

Try before you buy



Too many end users, it seems, are purchasing CCTV equipment and having it installed only to be disappointed with the rendered images and subsequent inflexibility of their surveillance set-up. In the first of a regular series of articles concentrating on 'all matters CCTV', David Hammond explains why security managers should always view the end solution's capabilities 'in the real world' before they decide to buy.

YOUR CCTV SYSTEM HAS BEEN INSTALLED.

Your operators have been trained. The great moment has arrived for pressing the 'Surveillance On' button... You will no doubt be familiar with that scenario, but has your heart then sunk when the quality of the images displayed in the Control Room isn't quite up to the standard you'd been expecting? Were those expectations too high, perhaps?

In this instance, 'Seeing is believing' is an apt phrase that springs to mind. If your CCTV system is going to be of critical importance to your organisation then it obviously makes sense to take time out of your schedule to view products in action before you buy them so that you can see for yourself what's possible.

Most reputable security installers – and, I'm pleased to say, there are many of them in the UK – will be only too happy to arrange for 'shoot-out' testing that will allow you to compare various manufacturers' product and system offerings and then determine that the solution offered (and subsequently delivered) meets your company's requirements and your own expectations.

At this juncture, you'll also become familiar with some of the industry's 'buzz words' and phrases, which neatly brings me to the main point of this article...

One-upmanship or specmanship?

Generally speaking, manufacturers would not attempt to deliberately overstate the capabilities of their surveillance systems. It is, however, not completely unheard of for a solutions provider to state performance levels for their camera(s) that are only achievable in theory. It's important for end users to know whether or not claims about, for example, the number of TV lines produced by a given camera are deliverable within the context of the whole CCTV system. That must take into account the recording device specification and the abilities of the display monitors.

A camera may well boast a resolution of 520 TV lines, but this might only be realised at the very centre of the image. What would be the resolution at the outer edge?

To the uninitiated, back light compensation (or BLC) may sound like a new type of club sandwich. It has, in fact, become an essential component of CCTV cameras to be located in areas where they may be subjected to bright sunlight. The problem is that this very important feature is now incorporated within

virtually every new camera. Different manufacturers will use different methods to achieve their objective – to electronically compensate for high levels of background lighting and so provide detail of people and/or objects that would normally be silhouetted.

It's preferable that end users look for a camera type deploying a method of back light compensation that deals with sudden bursts of light in specific sections of an image rather than compensating across the entire picture. Look carefully at the camera specification and, if appropriate, question your installer and/or supplier about the type of back light compensation employed.

The above comments – and those to follow – will be relevant to a greater or lesser extent depending on what you wish to achieve from your CCTV system and where exactly it sits within your overall security operation. If the purpose of the system and, therefore, the cameras is purely to verify an alarm, the camera specification is not likely to be of the same degree of interest to the end user than it would be if you were talking about a need to verify and identify people.

Two CIF or Not Two CIF?

At the risk of being overly technical, it is vitally important to deal with the issue of 'resolution'. This is a measure of the number of pixels that a digital video recorder (DVR) records, and is therefore a technical description that roughly equates to the 'quality' of images (ie the higher the number of pixels, the higher the resolution and the higher the quality of images recorded).

To say that a DVR records 'high resolution images' is, however, a very subjective statement. That's why some practitioners in the industry use a measure called the Common Intermediate Format (or CIF). Full CIF – comprising 352 x 288 pixels – can be regarded as the benchmark. In other words, images recorded at this level of resolution are accepted to be of good quality. It follows, therefore, that quarter CIF (or QCIF) offers low resolution while 4CIF (704 x 576 pixels) will be high resolution.

The very highest resolution – D1 – is specified as a 720 x 576 pixel array.

A word of caution. The quality of a CCTV image within the digital domain is not solely dependent on the specified pixel resolution. Even if an image is captured at 4CIF or D1, it's only a measure of the maximum captured pixel resolution. The actual viewed image resolution is also highly dependent upon the employed compression method and its correct implementation. For example, a CIF image with a highly efficient compression engine could, in fact, provide an extremely high quality image.

It's lighting up time

It may sound hugely impressive when a manufacturer states that a camera can work in light levels as low as one lux, but at what cost to the quality of the rendered images? In any event, certain cameras can now deliver high quality images when lighting levels are as low as 0.0006 lux (almost total darkness).

Images produced in night-time conditions are probably the most common cause for complaint among end users who were expecting results of a higher quality than have been delivered. It is absolutely crucial to agree with your installer beforehand exactly what is expected of the cameras to be commissioned, and to clarify in your own mind that you have a full understanding of what is achievable in terms of colour images.

When lighting levels are below a certain threshold, it's normal that your cameras will automatically switch over to monochrome operation. Once again, however, the methods used can vary. I would suggest you select a camera with an infrared cut filter that switches automatically, or is manually activated – via an external trigger – from day to night function (colour to monochrome) when lighting is down to a specific level, thereby reflecting the existing lighting conditions on site. ■

■ David Hammond is European CCTV sales manager at Samsung Techwin (www.samsungcctv.com)

“It may sound impressive that a camera can work in light levels as low as one lux, but at what cost to the quality of the rendered images?”