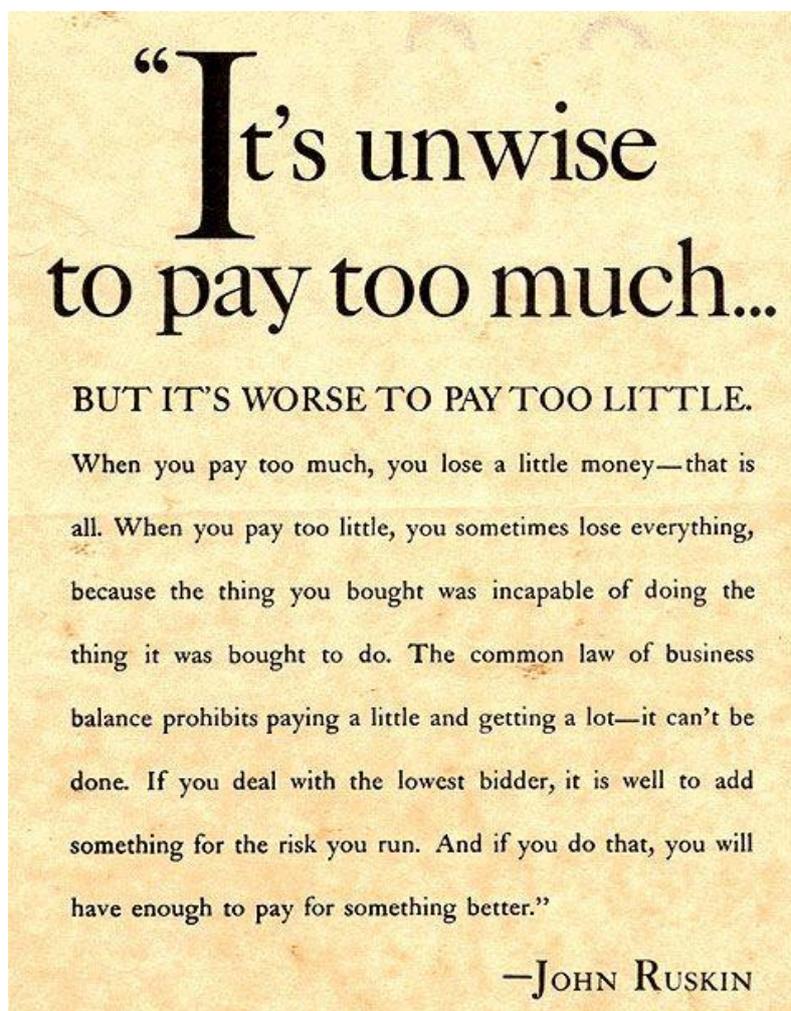
Mobile connectivity

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.



So finally, please remember when comparing quotes, are you really getting like for like or some cheaper alternative!

Therefore, when comparing prices from different potential suppliers you will need to ensure you are truly comparing like for like. It's very easy for a supplier to give you a 'Cheap Quote' but to do this they will be need to be using 'Cheap Equipment'



- Is my installer proposing to use quality equipment from a leading manufacturer?
- Is my installer inspected and Certified by a UK trade body like the SSAIB?
- What size hard drives are fitted in my DVR?
- What is the resolution of my cameras?
- What is the bandwidth of my cameras?
- What is the IP rating of my cameras?
- Are they vandal-proof?
- Can they be easily adjusted/moved by an intruder to avoid being seen?
- Have I been quoted for enough cameras to protect all my property?
- Will the monitor also be High Definition?
- Will my system be neatly installed by an experienced CCTV engineer?
- Does my installer offer a 24-hour emergency call-out service?
- Will my system come with a 1-year warranty against parts and workmanship?
- Can my system be viewed remotely on my smartphone etc?
- Will my installer help set-up my remote access to my system on smartphone etc.?

In providing you with a quote there are, as you will now see, many factors to consider.

The easiest way is to ask us to come and complete a FREE, NO OBLIGATION survey during which we can discuss your requirements and provide you with a detailed and comprehensive quotation to accompany our proposals.



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