

I clean installed OSX10.12 and straight after upgraded to OSX10.3.6, made all the updates (security, etc.) to my MacPro (late 2013, trashcan, 3GHz 8-Core Intel Xeon E5, 64GB 1866MHz DDR3, AMD FirePro D700 6144MB). Installed only Isadora 2.6.2b3, QuickTimePlayer 7.6.6 (Pro), Magewell USBCaptureUtility, Blackmagic DesktopVideo 10.11.2. No other software on the MacPro (other than comes with OS).

Test 1. Use the utility to reset all the settings on your magewel devices, plug in just one and capture at 1080p50 making sure the output of the camera is 1080p50 (by connecting to a screen briefly) as well and the system is not doing any conversion. Use Isadora with a blank patch and just a video in watcher attached to a projector showing the image full screen on the second monitor. Report what you see on activity monitor for ram and CPU and what you see visually, as well as your Isadora target frame rate and also take note of the cycles.

Test 1 results. Magewell reset, just one hooked on, but to achieve 1080p50 I had to set the advanced menu correspondingly. Capture at 1080p50 (set also in Isadora prefs & Record Stage, and shows 1920x1080 both in the actor connection preview and Live Capture Settings, as well as Magewell USBCaptureUtility Video Capture format: 1920x1080, 50.00fps, YUY2). Blank patch with only video-in-watcher and projector, full screen on only second monitor.

What I see: patch starts ok, after couple of minutes starts to drop frames and stutters about couple of minutes and goes slowly to non-stutter. This is repeated in some sort of interval that can be around 5-10minutes (of which non-stutter about 2minutes).

What's on Isadora interface: Cycles mostly around 750-780, fps mostly 50.0

- only sometimes/less than 5% of time fps 49.5-50.1, but doesn't seem to be connected to the stutter because doesn't necessarily happen simultaneously. For example fps can show 49.7 even there's no stutter at all.

- (max cycles when Live Capture stopped is 800)

- cycles act a bit strangely in 2.6.2b3 (I've noticed it before with any patch): with this patch cycles stay around 760-780 for about 10minutes and start to drop until about 350-400 and then climb again to 760-780. The cycle descending takes about 2-5minutes and ascending back about 10sec.

Activity Monitor: Memory Used around 5GB of total installed 64GB, CPU Isadora around 70% (Activity Monitor itself about 1,6% and other processes about 0,2% or less). GPU History show only about 5% on only one GPU while the other GPU is "passive" (Dual GPU AMD D700).

After the first test (above), I installed also Isadora 2.6.1, just to make sure it's not a version problem, but no noticeable difference.

Test 1 repeated, results. Test repeated the next day for 45mins. Magewell reset, just one hooked on, but to achieve 1080p50 I had to set the advanced menu correspondingly. Capture at 1080p50 (set also in Isadora prefs & Record Stage, and shows 1920x1080 both in the actor connection preview and Live Capture Settings, as well as Magewell USBCaptureUtility Video Capture format: 1920x1080, 50.00fps, YUY2). Blank patch with only video-in-watcher and projector, full screen on only second monitor.

What I see: patch starts ok, after couple of minutes starts to drop frames and stutters about couple of minutes and goes slowly to non-stutter. This is repeated in some sort of interval that can be around 10minutes (of which non-stutter about 2minutes).

What's on Isadora interface: Cycles mostly around 760-790, fps mostly 50.0

- only sometimes/less than 1% of time fps 49.5-50.1, but doesn't seem to be connected to the stutter because doesn't necessarily happen simultaneously. For example fps can show 49.7 even there's no stutter at all.

- (max cycles when Live Capture stopped is 800)

- cycles stay around 760-790 for about 5-7minutes and start to drop until about 350-400 and then climb again to 760-790. The cycle descending takes about 2-5minutes and ascending back about 10sec. The stutter-less times are usually when cycles are up, but also can stutter strongly when cycles up (770-790).

Activity Monitor: Memory Used around 5GB of total installed 64GB, CPU Isadora around 70%

(drops to maybe around 68% when Isadora cycles are low). Activity Monitor itself about 1,6% and other processes about 0,2% or less. GPU History show only about 5% on only one GPU while the other GPU is “passive” (Dual GPU AMD D700).

Test 2. Use the same test but grab at 720p and report what you see on activity monitor for ram and CPU and what you see visually, as well as your Isadora target frame rate and also take note of the cycles.

Test 2 results. Magewell set to 720p50 (Magewell USBCaptureUtility Video Capture format: 1280x720, 50.00fps, YUY2), Isadora prefs set to 1280x720. Used the same patch, but Record Stage (project) set to 1280x720. Projector (Stage) and monitor (Izzy interface) set to 1080p50, like in the first test. Test made with Isadora 2.6.2b3.

What I see: the same as with 1080p50 (see above), the stutter-less times are usually when cycles are up, although the strongest stutter happened often while cycles were around 780-800.

What's on Isadora interface: Cycles mostly around 770-800, fps mostly 50.0

- the fps seemed more fixed to 50

- cycles acted similarly strange as during the test 1.

Activity Monitor: Memory Used around 5GB of total installed 64GB, CPU Isadora around 36% (Activity Monitor itself about 1,6% and other processes about 0,2% or less). GPU History show only 1-2 digits on only one GPU while the other GPU is “passive” (Dual GPU AMD D700).

- I noticed that when the cycles in Isadora went down, then CPU was around 31-32%, so there was a slight drop in CPU when cycles low.

Test 2(b) results. (Same than Test 2, but monitor with Izzy interface left 1080p50 and projector (stage) set to 720p50) No noticeable difference.

Test 2(c) results. (Same than Test 2, but monitor with Izzy interface and projector (stage) set to 720p50) No noticeable difference.

Test 3. Close isadora and open quicktimeX go to new movie recording and select the magewel capture device and capture at 1080p50 and report what you see on activity monitor for ram and CPU and what you see visually

Test 3 results. There is no possibility to choose/open preferences in QuickTimeX, at least in my OSX 10.13.6. Therefore, I cannot select the capture device or its resolution. When going to “new movie recording”, there comes a window to start the recording, but it is 720p, even I've set 1080p50 in Magewell USBCaptureUtility. So, Magewell sends 1080p50, but QuickTimeX records 720p50.

What I see (on the screen): When recording, plays well. However, after a while starts to stutter, looks like dropped frames, but the stutter lasts shorter than in Isadora and doesn't repeat within 22mins. Looking the recorded file after recording, there are no dropped frames.

Activity Monitor: CPU: VTEncoderXPService about 420%, QuickTime Player 125%. Memory Used around 5GB of total installed 64GB (VTEncoderXPService 265MB, QuickTime Player 58MB, VTDecoderXPService 30MB,...)

Test 4. Open quicktimeX go to new movie recording and select the magewel capture device and capture at 720p50 and report what you see on activity monitor for ram and CPU and what you see visually

Test 4 results. As mentioned above, there is no possibility to choose/open preferences in QuickTimeX. So, I set Magewell to send 720p50 and QuickTimeX records 720p50.

What I see (on the screen): When recording, plays well. However, after a while starts to stutter, looks like dropped frames, but the stutter lasts shorter than in Isadora and doesn't repeat within 20mins. Looking the recorded file after recording, there are no dropped frames.

Activity Monitor: CPU: VTEncoderXPService around 400%, QuickTime Player around 14%. Memory Used around 5GB of total installed 64GB (VTEncoderXPService 217MB, QuickTime Player 32MB, VTDecoderXPService 30MB,...)

5. Return to Isadora, use the magewel utility to reset all hardware settings to default for the second capture device, make a new isadora patch with 2 video in watchers set to grab at 1080p50 and 2 projectors and use the mapper to show the inputs side by side. Report what you see on activity monitor for ram and CPU and what you see visually, as well as your Isadora target frame rate and also take note of the cycles.

Test 5 results. Settings as you asked above, both computer monitor and projector also 1080p50. Made the test for about 25mins.

What I see (on the screen): stutter all the time (never totally smooth movement), but cannot say if overall worse than with only one Magewell (the stutter that happened e.g. in first test, when it happened) – maybe when frame drops happen, there are more than 1 frames dropped at each instant (?).

What's on Isadora interface: The first 8-10mins cycles 650-670, fps 50, then cycles started to drop until 500, still mostly 50fps but occasionally 49.4-50.1 (less than 1% of time). Then cycles to around 610-660 for the next 10 or so minutes and after dropped slowly to around 440, and then quite soon back to 610-660.

Activity Monitor: CPU Isadora 119-128% (mostly over 125%) (Activity Monitor itself about 1,6% and other processes about 0,2% or less), Memory Used around 5GB of total installed 64GB. GPU History show only about 20% on only one GPU while the other GPU is “passive”

6. Perform the above test at 720p50. Report what you see on activity monitor for ram and CPU and what you see visually, as well as your Isadora target frame rate and also take note of the cycles.

Test 6 results. Settings as you asked above, both computer monitor and projector also 1080p50. Made the test for about 20mins.

What I see (on the screen): first left side stutters for one minute but right side not, then both NOT stuttering for about 2-3mins. Then right side starts stutter, but left not, but after about minute both stutter. There seemed to be some kind of 8-9mins cycle with this.

What's on Isadora interface: First cycles around 720-750 (fps 50.0) and after about 4mins cycles start to drop slowly until 400 (fps still 50.0) and after about 4mins comes back to about 720-750 (fps still 50.0). This (cycles up and cycle down about during 8mins) is repeated. Then after few minutes when the cycles are up (720-750) the fps drops occasionally to 49 and keeps 49.0-50.1 for about few minutes (and of course stutter happens). Then cycles still up (720-750) and fps stays in 50.0 and no stutter for about 3mins...

(The non-stutter occurred when cycles between 680-750 and 50.0fps, but stutter happened also when cycles 720 or more and fps 50.0. Also the stutter was occasionally lesser even when cycles 400-500.)

Activity Monitor: CPU Isadora 68-72% all the time (Activity Monitor itself about 1,6% and other processes about 0,2% or less), Memory Used around 5GB of total installed 64GB. GPU History show only about 15% on only one GPU while the other GPU is “passive”

7. Go to your applications folder and duplicate the quicktime Player application so there is 2 copies. Open one at a time and select new movie recording and choose a magewell device, repeat for the second copy of the application and choose the other device. Report what you see on activity monitor for ram and CPU and what you see visually with the previews running one on each screen, you should be able to select different resolutions so try this at 2x720p50 and 2x 1080p50

Test 7 results. It seems that when both QuickTime Players on, they are capturing 29.97fps. This is seen in Magewell USBCaptureUtility interface, even the capture. However, when setting the frame rate in Magewell USBCaptureUtility only 50fps (all other fps disabled), then USBCaptureUtility interface shows 50fps. Although I don't know what it actually captures, because that is not visible in QuickTime interface.

What I see (on the screen):

(1) stutter all the time when QuickTime captures 1080p50

(2) NO STUTTER at all when QuickTime captures 720p50 – Magewell setting same as in (1) but shows in USBCaptureUtility interface Capture Format: 1280x720, 50fps, YUY2

Activity Monitor:

(1) CPU on both QuickTime Players around 6,5%, Memory Used around 5GB of total installed 64GB. GPU History show only about 8% on only one GPU while the other GPU is “passive”

(2) CPU on both QuickTime Players around 7,5%, Memory Used around 5GB of total installed 64GB. GPU History show only about 5% on only one GPU while the other GPU is “passive”

7b. Try to record from both of these at the same time, trying for both 1080p50 and 720p50

Test 7b results.

What I see (on the screen):

(1) stutter all the time when QuickTime captures 1080p50

(2) stutter all the time when QuickTime captures 720p50 – Magewell setting same as in (1) but shows in USBCaptureUtility interface Capture Format: 1280x720, 50fps, YUY2

(3) stutter all the time when QuickTime captures 720p50 – Magewell setting max res 1280x720 and shows in USBCaptureUtility interface Capture Format: 1280x720, 50fps, YUY2

Activity Monitor:

(1) CPU: both VTEncoderXPCServices around 240%, VDCAssistant 88%, kernel task 70%, WindowServer 19%, QuickTime Player around 13,5%. Memory Used around 5GB of total installed 64GB (VTEncoderXPCServices each 16,5MB, QuickTime Players each 74MB, ... (kernel_task 2,60GB)) GPU History show only about 5% on only one GPU while the other GPU is “passive”

(2) CPU: both VTEncoderXPCServices around 495%, QuickTime Player around 16,5%. Memory Used around 5,5GB of total installed 64GB (VTEncoderXPCServices each 240MB, QuickTime Players each 48MB, ...) GPU History show only about 8% on only one GPU while the other GPU is “passive”

(3) no real difference to (1)

What I see when playing the file (QT 7):

(1) the files have dropped frames, QT 7 Inspector states around 42,8fps for one and the other 45,5.

(2) the files have dropped frames, QT 7 Inspector states around 42,5fps each.

(3) the files have dropped frames, QT 7 Inspector states around 44fps each.

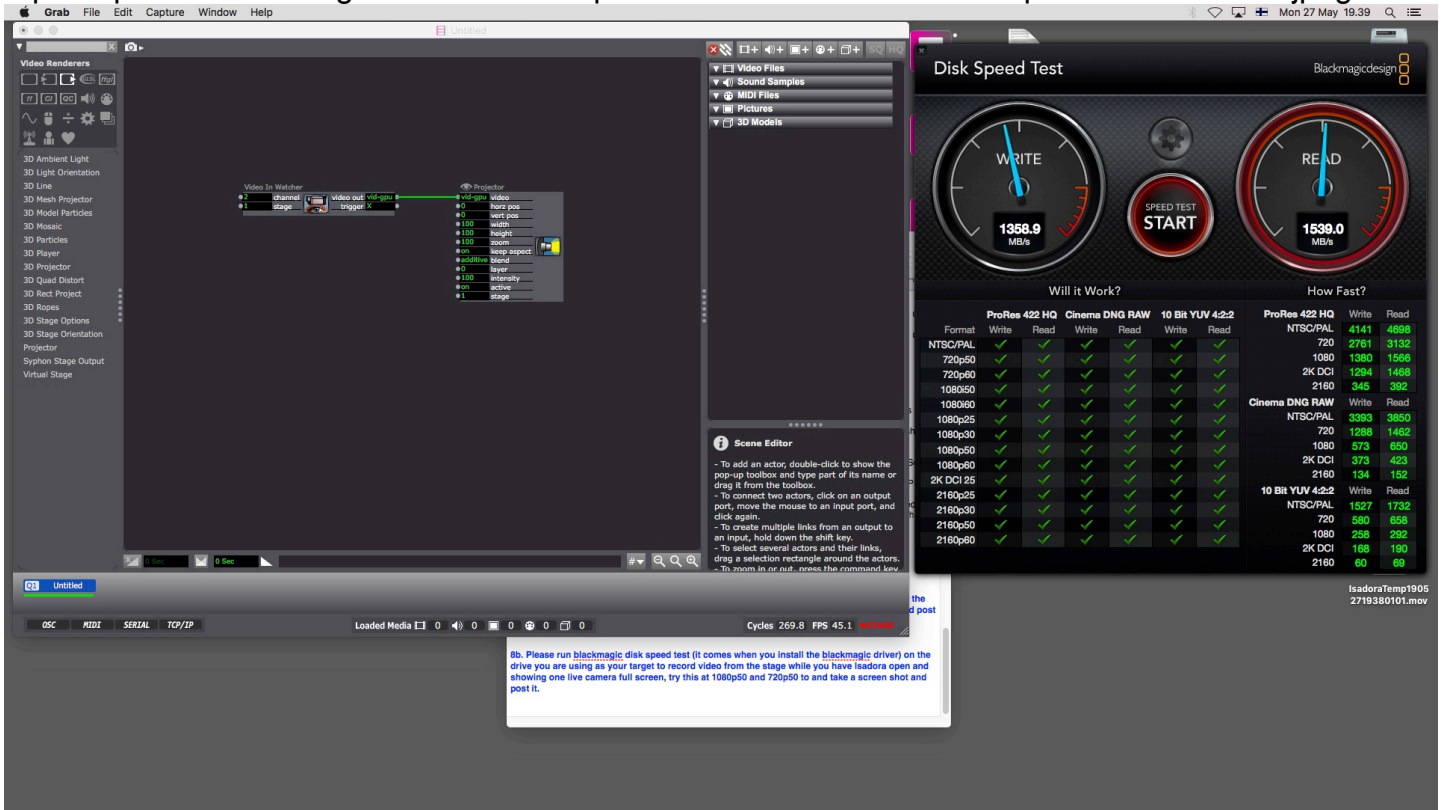
8. Please run blackmagic disk speed test (it comes when you install the blackmagic driver) on the drive you are using as your target to record video from the stage to and take a screen shot and post it.

Test 8 results. Write 1360MB/s, Read 1465MB/s

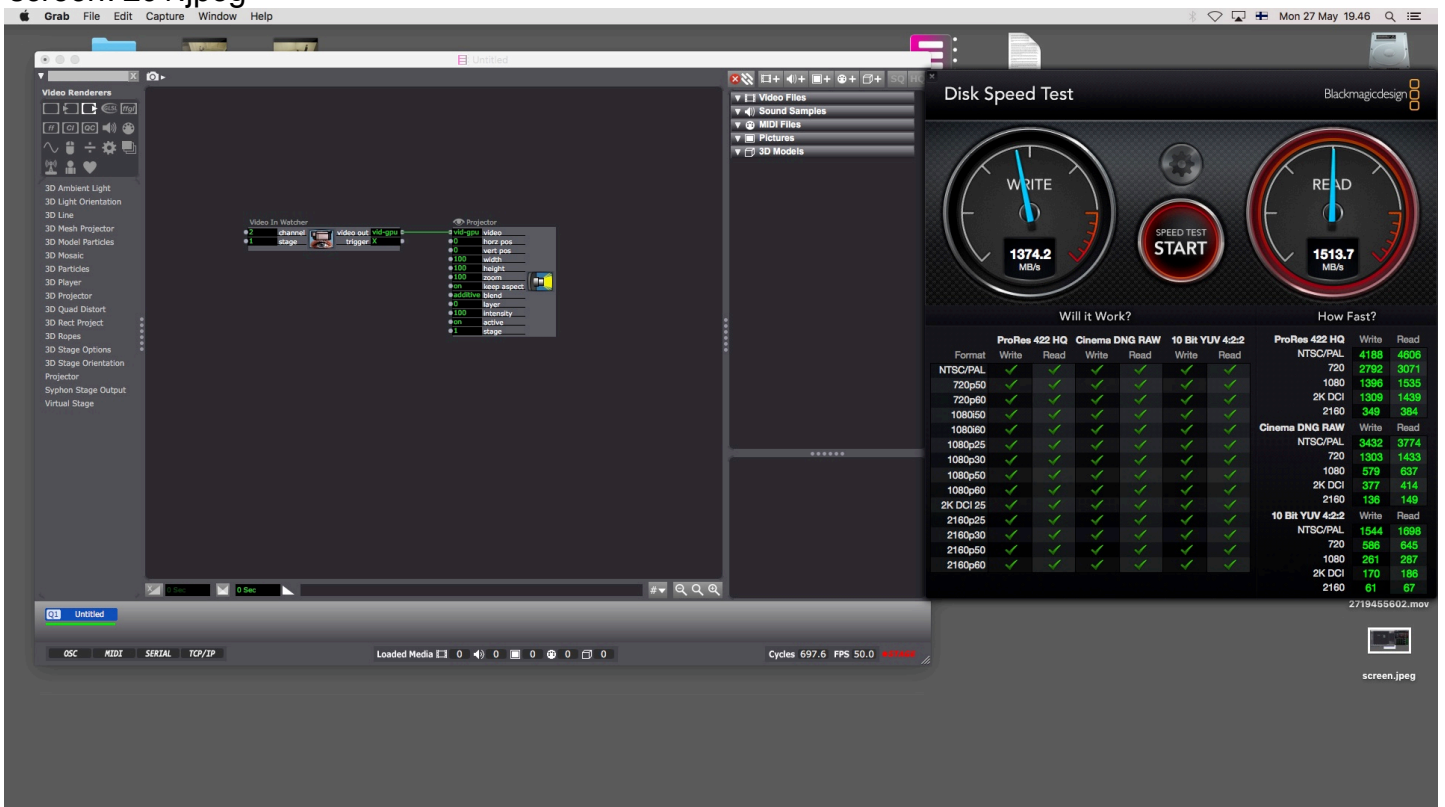
8b. Please run blackmagic disk speed test (it comes when you install the blackmagic driver) on the drive you are using as your target to record video from the stage while you have Isadora open and showing one live camera full screen, try this at 1080p50 and 720p50 to and take a screen shot and post it.

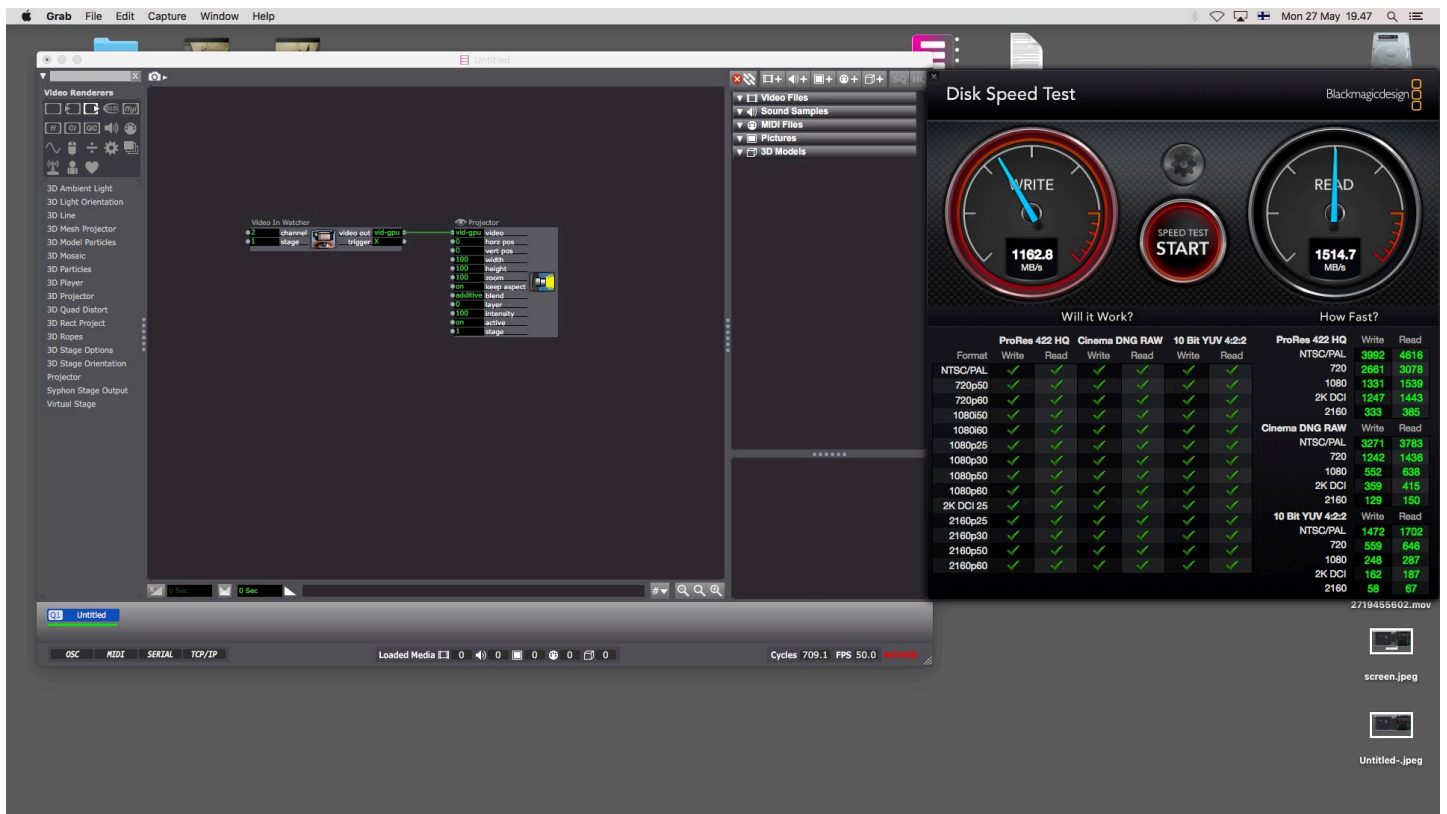
Test 8b results.

(1) Recorded stage to desktop and ran Blackmagic Disk Speed Test simultaneously, capture/preferences/Magewell set to 1080p50. Please see the screen capture "screen1080.jpeg".



(2) Recorded stage to desktop and ran Blackmagic Disk Speed Test simultaneously, capture/preferences/Magewell set to 720p50. Please see the screen capture "screen720.jpeg" and "screen720+.jpeg"





9. Make a stage recording test, make a new Isadora patch and with some moving text using text draw or some other moving shapes and make it full screen on the second monitor (running 1080p50), report what you see on activity monitor for ram and CPU and disk usage. Try with proress, h264 and photojpeg.

Test 9 results. Made a patch with Text Draw, Projector and two Wave Generators/Calculators (to make the text move). Set everything 1080p50.

(1) while recording PhotoJPEG:

Activity Monitor:

Memory Used around 5GB out of total 64GB (Isadora 153MB, IzzyMoviePlayer32 all four around 28MB); CPU Isadora around 130-145%; GPU History show about 15% on only one GPU while the other GPU is "passive"

Isadora: While recording the stage cycles 360-400 and 48,5-50fps for couple of minutes, then cycles start to drop slowly during couple of minutes until about 190 and 38-45fps, then cycles and fps go back up again (360-400 cycles, 48,5-50fps)

(2) while recording H.264:

Activity Monitor:

Memory Used around 5GB out of total 64GB; CPU Isadora around 240-350% (When Isadora cycles and fps up, then higher CPU%. When Isadora cycles and fps lower, then lower CPU%); GPU History show about 12% on only one GPU while the other GPU is "passive"

Isadora: While recording the stage cycles 310-350 and 45-50fps for couple of minutes, then cycles start to drop slowly during couple of minutes until about 170 and 32-45fps, then cycles and fps go back up again (310-350 cycles, 48,5-50fps)

(3) ProRes

I don't have ProRes installed, does not exist in a clean installed machine. Will install if necessary?