

AUDIO-VISUAL INFORMATION

The following information was shared with club members interested in creating AV sequences, and date from 2016

Audio-Visual Information

When AV creation went fully digital, the below paragraph summed up the general format for a 'club AV' submission. In essence this hasn't particularly changed, although the sizes have, depending on the projector being used on the night. Generally speaking, all the submissions will now fit the 16:9 ratio, which in a more modern projector means a 1600 x 900 image. 72dpi is ALWAYS the dpi at any size.

Definition of AV for Club Competitions

The below definition follows those used by WCPF, PAGB, and RPS, which organisations have their own variations in wording to convey the same message.

An Audio Visual production should predominantly consist of sequences of still photographic images, the majority of such photographs being the original work of the entrant, together with an accompanying synchronised sound track. The use of third party images, animated graphics, video clips or other visual material, whilst not excluded, should be limited and should be appropriate to the production. These items should be no more than 25% of the total in photographs or duration of the AV.

The AV should be submitted in the form of .exe or MPEG4 or .mov files, either on a DVD or memory stick. The completed AV should be sized to 1400 x 1050 pixels or 1400 x 788 pixels (for widescreen or 'native' 16:9 ratio). Size for AVs made since 2019 is 1600 x 900 – to match the full capability of a new projector.

The term AV shall include both still images to soundtrack and multimedia sequences.

Definitions – to clarify: Technically speaking an AV is 'still-images-to-music'. A Multimedia item can include still images, timelapse, stop-motion, video, music, voice-over and any other sound, and even (probably contrary to RPS/WCPF indications) a tiny bit of computer generated material..... They've missed the capability of some programs to do interesting things with titles and special effects! However, using purely computer generated material is not permitted. The term "AV" is used for both AV and Multimedia as a short-form reference.

Output format can be .exe (executable file), MPEG4, or in some cases .MOV (which is the Apple version of MPEG4). WCPF information on their website is misleading – they state ".exe only" but this is out of date and will be amended to appear on the 2017 AV rules. They will now accept MPEG4 files.

Programs: Any video program will produce the necessary files. Some programs will only work on Windows, some only on Mac, some will work on both (but in the necessary version for the operating system). The only (it seems) program to produce .exe. files is Pictures to Exe, which is **only** produced for Windows.

The programs currently available follow a similar pattern in use, and it is down to personal preference, and finance, as to which to use. One of the best "across the board" video programs is

Adobe Premiere Elements, which is very capable and less unfriendly than many video programs. Whilst not the cheapest to buy, it integrates with other Adobe programs and has a great deal of online learning resources available. It is also produced in Windows and Mac versions.

There are many other such video programs, Roxio Creator, Magix, Pinnacle, are some of them. It is possible to edit video and produce a slideshow in Adobe Lightroom and Photoshop in newer versions. There are free versions of video programs available, most are very basic and can be frustrating to use. One free program is Da Vinci Resolve, which is a 'light' version of a professional video editing program. D-V Resolve is full featured and therefore has a steep learning curve, but is extremely good, and has full tutorial information available on its site.

THE I.A.C. (Institute of Amateur Cinematographers)

<https://www.theiac.org.uk>

Generally speaking you can make an AV for fun quite freely, but should have a basic membership of the I.A.C. if your production is going out for others to see. You are covered by our club membership for competitions in the club environment. The above link takes you to the I.A.C. site for all the necessary information which is on the 'about' and 'join' pages. The basic £37.50 fee is enough to cover your use of music or other material which you haven't created yourself – (its usual to quote your membership number on your AV at some point) under Copyright laws. Its worthwhile exploring all the tabs.

Video File Sizes and Frame Rates

File sizes:

Cameras are set up to record video in a choice of formats – the number of choices usually depends on how much the camera costs, but is also influenced by whether it is primarily a still camera with video or a camera designed to prioritise video over still images.

Generally speaking a DSLR gives options for UHD -4K, which is a 'long side' of above 3800 pixels or thereabouts, full HD – 1920 x 1080, or HD 1440 x 720. These are referred to respectively as 1080HD or 720HD. There is often a choice of frame rates, 24, (occasionally 24.9), 25, or 30 frames per second *for each size of video*.

One question received was which of these frame rates to use for the smoothest playback. The answer is: any of them. If video is captured at one of these speeds, it plays back at the same speed unless you tell your editing program to do otherwise, which is when you will obtain slow motion or the sort of hyperactivity associated with the silent movies of the early days of film-making. If you have captured footage (video) at 24 frames per second, and play it back at 30 frames per second it speeds up the action – so you get that silent movie look (but only slightly).

If your playback is really jerky, particularly if you are viewing it on your camera screen after taking the footage, it is simply because your memory card isn't fast enough (the same can happen on your computer too). What is fast and large enough for still images to be written to is likely to be too small and slow for video. Footage capture can be expensive – you might well need new very fast and much bigger memory cards. General advice that you need Class 10 cards – but even so, at the highest bitrate you can afford. FHD requires over 10Mb/s (10 megabits per second) which used to be referred to as x100. This is the slowest you can effectively use – and in this case the rule is: the bigger/faster the better. Anyone thinking of playing with 4k enabled cameras is going to need even more 'muscle' of over 50Mb/s.

File sizes are variable within the above parameters – they depend purely on how long your footage is. Consider that FHD is captured at around the size of a 3MP camera, and is the equivalent of pressing the shutter 24, 25 or 30 times per second, times the number of seconds you are taking

footage of the action. That is an enormous number of still images (it is also exactly how video works!). Professional videographers generally take footage in short spells, but sufficient to edit out even shorter bits to go into their final piece.

If you want to test this out, find any film you have seen several times. Count in seconds (or time with a stop-watch) how long each clip runs between transitions (that break from image subject to image subject). You will find that the usual length that you see any clip for is between 10 and 15 seconds duration. (This exercise is guaranteed to drive you nuts – you never watch TV the same way again). The only time this 'rule' isn't used is when following an action that takes longer and needs to be followed to completion – like a cheetah chasing prey.

The other query that has arisen is about sizing an AV for attachment to an email. In short, as small as you dare!

Something around 640 x 360 pixels in size (and remember all video is captured at 72dpi) makes it a small enough file to send, but the resultant file size depends on how long the AV/video is. Don't expect this size to be a wonderful resolution – the natural size looks very small onscreen, and grabbing corners to make it larger will show some pixellation if enlarging is too ambitious. But it will get there and be seen.

As a rough guide, an AV containing a small piece of video with mostly still images of 2.44 minutes duration at 640x360 MP4 file is 15.1mb in size.

This size, by the way, is for a 16:9 ratio as for HD video. If your intended attachment was created from still images only, then you need to adjust the size to match the ratio of either 3:2 (35mm) or 4:3 (many modern compacts/CSCs including Micro-four-thirds). Do some sums, and adjust the pixel count of (preferably) the short side to match the necessary ratio – but keep the resulting sizes small. You may need to make the whole thing even smaller, but be careful not to go too far with it.

Please also remember to check your email provider's allowance. Not all providers give you the same amount of space to send your attachments (ever had the message that something is too

large to send?). For instance, BTinternet.com allows users to send 25mb, whilst TalkTalk have a limit of about 15mb.

Another thing that came up in conversation was the importance of sound for AVs. This was noticed while watching the AVs brought in by a group member – on most of them the music was just right, but on one item it didn't match the visual content, and was therefore out of step with the visual part of the AV. Take a look around at short videos or watch TV (there's an invitation to do 'couch potato'!) and think about the sound going on with the images. What would you use instead? Does it fit what is going on? WHY?

Still on the sound theme, it doesn't have to be music. On occasion there is a need for other effects - think Hammer House of Horrors – or for younger members, The Addams family! There are quite a few items available, some come with your editing program (as does music) but might not be what you want. So, search online thus:

Creative Commons Sound Effects – and then add what effect you are seeking (such as 'door creak') and see what comes up. You might have to trawl through a fair number of files on the site(s) you choose, but its likely you will find what you want, even if 'eventually'.

Remember to double check that the site and item you are using is really under the Creative Commons licence – some sites sneak in Royalty Free items which you will pay for and which are not necessarily Creative Commons licenced. Some sites run both RF and CC, which is a trap for the unwary. To clarify:

Creative Commons licences allow you to use the items freely and **without payment** as long as it is 'non-profit'. Usually the requirement is that you name the author – that's their 'kickback' as it acts as a form of advertising for their work. The item will tell you what you need to do for fair use. Sometimes the author will allow non-profit use free, but will arrange a fee-paid version with individuals who wish to use the work for profit – again it's a matter of fair trading, and the terms should be made clear on the site.

Royalty Free items are those you **pay for** generally up-front (emphasis on 'pay for'), and then you can use them for any purpose and for as many times as you want with no further payments to make. The use of the word 'free' here means that once you have bought the item you are able to use it freely! Usually there is a stated desire that the author is credited when using them somewhere on the site (or CD if purchased in that form).

Some items in either licencing form permit you to make modifications to it – and that depends on what software you run and how clever you are! Usually it is a matter of using only part of a track rather than seriously changing it.

Benefits of paying for Royalty Free items is that you are more likely to find such items as "real" classical compositions if you have a specific piece you want to use. Or for that matter, specific music tracks of any sort. If you just want 'genre' music then Creative Commons will give you a large choice. You get what you pay for!

<https://creativecommons.org/legalmusicforvideos/>

A site with advice concerning Creative Commons licensing. Generally speaking, CC licence means that you can use the item (music or anything else) freely for non-profit projects. Occasionally you are permitted to use it for profit, with whatever has been specified on the site adhered to – usually giving the author's copyright.

Searching online for Creative Commons Music is a good way of sourcing your incidental music. Beware of "free music" offers – it is not necessarily under Creative Commons licensing. Some is "Royalty Free" so there is a purchase price after which you are free to use it how you will. "Free" is a variable definition!

You can usually listen to the music before you download it for use on sites offering it. It is well worth doing so – CC music ranges from good to truly awful!

<http://creativecommonsmusic.org/> <https://soundcloud.com/groups/creative-commons>
<http://www.amclassical.com/creativecommons.shtml> <http://danosongs.com/>

This last site is the author's (Dano) own rather than a general music site.