

## Green frames on playback and crashes in FCP

Posted by Duane\_Martin - 12 Sep 2010 07:38

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I came across a thread on another forum when I was seeing the problem of green frames in the Canvas and/or Viewer windows that was frequently followed by a crash in FCP. Gary Adcock had commented that the "green flashes during playback with ProRes materials are encode-decode errors from the CPU" struck me as odd as looking at activity monitor it was apparent my CPU was not being stretched. In fact, on a 2008 Quad 2.8GHz Mac Pro I am able to run 4 simultaneous streams (PIP) of the Apple ProRes Proxy clips and not push the processors past 50% and with no green frames. It seemed possible something else was happening on my systems.

The trick to defining a problem is to ensure it consistently repeatable, and on more than one system; our problem turned out to be a memory error, probably related to how FCP 7.0.2 handles RAM(?). Originally it was one editor's projects that would always trigger the issue, and he has a workflow that generates very large project files (>250MB with 200+ Sequences inside; it's the Sequences that bloat projects). Watching Activity Monitor (Applications / Utilities) I can watch FCP Real RAM usage creep up as I open projects and Sequences. Around the 2.55GB range the green frames would start. Oddly they could be made to disappear by deleting a text item in a Sequence, and then undoing; but the green frames would start again soon enough. Quitting a project would not necessarily relieve the problem, but a combination of quitting a project and toggling clips would (reset memory usage?).

To further investigate we used FCP Internal Tools to do a Perf Dump and in the resulting file we could see a warning that (in one case) 112% of physical memory was being used and 96% of virtual memory. On any machine that was seeing these green frames you could cause a FCP crash by opening just one more moderate size project (always) or trying an Undo or edit (often). Even basic playback could result in a crash (sometimes) if the RAM was full.

Keep in mind that FCP 7 is still a 32-bit application with restricted memory usage. Regardless of how much RAM you have installed, regardless if you are running Leopard or Snow Leopard, FCP is physically limited to approximately 2.56GB of real memory. My experiments demonstrate it is unstable at this level of usage.

This was repeatable across three separate Mac Pros (2x 2006 and 1 x2008) all similarly configured except for a mix of Kona LHe (x2) and Kona 3 cards. All were running Mac OS X 10.5.8 and had either 6GB RAM or 8GB RAM configured according to Apple. It did not require that a particular project file be open but rather any combination of project files that would overload the RAM.

If you are seeing green frames on playback in your Viewer or Canvas window and experiencing crashes take a look at FCP's RAM usage. Our solution is to manage project file sizes and be aware of how many projects are open at once. Past experience in FCP has shown me that large project files (>150MB, and definitely >250MB) are problematic; this is the first time I have quantified the problem with RAM usage.

My observation may not be related to all cases of green frames and crashes and I do not mean to imply that the issue is not related to the CPU in some cases. I would sincerely appreciate an experiment that would demonstrate the issue being caused by the CPU which I could repeat to ensure the problem on my systems do not have more than a single cause.

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**Re: Green frames on playback and crashes in FCP**

Posted by Duane\_Martin - 15 Sep 2010 11:07

It is worth noting Apple released an update for Pro Applications (2010-02) today (Sept 15, 2010) that specifically mentions "Several memory fragmentation issues have been resolved." I will report Friday whether this resolves the above mentioned problem in any way.

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**Re: Green frames on playback and crashes in FCP**

Posted by Duane\_Martin - 20 Sep 2010 09:37

My tests with the green frames / crashing problem after installing the [Pro Applications Update 2010-02](#) were inconclusive. Though I was able to cause the problem again it seemed to require I open more projects to achieve the error. However, as I did not anticipate testing for that outcome I have no way to go back and see if that is the case absolutely. So, with the update you can still get green frames and crashes, but FCP *may* manage the memory better thus allowing more projects and sequences to be open before failing.

Please follow the [Pro Applications 2010 02](#) update thread on this forum for further updates.

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**Re: Green frames on playback and crashes in FCP**

Posted by Kittihawk - 06 Jan 2011 04:25

Thanks - great detail there.

I got green frames after using a variable speed ramp of 300% on three short clips in an Apple Pro Res sequence. After removing and re applying it went away - probably only goes to show that, as you say, there are other ways of getting green frames. (System spec was Mac Pro Quad and had Blackmagic card).

## Re: Green frames on playback and crashes in FCP

Posted by Jeff C - 12 May 2011 14:14

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Hi Duane, thanks for your very thorough exploration of the Green Frame / Out of Memory problem. Your thread says to follow the conversation via this link: Pro Applications 2010 02 [forum.emotionhd.com/index.php?topic=4873.0](http://forum.emotionhd.com/index.php?topic=4873.0) but that takes me to a 404 page. Did you continue this conversation anywhere? I searched the forum and couldn't find it.

I've been experiencing this problem lately, but before launching into the details of my problem I wanted to make sure I read everything posted here.

Thanks for any help. And thanks again for being so clear and thorough - the vast majority of troubleshooting forum posts are cryptic, off point, confusing or just don't hit the nail on the head of what one is seeking.

Jeff

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## Re: Green frames on playback and crashes in FCP

Posted by Duane - 15 Dec 2011 10:39

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Hello Jeff, welcome and thanks for posting.

Unfortunately our forum has gone through a major transition and in the process many links have become broken. As the original posting was made more than a year ago I am not sure what posting that link was meant to take you to. It might be [this one](#).

We continue to work at fixing the forum and please keep the feedback coming in.

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