

mirrors

tech workflow

Jack Kelly, producer and Head Geek walks us through the technical workflow for the project:

We needed a good grade; that much was clear from the outset. The film runs in real time, following our character over the course of the last 11 minutes of magic hour. The sunlight gets darker every minute. But the film was actually shot over the course of two days. We'd need a good grade to make sure that each shot flowed from the previous shot and also to set the mood for the whole piece. Of course, David our DoP did some excellent work with filters but we'd need to continue that work into post production if the film was to work.

CAPTURE

The first step was to define our capture medium. On our budget, the only capture medium with a wide enough exposure latitude is Super-16mm. DV, HDV, DigiBeta, DVC Pro HD... none of these formats would hold anywhere near enough detail in the highlights and shadows for the heavy image manipulation that would take place in post (sure, a camera like the Viper, D-20 or Genesis probably would have worked better than S-16mm but they were way out of our budget range!)

DATA SCAN

Once the film was shot and developed, we then went hunting for a facility that would do a data-scan for us. I had used Midnight Transfer in Soho once before and was extremely pleased with their customer service and quality so we went back to Greg and Stephen at Midnight Transfer. They scanned our Super-16mm on their Spirit 4k and fed the output of the Spirit into their Clipster for capture at 1920x1080 25p 10-bit log RGB. But we didn't have enough storage space for 1920x1080 uncompressed so Stephen very kindly down-converted our files to 1280x720 and copied them onto a few external USB2 250GByte Lacie hard disks. The down-conversion took 24 hours and we're very thankful to Midnight Transfer for giving us that machine time.

Ingest

Once we got the DPX files back onto my edit system, I copied them onto my new RAID-0 array and then loaded them into After Effects 7.0. After setting the project as a 32-bit float project, I used the "interpret footage" command to convert the log DPX files into something approximating video colour space and then rendered out the whole lot as DV AVI video files for the off-line edit. Unfortunately, the rendering took much longer than I thought so we started doing the off-line edit in Premiere Pro while After Effects was still rendering! I was impressed that my overclocked Athlon64 (2.4GHz, 3GB RAM, Win XP Pro SP2) allowed us to edit while AE churned away.

EDIT

Jonathan, Lucas and I did the off-line edit in Premiere Pro 2.0 in three days. Once the picture edit was locked, I then manually re-

assembled the edit in After Effects so that we'd be able to do the grade using the full-res DPX files. I did this by importing the Premiere Pro file in After Effects and then I manually replaced every DV file with the corresponding DPX file. If we had access to a high-end grading system then this "conforming" process would be done semi-automatically using EDL files. But AE doesn't understand EDL files. As it was, manually conforming the edit only took a couple of hours so it wasn't too painful.

GRADE. FIRST ROUND.

So, now we had the entire film edited and sitting in After Effects. Time to do the grade! First, Ed and I went through Dave's notes and got the grey-scales into the right ballpark. Then we started trying to grade the film based on some JPEGs that we'd discussed with Dave. Then Dave came along and we graded the entire film using only AE's built-in tools (curves, saturation etc.) Never again. This was one of the most painful grading experiences I think any of us have been through! Very slow.

GRADE. SECOND ROUND!

Later that night, I discovered Synthetic Aperture's "Color Finesse" and was very impressed by it so I purchase a copy that evening. I then re-did the entire film's grade in Color Finesse (this took about 12 hours, largely because I was learning Color Finesse as I went along). Oh, and I also bought a Sony BVM professional video monitor from eBay at a bargain price and started using this for grading and got myself a copy of "Color Correction for Digital Video" by Hullfish and Fowler.

GRADE. THIRD ROUND!

Dave then returned for another couple of sessions and we finally nailed the grade. We burnt a copy to DVD and took it down to our screening venue (De Lane Lea, Dean Street) to make sure that our monitor agreed with De Lane Lea's lovely projector. Luckily, the images we were seeing on our video monitor looked almost exactly like the images on the projector. In fact, the film looked fantastic on the projector!

For the screening, I rendered the film as an uncompressed AVI, loaded the file onto an external hard disk and the guys at DMI Productions very kindly dumped the film onto DigiBeta for the screening.

CONCLUSION

This film has provided a very steep learning curve! Before we started grading this film, I didn't own a decent video monitor; I'd never used Color Finesse and I hardly knew how to read my vector scope and waveform monitor. I wouldn't say I'm especially good at grading but I'm certainly a lot better than I was before! If you're willing to live with the slowness and the learning curve then you'll find that grading DPX files on your own workstation is a very powerful tool. After Effects combined with Color Finesse provides many of the features that a £200,000 DI system provides, including power windows, secondary colour correction and high-dynamic-range imaging etc. Of course, it's pig slow, but cash-poor, sleep-deprived indie filmmakers like us can get a great deal of control using the humble home PC, the right software and a few long nights.

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