

Topaz Video AI Time Trials Using an M1 Pro MacBook Pro

| Task | Source clip duration | Time to Convert 1:00 of media | Average | Standard Deviation | Test 1 | Test 2 | Note |
|--|----------------------|-------------------------------|---------|--------------------|--------|--------|------------------------------------|
| Deinterlace NTSC DV clip (no change in size) | 01:22 | 2.5 Min. | 03:27 | 00:01 | 03:27 | 03:26 | Low quality clip Custom setting |
| Deinterlace NTSC DV & upscale to 720 | 01:22 | 4.1 Min. | 05:33 | 00:08 | 05:38 | 05:27 | |
| Deinterlace NTSC DV and upscale to 1080 | 01:22 | 4.1 Min. | 05:33 | 00:01 | 05:34 | 05:32 | Deinterlace preset |
| | | | | | | | |
| Upres deinterlaced NTSC to 720p | 01:22 | 4.3 Min. | 05:50 | 00:05 | 05:46 | 05:53 | Custom setting |
| Upres deinterlaced NTSC to 1080p | 01:22 | 4.3 Min. | 05:50 | 00:06 | 05:45 | 05:54 | Didn't look good |
| | | | | | | | |
| Deinterlace NTSC DV clip (no change in size) | 00:53 | 2.5 Min. | 02:13 | 00:00 | 02:13 | 02:13 | High-quality clip |
| Deinterlace NTSC DV & upscale to 720 | 00:53 | 4.1 Min. | 03:36 | 00:01 | 03:37 | 03:35 | High-quality clip |
| Upscale deinterlaced NTSC DV to 720 | 00:53 | 4.2 Min. | 03:45 | 00:09 | 03:51 | 03:38 | High-quality clip |
| Deinterlace NTSC DV and upscale to 1080 | 00:53 | 4 Min. | 03:31 | 00:01 | 03:31 | 03:30 | High-quality clip |
| | | | | | | | |
| Deinterlace NTSC and remove motion blur | 00:12 | 10.5 Min. | 02:06 | 00:02 | 02:07 | 02:04 | film transfer |
| Remove motion blur from deinterlaced NTSC | 00:12 | 8.5 Min. | 01:43 | 00:01 | 01:42 | 01:43 | fixed a tape dropout |
| Remove motion blur and upscale NTSC to 1080p | 00:12 | 11.5 Min. | 02:18 | 00:01 | 02:18 | 02:17 | film transfer |
| | | | | | | | |
| Deinterlace clip - keep the same size | 00:10 | 2.5 Min. | 00:25 | 00:00 | 00:25 | 00:25 | film transfer |
| Deinterlace / create 6X slowmo | 00:10 | 47.4 Min. | 07:54 | 00:02 | 07:52 | 07:55 | film transfer |
| Create 6x slow motion from deinterlaced clip | 00:10 | 10.6 Min. | 01:46 | 00:00 | 01:46 | 01:46 | film transfer |
| Create 6x slowmo from deint. clip remove blur | 00:10 | 18 Min. | 03:00 | 00:00 | 03:00 | 03:00 | film transfer |
| Create 6x slowmo from deint. clip, remove blur, up res to 720p | 00:10 | 41.8 Min. | 06:58 | 00:02 | 06:56 | 06:59 | Jerky - pull down frames? |
| deint/6x slomo/remove blur/upres to 720p | 00:22 | 57.5 Min. | 21:06 | | 21:06 | | Find smoother video |
| | | | | | | | |
| Stabilize 30 second 4K clip - full frame | 00:30 | 34.4 Min. | 17:12 | | 17:12 | | Shot 4K on iPhone |
| Stabilize 30 second 4K clip - auto crop | 00:30 | 2.2 Min. | 01:05 | 00:00 | 01:05 | 01:05 | |
| | | | | | | | |
| Stabilize 4K clip, downrez to 1080p - full-frame | 00:30 | 50 Min. | 25:01 | | 25:01 | | |
| Stabilize 4K clip, downrez to 1080p - autocrop | 00:30 | 21.3 Min. | 10:39 | | 10:39 | | |
| | | | | | | | |
| FCP to stabilize a 4K clip at 4K | 00:30 | 0.4 Min. | 00:13 | 00:01 | 00:13 | 00:12 | |
| FCP to stabilize a 4K clip to 1080p | 00:30 | 0.4 Min. | 00:12 | 00:00 | 00:12 | 00:12 | |

NOTES

Hardware: M1 Pro 16" MacBook Pro, Ventura 13.3, 32 GB RAM, ThunderBlade SSD RAID 2500 MB/s bandwidth

Software: Topaz Video AI v. 3.1.11

NTSC clips were 1" broadcast clips transferred to 3/4" U-Matic cassette, then digitized by a professional media transfer firm in LA

I only ran two tests because the results were so consistent that I didn't feel a third test was necessary

F/s (Frames per second) fluctuates 1-2 frames throughout a conversion. These numbers are approximate.

FCP stabilization was equal to or better than Topaz stabilization in a fraction of the time.

I'm sorry, there's no way I'm re-running a 25 minute test when I can do the same thing in FCP in less than 15 seconds.

Deinterlacing a high-quality clip without changing size is amazingly good.

Deinterlacing doubles frame rate - converts single field into full frame. Lovely.

Generating previews slows the process by a bit - I didn't measure how much.

Need to boost saturation - ideally vibrance - on up-rezed clips

Don't understand clip naming convention - though we can change in preferences

Tracking frames/second generated is not particularly meaningful - total duration is more accurate

Topaz will benefit from all the computer horsepower you can throw at it

Deinterlacing AND slowmo takes forever. Slowmo without deinterlacing is very quick.