



## **Digital Video Recorder Buyers Guide**

There is a large range of Digital Video Recorders (DVR's) on our website and we understand that trying to buy the right one is not simple and will differ for each situation. We have put together some information about the features available so that you can make a more educated decision.

If you require any help or advice, please feel free to contact us on 0871 244 0934 and we will help you choose the best DVR for your installation.

### **What is a Digital Video Recorder?**

The Digital Video Recorder is the core of a CCTV system. It takes the images from the cameras and stores them on to a hard disk drive. You can then look at the images recorded on the hard drive, and review what the cameras have been viewing by connecting a monitor (or other form of display unit) to the DVR.

### **What are the advantages of a DVR?**

Before DVRs existed the most common way of recording CCTV video footage was through a multiplexer and time-lapse VCRs. However, DVRs have many advantages over the multiplexer and VCR:

DVRs can have a huge storage capacity and so eliminate the need to frequently change tapes. DVRs don't have problems with tape or VCRs wearing out and so consistently produce higher quality recorded images.

Because DVRs record digitally, you can retrieve recorded footage instantly rather than scanning through hours of video tape.

DVRs have motion detection software built-in.

DVRs can be viewed over a network or the internet allowing them to be used for remote viewing.

### **What should you look for in a DVR?**

The number of cameras?

DVRs come in 1, 4, 8, 9, or 16 camera formats depending on the number of cameras you plan on using.

### **How long will a DVR record for?**

Everybody has different recording needs and many factors affect how long a DVR will record for including: the number of cameras, the compression technology, the frame rate, the picture quality and the picture size.

### **What is the maximum frame rate of a DVR?**

All DVRs have a maximum frame rate (sometimes referred to as IPS - Images per second). This simply refers to the maximum number of frames that a DVR can record in one second at any one time. For example: a four camera DVR with a maximum frame rate of 100 frames per second (fps) can record at up to 100fps. If all four cameras are set to their maximum recording rate this will achieve  $(100/4)$  25fps per camera. On a 400FPS 16CH DVR the maximum recording rate per camera would be  $(400/16)$  25fps. Digital Television is displayed at approximately 25 fps.

The frame rate that is right for you depends on your needs. For example, if you are just counting bodies then 1fps will be plenty. On the other hand, if you wish to catch people stealing small items from a shop then 6fps will normally be enough.

More advanced DVRs will automatically increase the fps rate on a camera where motion has been detected, providing more footage on an event.

### **What is the compression method used?**

DVRs use various compression methods for compressing video footage. This reduces the amount of hard drive space that is used. Additionally, if a DVR can be viewed over the network or the internet a sophisticated compression method reduces the amount of data that needs to be transmitted.

Compression methods include MPEG-4, JPEG2000 & H.264.

**H.264** Relatively new compression within the security industry but is becoming very 'fashionable'. Compresses the files more than any format, allowing for large amounts of storage proportionally to other compressions, also due to file size less bandwidth is used for remote viewing.

**MPEG-4** This compression is an 'all-rounder'. Although it doesn't have the image quality of the JPEG2000 or the decreased file size of H.264 it produces good quality images at a more than acceptable file size. Explaining why it has been in the market for so long and is still a popular choice amongst manufacturers.

**JPEG2000** Largest file size of all compressions, so uses more storage space than all others. But it is this large file size that allows it to produce the best quality images.

### **How do you get video footage from the DVR to the Police?**

Being able to easily give video footage to the Police when an incident has occurred is an important part of a DVRs role. Footage can be moved from the DVR to another storage device in a number of ways:

All DVRs allow you to connect the DVR to a television and record the DVR footage onto a connected DVD Recorder.

**USB** - Some DVRs come with a USB connection. This allows footage to be easily transferred onto a PC. If the PC has a CD/DVD writer, then footage can simply be burned onto a CD/DVD and the CD/DVD handed to the Police.

**Compact Flash (CF) Card** - Some DVRs come with the ability to record footage onto a CF card. The CF card can then be inserted into a PC or Laptop and played back.

**Networkable DVRs** that can be viewed over a network or the Internet via a PC can have their footage recorded straight onto the PC's hard drive. If the PC has a CD/DVD writer, then footage can simply be burned onto a CD/DVD and the CD/DVD handed to the Police.

**Removable Hard Disk Drive** - Many DVRs come with removable hard disk drives. The hard disk is simply pulled out of the DVR and handed to the Police. A new hard disk can be inserted into the DVR to allow continued monitoring and recording.

**CD/DVD writer** - The best DVRs come with a built-in CD/DVD writer. This allows video footage to simply be burned onto a CD/DVD and the CD/DVD handed to the Police.

### **Can the DVR be viewed over a network or the internet?**

All our DVRs come with the ability to be hooked up to a network or the internet allowing remote viewing from a PC with the appropriate software installed.

### **Does the DVR have built-in motion detection?**

It's a common misconception that motion detection relies on the camera when in fact it's the DVR. All our DVRs come with built-in motion detection. When enabled rather than record continuously instead they continuously monitor the picture from the cameras and as soon as something changes (i.e. there is movement) they begin recording. On the high end DVRs they are also able to record footage from up to 11 seconds prior to motion being detected when this feature is used. The benefit of motion detection is that it saves your hard drive from continuously recording allowing a longer life, and saves you from having to scroll through footage to see an event.

### **What is the connection type for the cameras?**

All of the DVRs we sell come with industry standard BNC connections for the cameras. This makes the setup of the DVRs extremely simple - simply plug the cameras in and play.

### **Does the DVR do time and date stamping?**

All our DVRs do time and date stamping on the video footage. This is sometimes called a watermark and is essential if the footage needs to be used as evidence in a courtroom.

### **Will a DVR send me an email, text message, Pocket PC alert or picture message upon an event?**

More sophisticated DVRs will send alerts to you when an event (such as motion detection) occurs. Alerts can be sent via email, text messages and picture messages to your smartphone or your tablet.

**What does the DVR do if there is a power cut?**

All our DVRs will automatically re-start with the same settings they had when the power went off.

**What are the different resolutions on a DVR?**

Most DVRs have different resolution options such as 640 x 480 or 320 x 240. The numbers simply represent the number of pixels in the picture (length x height). Many DVRs are now high definition, with 720p and 1080p options available, giving you a higher level of detail and greater clarity. However, higher numbers of pixels also take up more hard disk space.