Editing in FCP7 in 2021?

Why and how

Many filmmakers today edit their movies in *Final Cut Pro X*, often abbreviated FCPX and introduced in 2011. Since a few years, FCPX is called just *Final Cut Pro* or FCP by Apple. This can be a little confusing since, as most of you know, FCPX had a forerunner that was produced from the late 1990s and was also called Final Cut Pro. The last version of the old program, Final Cut Pro 7.03, was released in 2009 as part of a suite named *Final Cut Studio*. I will refer to this version as FCP7.

Apple stopped selling FCP7 in 2011 and at the same time introduced the first version of FCPX. This attempt to substitute FCPX for FCP7 led to extensive protests among film makers, because the first FCPX had many weaknesses. Apple therefore agreed to sell FCP7 to a limited extent for a few years more. See also https://en.wikipedia.org/wiki/Final_Cut_Pro.

Many editors continued working with FCP7 long after 2011. However, today not very many use the old program. The main reason for this is of course that FCPX has become a very powerful and better designed program. It can do a lot of things that FCP7, not further developed after 2009, is not capable of. Another reason is that one cannot run FCP7 on later versions of macOS than 10.12 (*Sierra*). *High Sierra*, i.e. macOS 10.13, was launched in June 2017 and all Mac computers built after that ship with High Sierra or higher pre-installed.

Considering these limitations, is there any reason for editing in FCP7 today? And what does one have to think of, if one wants to stay with the old program at least for a while, or wants to run FCP7 and FCPX in parallel? I will assume that most readers of this text already have their reasons to use FCP7, so it will focus on the *how to*.

System requirements

Firstly, one must use a computer with a system older than 10.13, High Sierra. The latest Sierra version 10.12.6 is a good choice, since with it one will also have access to a lot of rather modern programs that can be helpful in the editing process; see below. You may then also run FCPX on the same computer, although you will be limited to FCPX 10.3.4.

Earlier versions of macOS than 10.12 will also do. I recommend 10.6.8 (*Snow Leopard*) from 2009, that marks a milestone in the development of macOS. (https://sv.wikipedia.org/wiki/Mac_OS.) With it, you will not have access to more ”modern” programs. On the other hand, you can run some programs on 10.6.8 that do *not* work on 10.12.6. On balance, however, macOS 10.12.6 is probably the best choice. The text below assumes you will be using 10.12.6.

Among the ”more modern programs” that have been launched after 2009 but work well together with FCP7 on Sierra, I want to mention *Mercalli SAL* and *Wondershare Uniconverter*. Mercalli SAL stabilizes clips before they are put into FCP’s *Browser*.

Uniconverter has many uses: to convert H.264 film clips to Apple ProRes, to scale 4K clips down to HD, and to convert 10 bit clips to 8 bits. More about these uses below!

It is also worth noting that you can run *Quicktime 7*, including Quicktime 7 Player and Quicktime 7 Pro, not only on 10.6.8 but also on 10.12.6. Quicktime 7 is useful for handling final project media, both for playback and for converting them into different sizes and image quality. Quicktime 7 Player is still provided by Apple, https://support.apple.com/sv_SE/downloads/quicktime (choose version 7.6.6 for Mac).

At the same time, the newer *Quicktime X* also runs on Sierra. So you can have both on the same computer and choose the one you find best for your current purpose. The programs are built in fundamentally different ways and each have their advantages and disadvantages. See https://en.wikipedia.org/wiki/QuickTime.

Hardware

A fast processor (or processors), a fast hard drive, a lot of RAM and a big screen are of course all good to have when editing. Many new Mac computers have all these things; not least they tend to have an SSD drive. One can also get a Mac that can handle and show 10 color bits; they have been produced since late 2015 (as iMacs with 10 bits Retina screen). Sierra. Presumably the machine you found has a system later than 10.12. So if you want to give it a try, you first have to downgrade the system. This *may* be possible but is always complicated. See https://www.macworld.co.uk/how-to/install-old-mac-os-3679956/. A successful downgrade also implicates that one loses access to several new programs that one used to use before, but that do not run under Sierra.

It is a better option to try to find a computer that already has Sierra, or that can be *upgraded* to Sierra. This means that it must be built between 2011 and 2017. It is not difficult to get hold of one of these for a reasonable price. Then you should install an SSD in it, if there isn't one already. Having an SSD as a start drive means more for the machine's performance than anything else, so you need not go for a *late* 2011-2017 Mac.

(I myself use a 27" mid-2011 iMac and it fits my purposes well. The mid-2011 model was the last iMac that had an inbuilt SuperDrive, i.e. the possibility to read and write CD and DVD disks. This is something that I really want, though it may not be important for you. In the mid-2011 version, one may also put an SSD in parallel with the mechanical drive without removing the Superdrive. The SSD in my iMac has macOS 10.12.6 installed. It serves as the default start drive, and FCP7 is located on it. There is also a large mechanical drive with macOS 10.6.8; it mainly serves for storage, but is used as start-up disk when access to certain older programs is required. It also hosts a copy of FCP7.)

Common troubles

Before the details about editing, here are a few general points to remember.

One well-known problem with FCP7 is its tendency to crash when it has to work with too much information simultaneously. This has to do with the limited amount of RAM that the program can access (4 GB). With the film formats and camera capabilities of today, the files that are fed to the editor are often very large. Therefore the FCP7 error messages ”Out of memory” and ”General Error” tend to appear more often today than 15 years ago.

The only way of handling such an error is regrettably to force quit the program. Then a lot of work on a project may get lost. Even worse, you have to find a way to avoid that the same error occurs when you resume work on the project. But that is not as difficult as has sometimes been implied. Here are some rules, most of which are almost self-evident.

Read this link for more advice: https://larryjordan.com/articles/trouble-shooting-your-fcp-system/.

1. Save your project often.
2. FCP7 makes scheduled backups, how often can be set in *User Preferences*. But the timing of the backup is crucial. So it is a good idea to make a duplicate project file every time your work has progressed considerably without crashing. This can be done through the FCP7 menu choice *File – Save project as…* or in the Finder.
3. If the program has crashed, and crashes again when you re-start it by clicking its icon, then go to the last saved project version instead.
4. If crashes are frequent, trash your FCP preferences.
5. As with most programs, a restart of the computer may save the day if the situation seems hopeless (I seldom need it for FCP7, though).
6. Stay calm – there are ways to avoid future crashes:
7. Any project file larger than 100 MB will cause FCP 7 to crash. Keep project file sizes small.
8. Always edit in Apple ProRes. It puts less demands on FCP7 than H.264 (and several other formats delivered by the camera). If the file did not come as ProRes, convert it to ProRes with *Uniconverter*.
9. Do not try to edit in 4K. Since you can put 4K clips in the FCP7 *Browser* and *Viewer* it might seem possible to edit them, but it is not. If the 4K originals are in 8 bit color you can create proxies and edit them in FCP7 (something that I have not tried), or show them in Quicktime 7 or X without editing. Else, you should convert them to 8 bits with *Uniconverter* and at the same time downscale the material to FHD. *Save the originals* for editing with other programs, for example FCPX, in the future.
10. When you start building a sequence of clips, go to the menu choice *Sequence – Settings – Render control* and choose 25 or 33 %. This means that what is shown to the user during editing has only a minor part of the original’s resolution. Which of course also lessens the load on FCP7.

11. Avoid rendering to much material simultaneously. How much is ”too much” will show up through the error messages… If you get the ”Out of memory” message when trying to render a whole sequence, go to an earlier version and render one clip at a time. Maybe you have to divide some clips into several. This always works – don’t give up!

12. (Uncertain). Be careful with the operation of clicking at a clip in the *Timeline* in order to shorten or lengthen it. This is a very useful operation, but it has resulted in error messages for me at some occasions. Not lately though.

Optimizing your projects

Setup tips

1. Before any session, choose your scratch disk(s) in an optimal way. This is done in *Final Cut Pro – System Settings*. A scratch disk is a piece where you put your film material for FCP7 to read, and where FCP7 puts its own semi-manifactured stuff (such as rendered files) during the editing process. Although FCP7 can be very slow when handling big files, having an SSD as a scratch disk speeds up the program a lot. The SSD does not have to be the sole scratch disk for this to happen.
2. In the same *System Settings*, set *Memory usage, Application* to 100%.
3. Choose good sizes and positions for the FCP7 windows. If something goes wrong when you manipulate the windows, remember that Ctrl-U always restores the defaults. Then go to *Window – Arrange – Save window* layout and save your layout under a fitting name. It can later be retrieved through *Window – Arrange – Load window layout*, or via a shortcut that FCP7 offers. It is good to have more than one such layout at hand for different situations, for example when you want to see several windows from other programs at the same time.

Editing tips

4. The *codec* (coder-decoder) of a file is the way it has been compressed, together with the way to de-compress it. Two well-known codecs are ProRes 422 and H.264. They are both available with different degrees of compression and are both used by FCP7. ProRes files are much larger than H.264 files of similar quality. H.264 is above all used to produce films that are to be shown in other programs. ProRes 422 was released by Apple at the same time as FCP7, and is mainly used in the program’s internal handling of data. For more info about ProRes see https://en.wikipedia.org/wiki/Apple_ProRes. Many programs, including QuickTime 7 can *both produce and play* H.264 films. Rather many programs can *play* ProRes files, but rather few can *produce* them. The software in GH4, GH5 and some other cameras can create them. See further below!
5. The *color depth* of a media file denotes the number of different combinations of primary RGB colors that are represented in the file. 8 bits means around 16 million of different such colors, 10 bits are a little more than one billion. Several modern media are 10-, 12, even 14-bit. It was not until 2015 that Apple released an iMac that really shows 10 bits on the screen. In 2018, the same happened for the MacBook Pro. There are indeed programs that can handle 10 bits and that run on older Mac computers, for example *VLC*

3.0. However, on the older computers (without an attached extra 10 bit screen) they can only show an 8 bit version of the file. The *Finder* and *Quicktime* of the older computers do not even recognize 10 bit files as movie files. A ProRes 422 file can handle up to 10 bits, but FCP 7 is designed to work with 8-bit media. So if you have shot a 10 bit movie and want to edit it with FCP7 on an old iMac with macOS 10.12 Sierra on it, you will first of all have to convert it into an 8 bit file. This is easily done with *Uniconverter* but takes some time. Then you can view the files with Quicktime and choose which to bring into FCP7. Save the originals for possible future editing in another program! Transcode any media with greater bit depth before editing in FCP 7.

6. Among *Effects – Video Filters* you may find the menu choice *proDAD – Mercalli 2.0* (if you have paid for it, that is). It is for stabilizing clips while editing, and is efficient but not easy to handle. Since 2017 there is instead the stand-alone program *Mercalli SAL*, that is much easier to work with. It runs under Sierra and is used either before one puts the film clips in the FCP7 *Browser*, or on finished movies. How *Mercalli SAL* compares to the stabilizing function in *FCPX* would be interesting to know.

Export tips

7. Now we are at the end of the editing process and are going to export a sequence. Most of the properties of the final film depend directly on the sequence settings. So before exporting, go to *Sequence – Settings.* In *Render control* now choose 100 %. Else your film will get the same bad resolution as that used in the FCP7 *Canvas* or *Viewer*. Under the tab *General* choose *Apple Prores 422* as *Compressor*, and as *Aspect Ratio* choose *HDTV 720p* or *1080i*. If there was a high-quality audio input, choose your *Audio Settings* accordingly. At the tab *Video Processing* there are several alternatives – see below!
8. One option is to export via *File – Share*. Choose *Apple Prores 422* if you plan to re-import the finished movie into FCP7. Choose *Quicktime H.264* if you intend to use the result for showing. This takes a little longer but produces shorter movies. Share produces a movie that has most of the properties chosen in *Sequence – Settings*. For exceptions see next paragraph. With *Share* you can at the same time export several movies suitable for e.g. YouTube, DVD or BluRay.
9. Another menu choice is *File – Export – Quicktime Movie*. On the *Save* screen that appears, I suggest that you choose *Current Settings* under *Setting*. You can now take advantage of some of the current *Sequence – Settings* that *Share* does not use: 1. High-quality *Audio* settings now gives a high-quality audio output, while *Share* cannot use these; 2. If you have chosen *Render all YUV material in high-precision YUV* under the tab *Video Processing*, you will get a higher quality video than what is possible with *Share*. However, the chances are that you will not be able to see any difference; I cannot. So with *Share,* you may as well choose *Render in 8-bit YUV.* – Note that if you have rendered in *ProRes* you will get a *ProRes* file as output from *File – Export – Quicktime Movie*. If you want H.264, use *Uniconverter.*
10. With *File – Export – Using QuickTime Conversion* one can choose a lower quality and a smaller format of the movie, and thereby a smaller exported file. The result is always H.264 compressed. The same can be achieved by taking any H.264 file exported through *Share* and running it through the *Export* menu of Quicktime Player 7. Quicktime Player X also has an *Export* menu choice but with fewer alternatives to choose between.

11. When you close a project the question always comes up if you want to save it. A natural choice may be *Yes*. But do not answer *Yes* if you have fiddled with your project *after* exporting a good film. That will of course overwrite your good project… I have *No* as default answer, presupposing then that I saved the good project *before* exporting.

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