

PC parts upgrades

Posted by AllTheseThings - 30 May 2019 22:40

Hey,

Here is my current system, thoughts as to where to start upgrading? I tried running a preview of a video project last night, it can't keep track of audio and video at the same time. So, my system seems to be insufficient, just trying to make sure I improve the most needed items first!

GeForce GTX 550 Ti

i5-2400 CPU 3.10GHz- 4 CPU's

8gb RAM (two 4gb sticks)

Two optical drives (1TB and 250GB- Both WD Black)

Windows 10

My Thought with the glitching and general slow movement that I would start with the RAM (go to at least 16gb or maybe 32), if that didn't provide the oomph, a graphics card may fill the need, if neither of those solved it, the CPU to an i7 would be next on the list. An SSD would be helpful as well, but at this point we are getting nearly an entire computer assembled and it seems I should be able to work this hunk of junk into a well oiled machine again at least for the time being.

I am familiar with the suggestions from Lightworks, unfortunately, I am painfully aware I am not made of money, so trying to get the program to function without dropping 1k on a computer would be ideal.

thoughts?

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Re: PC parts upgrades

Posted by AllTheseThings - 30 May 2019 23:14

Also,

I should clarify that the issue I am having specifically, is that when trying to preview my work in the editing process (to be sure I have lined up music/sounds/video/pictures, etc..) there is a delay to the

music/video meaning that not only do they not sync as i watch, but that it is impossible to tell if i have achieved my editing goal. So maybe the fix isn't my system anyways? I have been running the task manager to observe my computer's function while on various tasks, very interesting, but it seems the computer can handle the basic editing just fine, just not the playback that is absolutely essential to double checking your edits!

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Re: PC parts upgrades

Posted by hugly - 30 May 2019 23:57

Hello,

Cutting on sound and syncing sound by listening is dangerous business on low powered computers with Lightworks, currently. However, the first thing before investing anything in hardware is trying the internal proxy workflow with your material.

www.lwks.com/index.php?option=com_kunena&func=view&catid=217&id=194770&Itemid=81#194787

Tell how that works.

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Re: PC parts upgrades

Posted by AllTheseThings - 31 May 2019 22:38

That seems to have done the trick for now. So by setting proxies for all clips being used, I should be able to edit, but I should probably work to pre-sort the clips so I am not creating proxies for long clips of which I am only going to utilize a couple seconds?

I guess I am confused on how else you would align video/audio? without placing video then previewing your placement. I mean I can look at the levels in the audio bar to help, but at some point you have to watch what you have created to confirm you are in the right place, correct?

Having watched the task manager useage during some editing, it seems I am rarely cresting 70% on memory, but am maxing CPU when creating proxies and exporting, but I guess I feel like that is probably standard that such a heavy process would utilize all available CPU power? So a better CPU would accomplish the tasks faster, but currently my little i3 does things fine, just slow?

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Re: PC parts upgrades

Posted by hugly - 01 Jun 2019 03:34

A lot of good observations and essential questions.

So a better CPU would accomplish the tasks faster, but currently my little i3 does things fine, just slow? Yes, editing performance depends not only on computer hardware, but also on material used and complexity of edits. This remains true on a 2 core Celeron and a 24 core Xeon.

I guess I feel like that is probably standard that such a heavy process would utilize all available CPU power? Yes. In some detail: Lightworks uses the CPU for most of the work, encoding, decoding, file I/O and the entire user interface. The GPU is used for scaling, display and effects. The components work together. With dedicated graphic cards, there's a significant amount of bus traffic, caused by moving data between the CPU and GPU back and forth, which isn't visible with a performance monitor.

I should probably work to pre-sort the clips so I am not creating proxies for long clips of which I am only going to utilize a couple seconds? Probably. It depends on the structure of your material. Unfortunately, Lightworks doesn't support creating proxies of subclips, currently. Proxy creation can run over night, or you can split some clips roughly with ffmpeg (as one possible and free solution) prior to import, or you can split and convert to some edit-friendly format which doesn't need proxies to perform well. Only you can say if the effort for splitting prior to importing pays.

I mean I can look at the levels in the audio bar to help, but at some point you have to watch what you have created to confirm you are in the right place, correct? Exactly, to watch, not to listen and very important, proper set up of separately recorded sound starts with suitable recording devices and proper capture settings.

There are many workflows for syncing sound, but without valid timecode on both, video and audio, all start with a spike:

This video shows syncing sound by shifting tracks on a temporary sequence in order to create sync objects which can be used as source to populate the target sequence after syncing is finished:

Edit: Beside of the fact that human ears and eyes don't work well together when it needs to detect simultaneous events, latency in the audio chain can cause [audio monitor delay](#) . This makes cutting on sound and syncing sound by listening even more difficult and unfortunately, the delay depends on computer performance.

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Re: PC parts upgrades

Posted by AllTheseThings - 05 Jun 2019 22:45

Ok,

Having made the changes by utilizing the proxies and then editing, I see an improvement, however, the issue I am still having is that the soundbar waves for the song I am seeking to edit does not clearly display the specific beats i am looking to find (and edit to), if I chose a different song I understand that I could make that happen, but if I can never use my ears to identify which waves represent which instruments, then I am just guessing which peak corresponds to which sound.

If I were to upgrade any one component of my computer system, which do you think would make the biggest impact on the issue? I understand that upgrading everything would be much more predictable, but I am trying to get to a point where I can feasibly accomplish editing tasks, and if I enjoy it, invest in a different system in the future, but currently I am going to struggle to be able to assess whether I even enjoy it that much.

thanks for your help!

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Re: PC parts upgrades

Posted by hugly - 05 Jun 2019 23:00

I know that it's difficult to cut on sound with audio monitor delay. One or two frames don't matter, but beyond that, things can become difficult.

Please check the thread below to find out the amount of audio delay you're encountering in tenth of a second.

www.lwks.com/index.php?option=com_kunena&func=view&catid=8&id=130612&Itemid=81#130612

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Re: PC parts upgrades

Posted by AllTheseThings - 05 Jun 2019 23:28

To illustrate one work around I just utilized. I opened a new project with only my audio file, then when playing it, I noted which spikes corresponded with which instruments, then went back to my actual edit and slid the cuts to the correct spikes. This solved the problem, but obviously is not a practical solution. Especially if the latency were a factor in a longer edit with multiple audio clips interspersed with voice audio (that I could slate edit for latency by sight).

It seems my computer lacks the oomph to play the preview with all timelines coordinated. What I am unsure of is whether it is a CPU, RAM, or Graphics Card issue (or all three). It seems that the more complex the edit, the more difficult it is for the computer to coordinate, and upon finishing a sequence it will be important to review work before getting hours into editing with no opportunity to check back, even for basic continuity.

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Re: PC parts upgrades

Posted by hugly - 05 Jun 2019 23:48

Editing performance depends indeed on material used and on complexity of edits. You can knock any system down with too much complexity, that's why timeline rendering exists for complex effect setups, and proxy workflows and high performance intermediate video codecs, for the same purpose.

However, from what I see here, when simulating low powered machines on different virtual machines, audio monitor delay does depend mainly on CPU power. In other words beyond a certain limit audio plays in sync (within 1-2 frames) no matter how complex the timeline is.

To preview your work you can export your sequence or any part of it anytime and preview with a local media player.

Still, you need to know your audio monitor delay and I'd appreciate if you could share the value.

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Re: PC parts upgrades

Posted by AllTheseThings - 06 Jun 2019 22:18

Not a problem, it appears i am in the +1 range, it may be a +2 or a 0, but I think +1.

It sounds with the proper computer set up, I may still find myself exporting particularly tricky portions of an edit to be sure I got it right... (The last time I edited a video must have been 2003 or 2004, and at that time the system we used took a huge amount of time to export, so you didn't export until you were sure it was done), and really only using the preview to get a rough idea of what i am looking at (which is why the proxies work, because the preview is by its very nature, rough.)

So on the topic of hardware, since my audio/video sync varies, from right on when adding the first video clip, to significantly delayed when adding the 10th (and subsequent), the assumption is that my poor old CPU is getting overloaded, lacking the power to keep all of the juggling balls in the air, so the lag hops on the train. Does the i7 range of CPU's function well, or do they feel under-powered when running lightworks? (I need to figure out how much of an investment I need to sell the wife on), or do the "system requirements" list a pretty reasonable set up that would function more or less as well as a more expensive rig?

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Re: PC parts upgrades

Posted by jwrl - 07 Jun 2019 00:42

My Lightworks system runs more than comfortably on an i7 4790 running at 3.6 GHz. I have 32 GB of RAM as well, and an older Quadro GPU. Boot/system drive is a 1TB Samsung 850 EVO SSD.

Media goes onto either my 5.5 TB RAID array or one or more of a collection of external USB 3 drives. I work with up to 4K media.

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Re: PC parts upgrades

Posted by hugly - 07 Jun 2019 01:01

AllTheseThings wrote:

it appears i am in the +1 range, it may be a +2 or a 0, but I think +1.

Everything below 1/10 of a second is outside the range human beings are able detect reliably. So, not an issue. Our ears and eyes are not designed for detecting simultaneous audible and visible events. In the

real world sound is always delayed, depending on the distance to the source of sound. I'd have expected to hear from you something like 5 or 8 frames at 25 fps.

So on the topic of hardware, since my audio/video sync varies, from right on when adding the first video clip, to significantly delayed when adding the 10th (and subsequent)

10 tracks, that is another talk. Would you blame the tractor for not pulling fast enough if you put too much load on it? Working with 10 tracks increases the load while decoding by ten times, the load needed to render effects not counted. By adding more and more tracks connected with effects, you can kill computer performance of any scale. The pro version allows timeline rendering which reduces load to one single stream using high-performance codecs, if that's an option for you.

Does the i7 range of CPU's function well, or do they feel under-powered when running lightworks?

Lightworks runs well even on i3 CPU's with integrated graphic and 8 GB of RAM when using not so demanding material and setups.

You are the master of the load, so you are master of the tractor. If you're an enthusiast, and for highly demanding setups I'd suggest investing as much as you can.

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Re: PC parts upgrades

Posted by jwrl - 07 Jun 2019 01:31

hugly wrote:

Lightworks runs well even on i3 CPU's with integrated graphic and 8 GB of RAM when using not so demanding material or setups.

It simply doesn't unless you're prepared to use proxies. If it did the recommended system specs would be i3 with integrated graphics and 8 GB or more of RAM. Instead it's Intel i7 chipset or faster or fast AMD chipset, PCI Express graphics card (NVIDIA or AMD) with 1GB or higher, and 3GB RAM or higher. That amount of RAM I would take issue with, but 8 GB should be fine.

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Re: PC parts upgrades

Posted by hugly - 07 Jun 2019 01:37

jwrl wrote:

It simply doesn't unless you're prepared to use proxies.

Yes, of course, with proxies or with edit-friendly codecs up to 720p and a simple timeline. If the load is low, even a small tractor can pull it.

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Re: PC parts upgrades

Posted by AllTheseThings - 07 Jun 2019 05:35

To be clear, I am talking about a project just over 30 seconds, with only one track of music, no audio from the movie clips, probably 10 different clips of video, most having simple text overlaid as an FX, no fancy transitions. It is a basic intro clip, and a decent litmus for a task that my computer needs to be able to accomplish if I am going to move on to longer or more demanding work (such as a 5 minute vlog)

Being from Ohio, I really enjoy the tractor analogy! 🇺🇸

I might be trying to plow a field with a compact tractor, but the plow is a small one and the tractor doesn't seem capable of even doing that. The question is, how big of a tractor does it take to drag lightworks reasonably well, this then gives me a price point to poke around the internet for options.

As to the test, it was a genius way to test the delay, in a project all to itself, the test showed little to no delay, however, if I put it in the project that I was otherwise working on, I expect I would see a significant delay between audio/video because of the extra material the CPU is working with (+10 frames at least), that same delay does not appear in export though, which is what has prompted all of these questions. (of how to get the program and my hardware to work together well enough to allow me to use it).

All of which to say, an i7 is completely reasonable at this point (summer 2019), an i9 would be better, but not necessary to run relatively short, light editing duties?

Thanks again for all of your help!

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