

Abstract for news item on Digital Downloads

We are all aware of the massive increase in digital CCTV systems installed over the past few years. Alas many of these systems have been designed by people outside of the security market and although they are, in some cases, technically proficient they are not based on the knowledge and experience gained through exposure to 'real' cases where CCTV has been used to great effect in Court. In other words some manufacturers have no knowledge of how the material is used in a criminal investigation and ultimately in Court.

We still come across systems without any useable fast search capability. By that I mean a facility so that you can fast search all material relating to an incident at an unknown time, not to just skip through and display a frame every so often (and miss large chunks of information). Consider the analogue multiplexed time lapse recorded analogy, where the time of an incident is unknown, as they so often are, and the exact location of the incident is uncertain, you can view all cameras multiscreen at fast speed to detect where the areas of interest may be isolating these for further examination. Conversely, we now often find ourselves limited to viewing individual cameras in real time over time periods pre selected by the person carrying out the download.

Many systems have drawbacks in terms of their post-incident analysis, however these are a mere inconvenience when compared to the far more serious problems associated with archiving to permanent media for Court purposes. Some systems allow only a very limited period of time to be specified for download, in some cases on a camera-by-camera basis. Consider the situation 6 months down the line when either new evidence comes to light or the defence want to review relevant material and compare with their defence statement, the additional material may now be unobtainable.

We are starting to move in to the realms of the Birmingham defence that states:

A video recording had not been disclosed to the defence, even after specific requests for unused material to be served were made. By the time of the trial the tape could not be found and there was no prospect of it being found. It was held that the prosecution was under a duty to disclose; that the defence was prejudiced as a result of the non-disclosure; and that a fair trial was therefore impossible.

And I believe that this has already been superseded by further case law on the subject.

In short the material exists on the hard drive and this can be considered the same as videotape on an analogue system. We are certainly seeing more defence activity directed towards the system/archiving/downloading area of cases. Currently it often falls to a security guard or CCTV installation

technician to get the roasting in Court on what was retained and what wasn't rather than to the Expert Witness who compiles, analyses and presents the material. Anyone involved in Forensic Video in Court cases will have seen good cases fall because of poor procedures at the download stage. The beauty of the Darlex archiving is that a reasonable quantity of material can be downloaded to DVD-RAM, which is a more robust medium and is viewed with less suspicion than a CD as an original exhibit. This really helps with the possible argument that another camera would have showed the defendant getting on another train for example. That camera can be accessed from the same DVD-RAM to dispose of the hypothesis.

Another important point is that with single camera downloads you lose a certain amount of history and authentication capability. With multiplex tapes, cameras can be viewed in sequence often allowing movements and activities to be cross-referenced between cameras. It is far easier to convince a Court that nothing untoward has occurred – ie 'the police have 'painted' my client into the video' – when there are other camera views available, all of which would have also needed some modification. The same is relevant for digital systems, the more material downloaded and available the better. All be it that, rightly or wrongly, there is far more suspicion regarding digital systems. Additionally with digital downloads the method of download used may miss key information associated with the original imagery that assist with its authentication.

What many manufacturers don't take into consideration is that their material will often fall into a sequence from many different sources and locations, both analogue and digital. For reasons of disclosure, ease and impact of presentation and to fit in with existing viewing facilities in Court, this has to be presented to the Court on a single compilation video tape or DVD showing all relevant events. We now have the problem that the original imagery may have been produced in a diverse range of viewing software and image resolutions. We also have the problem of systems that have other incompatibilities with this presentation technique. No ability to display time and date information when the image is converted to video, or systems that have such small text it cannot be seen on the compilation for example. The Darlex system does not have these incompatibility problems and with its dedicated video output slots straight into the existing forensic video lab.

None of these points presents any problem at all if the material is never going to be used in any investigation, subjected to any analysis or presented to a Court in evidence. If on the other hand your system could be in a position to aid a criminal or civil case then they should all be borne in mind when choosing your digital CCTV system.

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CV for you to take stuff from

I am the Managing Director and Senior Consultant in Forensic Video at BSB (Forensic) Limited. I am a member of The Royal Television Society, the British Association of Human Identification and a founder member of the Forensic Imagery Analysis Group. I am listed in the UK Register of Expert Witnesses. Since 1980 I have been employed in the video and image processing industry. During this time I have applied video and image processing techniques to applications such as the enhancement and analysis of security videos, x-ray examination of critical components, cell biology and military and medical imaging. I have experience in the use and techniques of digital picture composition, editing, video painting and special effects equipment. I have been employed in the forensic video field since 1991 and have provided expertise and support pertaining to the analysis, enhancement and authentication of video and audio material in a great many criminal and civil cases, for the prosecution and defence. I have given expert testimony in The High Court, The Central Criminal Court, Crown Courts and Magistrates Courts. I sat on the British Standards technical working group to establish the code of practice BS7958 for the management and operation of CCTV systems.