

CCTV SYSTEMS

Buyers Guide 2016

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CCTV SYSTEMS – AN INTRODUCTION

Closed-circuit television (CCTV) systems are valuable tools to have in many different settings. The peace of mind that they can offer to a home or business owner is immeasurable. One of the most important things to keep in mind when purchasing a system is to make sure that you get the best one for the job required. Choosing the right digital video recorder (DVR) and cameras with adequate lenses together with the necessary accessories help to ensure that the CCTV can do what is expected of it.

STANDARD DEFINITION V HD

SO WHY HD CCTV?

The main advantage with HD cameras and systems is the simplicity of the systems, additionally when viewing in HD quality the resolution is significantly better. The picture quality of an HD system can be as much as 20 times better than an analogue system. The HD cameras are able to capture more detail giving a more precise identification of people and objects. This allows you to get details such as recognition of individuals or even number plate details. In recent years the cost of such equipment has come down considerably making it a more realistic option. While the overall cost is still greater than an analogue system, it can be a false economy to have a cheaper system that fails to deliver the quality of image required.

SO WHY STANDARD DEFINITION CCTV?

The main reason to go for standard definition is cost, be it for a new system or replacing an existing one. In recent years, the price of cameras and DVRs has come down considerably as well as the cost of the memory that is required to store the images. If you only require a small area to be monitored, for example a front door where the camera is situated quite close to the object you are filming you, are still going to get a recognisable image of who is at the front door. Likewise, standard definition is fine if you are just after an overview image of a larger area where detail is not required but you can see if there is someone where they should not be.

CAMERAS

CAMERA TYPES

All of our kits come with eye ball cameras, these are classed as vandal resistant. This means that when they are installed they cannot easily be disabled by throwing something at them or jumping up and grabbing at them. This type of camera is also very versatile and easy to fit; they are a round ball in a socket making it easy to achieve virtually any position you require. If you need a camera that can withstand a prolonged attack then I would recommend the anti-vandal cameras in our camera range, these are able to withstand a direct blow with a lump hammer.

For ease of installation all of the cameras in our kits have fixed wide angle lenses so you will not have the problem of trying to focus the cameras after they are fitted. As a rule of thumb the wide angle gives you approximately a 70 degree angle of view out from the camera. All of our cameras come with built in infra-red lights which glow gently to the human eye but to the camera they give off a bright white light enabling the camera to see even in complete darkness. The cameras are already more sensitive to light than the human eye, but with the infra-red you get a really high quality image. If you are covering a large area that has no ambient light at all it is worth remembering that the infra-red light acts more like a torch beam than a flood light with most of the illumination being at the centre of the image but dissipating quite quickly towards the edges. We have several different types of infra-red camera some with 60mts infra-red range.

If you require cameras other than the standard ones in our kits let us know and we can tailor you kit to suit your exact requirements.

WHERE SHOULD I PUT CAMERAS?

You normally want to cover the main points of entry to a property whether it is your home or business. Normally first priorities are areas that are screened from view such as rear doors or side doors where someone could gain entry without being disturbed. Secondly, front doors and entrances so you can see who is there or if anyone has called. Thirdly, any particularly valuable items, for example cars on the drive or out buildings containing things such as bikes or garden machinery. Ideally we would recommend that the cameras be fitted about 3 metres from ground level to avoid easy tampering, but not too high because if you are looking straight down onto an area you only get an image of the tops of people's heads which is no good when it comes to trying to identify the person.

DIGITAL VIDEO RECORDERS (DVRs)

Another important piece of equipment is a recording device known as a digital video recorder (DVR). This stores all of the images from your cameras onto a hard drive for use later. All of our DVRs come with security drives fitted. Due to the nature of a DVR it does not use a hard drive in the same way that a computer does. A computer writes information onto a drive then reads it again when you access it, but a DVR almost always writes information and hardly ever reads it. Additionally, the DVR records information 24 hours a day seven days a week. The security drives we use come with a 3 year manufacturer's guarantee giving you peace of mind that your recordings are being safely stored. The size of the drive you will need is dependent on several different factors which are:

1. Recording time required.
2. The resolution (quality) of the recording.
3. The frame rate (number of still pictures it takes to give you motion pictures) required.
4. The number of cameras used.
4. The number of hours of the day or days of the week you want to record for.

I would normally suggest that you record 24 hours a day seven days a week because something may happen when you least expect it. Also, I would suggest recording at the highest possible quality your system will allow so you can get as much detail from the recording as possible in the event of an incident. The frame rate (fps) is where you can make large memory size savings. Real time recordings that you watch on TV are 25 frames per second. You do not need this type of frame rate unless you have some very high speed things you want to catch - normally only places like casinos use this high a frame rate. At 12 frames per second it is difficult to tell that it is this low compared to normal TV, I would normally suggest around 6 frames per second (remember that this is per second) is plenty for most applications. At this frame rate the movement is slightly jerky but still not to any detriment of the information of the picture. The figures below are a rough guide as to what recording time you can expect from what memory in our DVRs. All of our DVRs come with a minimum of 1Tb which is 1000Gb.

HD-CVI @ Full HD 1080 6 fps

1 camera recording for 24 hours a day for seven days is approximately 150Gb

4 cameras recording for 24 hours a day for seven days is approximately 600Gb

1 camera recording for 24 hours a day for fourteen days is approximately 300Gb

4 cameras recording for 24 hours a day for fourteen days is approximately 1200Gb or 1.2 Tb

Analogue @D1(maximum resolution in analogue) 6fps

1 camera recording for 24 hours a day for seven days is approximately 32Gb

4 cameras recording for 24 hours a day for seven days is approximately 124Gb

1 camera recording for 24 hours a day for fourteen days is approximately 64Gb

4 cameras recording for 24 hours a day for fourteen days is approximately 248Gb

As a rule of thumb you should make sure that your recording time is longer than the longest time you are away. When the disk is full it will automatically start over writing at the beginning so when you have achieved your maximum record time you will always have that amount of recording stored. It is possible to configure differently if you wish so it does not automatically overwrite what is already stored, but I would normally suggest that leave it on auto overwrite.

VIEWING

All of our DVRs come with both HDMI outputs and VGA which means you can either connect to your TV or a computer monitor. Please note, as all of our DVRs are high resolution if you put them on a TV or monitor that cannot handle that resolution it may not appear on the screen. If you are going to use a standalone monitor I would suggest that you use one of our Full HD monitors that we have tested with our DVRs. If you are going to use an existing TV make sure it is HD and has either a VGA input or HDMI. All of our DVRs have remote viewing built in which is compatible with both android and iOS mobile phones, and windows and mac PCs. Unfortunately they are not compatible with Microsoft Windows phone or Symbian. If you are unsure about compatibility then please ask and we can check for you.

To view remotely you will need broadband with a minimum upload speed of 0.25 Mbps. You can check this yourself by following this link <http://www.speedtest.net/> and click begin test. This will give you both your upload and download speed. Once you have checked that your broadband speed is fast enough you will then need to connect your DVR to your router by a network cable, these are available to buy in our accessories range. If this is not practical you can use a power line network adapter which is also available in our accessories, these use you house mains wiring to send the information from one point to another and are very easy to use. Just plug one adapter in next to your router and one next to your DVR, connect the two network cables to the adaptors. Once you've done this you can follow the onscreen set up for your phone and the P2P does all the technical work for you. You can then you can assess your DVR remotely from your smart phone or PC.

I hope that this has given you some insight into what you require for your CCTV system if you have any questions drop us a line and we will do our best to advise you.

Thanks for your time,
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