

NO DIGITAL DILEMMA

When it comes to criteria surrounding the use of video images as evidence, the requirements can appear to be something of a mine-field. Add the use of digital images to the equation, and question marks start to appear with regularity. Quite often, depending upon who you are talking to, you will hear a different version of the so-called 'digital dilemma' when it comes to CCTV footage for evidential purposes. However, the police and courts are aware of the potential offered by digital surveillance solutions, and do not want to curtail the use of a credible and efficient tool in the fight against crime. The basic rules for evidential digital images are straightforward, and here Fujifilm examines the reality. Help is also at hand via Fujifilm's Digital Evidence Kit.

CCTV has had a dramatic impact on the fight against crime in both the late twentieth and the early twenty first centuries. It has set itself head and shoulders above the crowd when it comes to offering high profile and high impact protection, and is the tool that common criminals fear the most. Given that the only complaints about CCTV in the UK come from those with something to hide, it serves to underline just how effective and efficient the technology can be.

CCTV footage put before a court must be presented in a certain way to be accepted for evidential purposes. There are procedures which must be followed and the real emphasis is on

how footage is audited and managed

that as a manufacturer of recording



to ensure that its credibility is not called into question. Ironically, everyone seems very concerned about overall image quality, however there is a higher risk of footage being rejected because the audit trail which accompanies it is not satisfactory.

Changing legislation has meant users must be more efficient when it comes to managing their CCTV solutions. One such example is that of the CCTV audit trail. For those who have an investment in CCTV, seeing a criminal walk away because of an administrative problem is nothing short of devastating.

Management Issues

When Fujifilm launched its CCTV Starter Kit, the level of interest amongst the security industry was high. The kit ensured that a complete record could be kept of each cassette, from first use to destruction.

The kits were designed to meet the needs of CCTV users and showed

media, Fujifilm was taking the security market-place extremely seriously. Fujifilm has additionally looked towards the future, and recognised that the use of digital solutions is growing. The procedures for creating admissible copies of digital video footage are laid down in the '**Digital Imaging Procedures (version 1.0)**', a **Police Scientific Development Branch document**. Fujifilm has used this document to help create the Digital Evidence Kit, providing customers with digital CCTV solutions an archiving tool which ensures footage meets evidential procedures.

The Procedures

Here we outline the steps to ensure your evidence is admissible:

STEP 1

Obtain the relevant authority to capture images.

CCTV systems must obtain, where necessary, the relevant authority to capture images. They should be regularly maintained and an audit trail commenced at the earliest opportunity.



STEP 2

Create a Master Copy

Since digital images can be replicated without degradation, and since the first storage medium is usually an integral part of the DVR, a **Master Copy needs to be created.**

It needs to be stored securely and kept in accordance with evidential procedures. It should be taken directly from the original recording medium and stored onto a removable medium.

This removable medium must be a WORM type device. WORM (Write Once, Read Many) devices such as CD-R, DVD-R and DVD+R media add a level of credibility to digital images, since once the Master Copy is written the data cannot be affected and changes cannot be made.

STEP 3

Create a Working Copy

A Working Copy, again on WORM media, can be produced simultaneously with the Master Copy or subsequent to the Master Copy from the original footage, or can be produced directly from the Master Copy.

STEP 4

Make sure your Master and Working copies are clearly labeled and include:

- The relevant image sequences,
- A text file stating any hardware or software requirements for replay,
- Metadata such as time and date information bound to the footage,
- License-free software to view and make copies of the footage, including editable sequences,
- Instructions on how to copy the footage to VHS cassette plus details of any changes that may occur if the cassette is then played alongside the digital footage.

You may also include (though this is not a requirement) a copy of the audit trail, a test sequence to ensure replay is correct, and authentication or verification software*.

In the box

The Digital Evidence Kit is available in two versions: a 50 disc kit and a 75 disc kit. The former is designed for



applications where a Master Copy and a single Working Copy of footage are required, and the latter kit allows the creation of two Working Copies. The 50 disc set contains two spindles of 25 CD-Rs. Fujifilm CD-Rs have a total capacity of 700MB and support write speeds of 1-52x. The 75 disc kit contains a third spindle of discs.

The kit also includes 25 standard CD cases and 25 slimline CD cases. This allows a user to standardise upon a type of case for Master or Working Copies. Where a 75 disc kit is used, the cases are supplemented by 25 plastic sleeves.

Probably the two most important additions are the **Digital Evidence Log Book** and the **tamper-protected Evidence Bags**. Taking the Evidence

Bags first, they are made from heavy duty plastic with a self adhesive flap incorporating an orange film. Once sealed, any attempts to open the bag will result in the word STOP appearing in white on the orange background.

The Evidence Bags are individually numbered and include a tear-off receipt, also containing the number. This is used once a copy is passed on to the authorities. The bag is overprinted with a form which allows an audit trail to be created, with a log of all activity from when a CD-R is sealed in until such a time as a copy is called for as evidence. The kit is supplied with 25 Evidence Bags, as these are intended to provide an audit trail (and proof that no tampering has occurred) for the Master Copy.

The Digital Evidence Log Book

contains colour-coded triplicate forms to ensure that a record of the CD-R details, audit information and the Evidence Bag number are all logged. The perforated tear-out sheets are the same size as a CD case, meaning they can be slotted into the cover of the Master and Working Copies. For the 50 disc kit, a copy of the Log Book page can be placed with the Master Copy, one with the Working Copy and one retained in the book for management purposes. The Log Book is quick and easy to complete, and each record is individually numbered to help aid the audit trail creation.

Also included is a **permanent marker**. It will be necessary to transfer the relevant serial numbers (Log Book and Evidence Bag) onto the CD itself. Whilst many companies might opt for labels, these can unbalance the disk, making it less reliable during the writing process.

* The DVR manufacturer would normally supply this.

