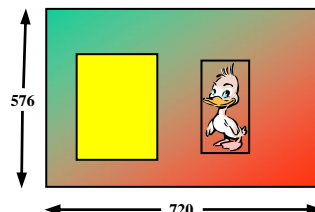


Introduction

When capturing video, the resulting files can be very large. For many purposes, maintaining the maximum possible image quality is not necessary. By using a process called re-compression, it is possible to reduce the size of the file without significantly degrading the quality of the image. With modern compressors the reduction in file size can exceed a factor of 10.

Uncompressed Video Files

The size of a video file is dependent upon three things - the frame size (number of pixels), the frame rate (number of frames per second), and the colour depth (number of bytes of colour information per pixel). For the PAL DV example in the diagram, a 30 second video file will be 933 Mbytes!



720 pixels x 576 pixels x 3 bytes/pixel x 25 fps = 31.1 Mbytes for each second of video.

Video Codecs (derived from compressor-de-compressor)

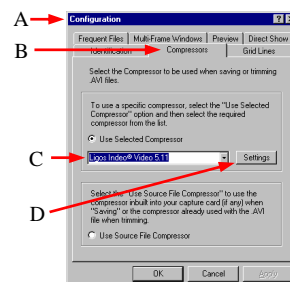
The purpose of a video compressor is to reduce the file size whilst retaining as much of the image quality as possible. They do this by looking for (and then removing) redundant information between successive frames in the video. The processes used to do this are quite complex and vary considerably between compressors. Because a video compressor encodes the video, a decoder for the same compressor must be installed on a computer before the video can be viewed on it. The term codec is used to refer to a compressor and matching de-compressor.

There are many video codecs available. Some are designed for specific purposes, such as compressing movies for DVDs. For an application such as Swinger, the Indeo 5.11 codec has good performance characteristics. This codec can be downloaded from www.ligos.com.au. To install the codec double-click on the downloaded file.

Setting a Video Compressor in Swinger

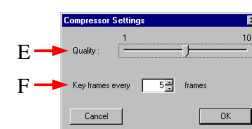
Whenever saving new files in Swinger that are not in DV format, a video codec must be used. Selecting a suitable codec is critical in obtaining a satisfactory result. Most computers have many codecs installed and many of these are not suitable for video coaching type applications. To select the Indeo 5.11 codec, proceed as follows.

1. From the *File* menu, open the *Configuration* box (A on the diagram).
2. Click on the *Compressors* tab (B).
3. Select *Ligos Indeo® Video 5.11* from the drop down list (C).



Compressor Settings

Many compressors allow some control over the compression process. By clicking on the *Settings* button (D), Swinger allows the image quality (E) and the key frame rate (F) to be adjusted. A *quality* setting of 1 (smallest files) provides reasonable quality and is adequate for most purposes. A setting of 10 (largest files) gives image quality that is virtually the same as the original. A key frame is a master frame from which subsequent frames are derived. The more often a key frame occurs, the larger the file but the computer has to do less work when playing the file. Finding the right quality and key frame settings for a particular application requires experimentation. Setting both at 5, is a good place to start.



These three images are derived from a DV video clip. The centre image is from the original. The image on the left was compressed with a quality setting of 1 and the image on the right had a quality setting of 10. Both had a key frame rate of 5. You may have to zoom the page to see the differences.