



Introduction

The availability of inexpensive digital video cameras has meant that high video quality is easily achievable. High quality usually means large file sizes. For DV files, approximately 3.5 Mbytes is required for each second of video. For a golf swing, video files will be approximately 6 Mbytes. By re-compressing the video it is possible to reduce the file size by a factor of ten or more. However, as the file gets smaller the image quality degrades. For some applications, such as the attachment of video clips to email messages, reducing the file size is highly desirable. There are many video compressors available to perform re-compression. This information sheet focuses on how to use the Indeo 5.11 compressor to achieve the best file size/image quality trade-off for a particular application.

Compression Settings

The Professional version of Swinger allows the user to adjust the image quality and the key frame rate. Both of these settings effect the resulting file size. These settings are accessed from *File, Configuration, Compressors, Settings*.

Quality Setting

The quality setting has a range of 1 to 10. Video files will be smallest when a setting of 1 is used. Although the image quality is significantly degraded with this setting, it is more than adequate for many purposes. See pictures 1-4.

Key Frame Rate

Key frames are master frames from which subsequent frames are derived. Compressors can use the common elements in successive frames to reduce the file size. Large key frame rates create smaller files but slow down the frame retrieval speed when playing video. Jerky playback may occur on less powerful computers. See picture 5



Original DV 6000 kB



Qual. = 10, Key Fr. Every 5 Frames 4500 kB



Qual. = 5, Key Fr. Every 5 Frames 825 kB



Qual. = 1, Key Fr. Every 5 Frames 508 kB



Qual. = 1, Key Fr. Every 15 Frames 422 kB



Qual. = 5, Key Fr. Every 5 Frames 394 kB

7
Qual. = 5, Key Fr.
Every 5 Frames Half
Size 128 kB

Reducing the Frame Area

The saved file size is proportional to the frame size. The frame area can be reduced by cropping and zooming.

Cropping the Image

By removing unwanted material from the edges of the frame, the frame area can be reduced. This method does not effect the quality of the image. Use the *crop* tool from the toolbar to select the area to be retained. See picture 6.

Zoom

Zooming the size of the image to less than 100% reduces the size of the frame. Because the number of pixels is reduced, the image quality degrades. *Half Size* (picture 7) is a quick way of reducing the frame area to a quarter of the original. It is usually better to use a normal frame size and low quality setting than a smaller frame size and higher quality setting.