



### WHAT FORMATS AND MEDIA ARE AVAILABLE FOR ME TO DISTRIBUTE MY VIDEO?

This largely depends on how you wish your video to be viewed. Whether it will be viewed on a website or on a TV monitor or projected at a conference venue, sent via email or even to a mobile phone.

#### TV or Conference Viewing?

If your video is to be viewed generally on a TV or projection screen then either DVD or Blu-ray would be the medium of choice. DVD for standard definition programmes and Blu-ray for programmes which have been recorded in high definition. Both formats can contain a number of programmes which can be accessed using an interactive menu.

We should mention the different disk formats which can seem confusing.

**CD Compact Disc**, this is the type of music disc you would buy from a music store. It contains audio and music files encoded to play in a CD player and can contain up to 80 minutes of music. It is already recorded to and can not be erased or re-recorded.

**CD-R Compact Disc Recordable**, this is a blank CD onto which you can record either audio or data files. The disk can handle a maximum of 700MB (megabytes) of data.

**CD-RW Compact Disc Rewritable**, this disk can be recorded over and over again but has a maximum data capacity of 700MB. These can not be played on a standard audio CD player but only on computer CD readers. They are often used for computer file storage.

**CD-ROM Compact Disc Read Only Memory**, a type of optical disk capable of storing large amounts of data. CD-ROMs are 'burned' by the vendor, and once burned with data, they cannot be erased and filled with new data. To read a CD-ROM, you need a CD-ROM player as they are not playable on standard CD players. All CD-ROMs conform to a standard size and format, so you can load any type of CD-ROM into any CD-ROM player. In addition, CD-ROM players are capable of playing audio CDs, which share the same technology.

**DVD Digital Versatile Disc**, a format used for video, notably feature films and music videos. The disk has a typical capacity of 4.7GB (gigabytes) and can store up to about 120 minutes of video. DVD's also come in *Dual Layer* which means that it can store up to 8.5GB of information or 240 minutes of video.

#### DVD-ROM Digital Versatile Disc Read Only Memory

Blank recordable DVD discs (DVD-R and DVD+R) can be recorded once using a DVD recorder. Rewritable DVDs (DVD-RW, DVD+RW, and DVD-RAM) can be recorded and erased multiple times, although DVD-RAM (Random Access Memory) can only be played back on a DVD-RAM drive. The difference between a DVD and DVD-ROM is that DVDs play on a DVD Player and generally contain video in a format that only a DVD player will recognise, whereas a DVD-ROM contains files, albeit video files such as WMV (Windows Media Video), that may only be accessed via a computer and is not recognised by set-top DVD Players.

**BLU-RAY** is an optical disk which has a capacity of 25GB or over 8 hours of video. The additional storage capacity makes it an ideal medium for High Definition video. This disk requires a special Blu-ray player. DVDs can play on a Blu-ray player but Blu-ray disks will not play on DVD set-top players.



### WHAT VIDEO FILE FORMATS ARE AVAILABLE FOR ME TO DISTRIBUTE MY VIDEO?

#### For viewing on a computer or website.

If your video is to be viewed on a web site, a computer or iPad, then the video has to be specially encoded into a format that the computer will play.

**WMV Windows Media Video** this is commonly used for video which is to be played on a Windows PC and is not compatible with APPLE MACs or iPADS. It is a format that is used to embed video into PowerPoint presentations. This format has a medium quality of video with a reasonable file size.

**MOV Quicktime Movie**, this is an encoded video that is compatible with MACs, iPADS and iPhones. The file size can be quite large but the quality of the video is very good. MOV files can be played on PCs providing you have Quicktime player installed. This is available to download free of charge.

**AVI** Short for audio/video interleaved. Originally developed as a rival to Quicktime format for Windows machines but will be playable on most computers provided they have the appropriate software or plug-in installed such as VLC. It can use several compression schemes and is becoming increasingly popular. Some domestic digital video cameras shoot in .avi format

**FLASH** developed by Adobe, Flash produces good quality, highly compressed video which can play on websites although an application flash player has to be present on the computer for the video to play successfully. Flash files are in the SWF format, traditionally called '*Shock Wave Flash*' movies, "Flash movies," or "Flash applications", usually have a .swf file extension, and may be used in the form of a web page plug-in, strictly "played" in a standalone Flash Player, Flash Video files have a .flv file extension and are either used from within .swf files or played through a flv-aware player, such as VLC, or Quicktime. Flash has become less popular since some search engines (such as GOOGLE) fail to recognise Flash as a video file.

**MPEG1**, *Moving Pictures Expert Group (MPEG)* MPEG-1 has become the most widely compatible lossy audio/video format in the world, and is used in a large number of products and technologies. Perhaps the best-known part of the MPEG-1 standard is the MP3 audio format it introduced.

**MPEG2**, MPEG-2 is widely used as the format of digital television signals that are broadcast by terrestrial (over-the-air), cable, and direct broadcast satellite TV systems. It also specifies the format of movies and other programs that are distributed on DVD and similar discs. As such, TV stations, TV receivers, DVD players, and other equipment are often designed to this standard.

**MPEG4**, MPEG-4 is a method of defining compression of audio and visual digital data. It provides high compression rates whilst retaining a reasonable video quality. It was introduced in late 1998 and designated a standard for a group of audio and video coding formats. Uses of MPEG-4 include compression of AV data for the web (streaming media) and CD distribution, voice (telephone, videophone) and broadcast television applications. It is becoming widely popular for video delivery over the internet. Its compression produces small file sizes meaning that more data can be sent rapidly lessening the need for buffering when being played on a website.

**RealVideo®** These are the streamed video files using .rm extension. Examples can be seen in action on the BBC news site. One of the first and most popular streamed media format. The basic player can be downloaded for free. You can also use these files as non streamed format, but they are not really designed to be used for that purpose.



### OTHER TERMS EXPLAINED

#### What is STREAMING and BUFFERING?

Video on the web is generally '*streamed*'. This means that unlike normal video files which need to be downloaded first on to your computer before being played, streamed media is video that is available on-demand (i.e. it plays as it downloads). Essentially you download part of the file which acts as a buffer. Once you start playing from the buffer, the file continues to download topping up the buffer as you go however unless you are using a service such as YouTube you may need a special server to stream your media from. Also, if you only have a slow internet connection the video will halt occasionally whilst the buffer is 'topped up'. This can be immensely annoying for the viewer as the video is constantly interrupted during playback. Streaming media allows you to get round the problem of having very large video files as even lengthy video clips start playing after a few seconds, by playing the file as it downloads. However, media files including streamed ones are big and may rapidly use up your sites available bandwidth at an alarming rate. This will be a problem if you do not have an ISP account with an unlimited download quota.

#### What is a CODEC?

Codec is a technical name for 'compression/decompression'. It also stands for 'compressor/decompressor' or 'code/decode'. A codec is a computer program that shrinks large movie files, and makes them playable on your computer. Codec programs are required for your media player to play your downloaded music and movies.

#### What is meant by a LOSSY video format?

There are file formats known as *lossy* such as MP4 and *lossless* video codecs such as MPEG2. Lossless video is much too big to be useful on the web as this would take a long time to either download or to stream to your computer. On the other hand a *lossy* video codec means that information is irretrievably lost during the encoding process so you're losing information about the source video, and degrading its quality. Every time you encode a lossy video more and more data is lost and so the picture quality will degrade. Much like "hiss" on an audio cassette recording, lossy encoded video may look blocky or pixellated, especially during scenes with lots of motion. This can happen even if you encode straight from the original source video but choose a poor video codec or use the wrong set of parameters. On the plus side lossy video codecs can offer amazing compression rates by smoothing over blockiness during playback, to make the loss less noticeable to the human eye. This means that smaller files can be produced to allow fast transfer of data rates during playback over the internet.

#### Copyright and the Web

Copyright exists to cover the rights of the owner of the original works. It is a complex, and sometimes, grey area but ignorance, in the eye of the law, cannot be used as an excuse. You may care to take a look at our video blog dealing with copyright and publishing on the web. This deals with some of the pitfalls and restrictions you should be aware of when uploading material to the world wide web, including your own personal videos.

#### So what formats can Take One provide?

We can output your completed video to either SD DVD or HD Blu-Ray disks either as a play only or as an interactive disk with menus linking to various choices of video. We can also duplicate up to 100 DVDs in-house with on-body colour printing. We are able to offer encoding of your video into a selection of file types of your choosing whether it be MOV, MP4, WMV or Flash using high end industry standard, SORENSON compression software and in a variety of compression and bit rates tailored to suit the use of your video. Call Take One (+44 1494 89 89 19) or email Karen@takeonetv.com for more details.