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Managing the look

Geoff Boyle assesses the current crop of on-set grading tools, including Kodak's LMS, Gamma & Density, Iridas Speedgrade, Assimilate Scratch and lite versions of Lustre and Baselight.

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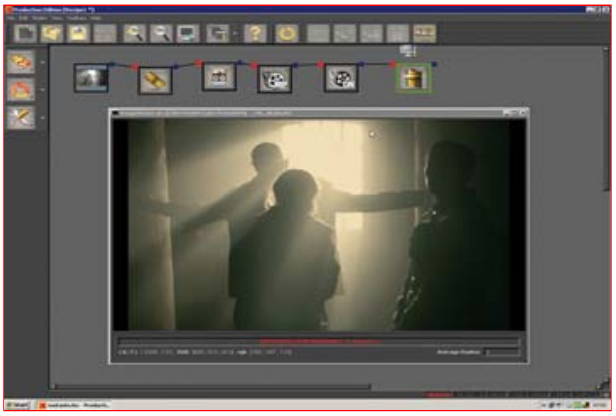

Kodak Look Management System.

Gamma & Density 3cP on The Tudors.

It's nearly two years since I last wrote a review of the various look management color (LMC) systems, and I think that it's time to look again, as there have been huge changes. Kodak has brought out V2.1; Gamma & Density has gone lease-only; Iridas SpeedGrade has added many new output options; Filmlight's Baselight is about to become available in a laptop version; Autodesk has brought us Lustre Station, and Assimilate is working on a grade-only 'lite' version of Scratch. As regular readers of Showreel will know, I used SpeedGrade extensively in the shooting of Mutant Chronicles, and I also had a beta of the 'lite' version of Scratch with me. I also recently joined Yuri Newman of Gamma & Density on the set of *The Tudors*, being shot at Ardmore Studios just outside Dublin by Ossi Rawi BSC for Showtime.

I have to admit that I have used G&D's charts, part of its TCP 'Thorough Control System' for a very long time now. I'm on my third chart, having worn the others out. They are the fastest charts I know for getting a basic 'look' in TK. I also use them to line up monitors on a shoot. With film, I frame a G&D chart to full frame and expose according to my meters. I then adjust the video assist and the monitors to give the picture that looks most like the chart; I then tape all controls in place. This is a very good way of having a quick reference to show whether you've screwed up big time! Ossi was using the G&D 3cP system to control the final look of material he was shooting with two Panavised Sony F900/3s. A high quality studio monitor with a Leader 750 Waveform was positioned just outside the set, the Leader being used to capture individual HD frames to Compact Flash card so they could be transferred to a Mac laptop for on-set or hotel room grading. The capture and transfer to Mac was done by a camera assistant who was dedicated to this role.

Any corrections to shots made this way were emailed to the US and applied to the cutting copies and would be the basis for the final grade. The system worked well and the benefits of the DP being able to fine-tune the pictures after having shot on pre-set were clear.

Ossi was obviously very happy and relaxed with this system, and it was definitely giving him the control over the final image that he wanted. Not that his pictures needed much tweaking. It was a joy to see him work, minimal lighting used to great effect. I look forward to seeing the young King Henry in *The Tudors* later this year.

G&D supplies its software on a Mac, a digital stills camera that their system is calibrated for, and calibrated monitors for the studio and hotel room. An assistant is trained in the use of it and G&D provides supervision and instruction all the way through the process. I do have reservations about this system, but not on quality grounds – more on the long-term feasibility of the financial model. You can't buy G&D 3cP software; it's leased to you on a weekly basis. G&D provides the calibrated monitors and the capture tools, as well as the laptop, Mac and the grading system. It also supplies training and supervision of the overall system, all for a weekly fee of… well, that's negotiable, but I reckon one week's hire will get you any of the other systems discussed here: in fact probably two of them!

Whereas I feel that this can work in the context of a major TV series and possible bigger feature films, I can't see it being widely adopted. This is a pity, as it's a good system.

Kodak LMS

Kodak has taken KLMS to version 2.1 and, as is usual with Kodak software, I started hating it and have gradually come to love it. It's the only software here that tries to emulate the entire film process all the way through to release print.

It allows you to include the effect of an interneg and interpos in the process, something that no other preview software does and something that can really err, f—, no I don't think so, Geoff, 'alter' the look of your final grade. The software will accept still frames in raw mode from Canon or Nikon stills cameras, as well as from Kodak professional stills cameras. It will also accept raw neg scans. You then decide which kind of film stock you are using, emulating, whether you're going through a conventional optical finish, in which case you have printer lights

to work with, or if you're going via DI, in which case you have telecine adjustments to work with. These are limited to lift, gamma and gain, but combined with the effects of IP/IN can be eye-opening.

I set up a workflow that went from digital still to film emulation to telecine to interpos to interneg to release print. At every stage I was given a huge amount of choice, including film type, exposure compensation, filters, flashing and much more.

Of course, that brings us to the downside. Because it emulates every stage of the process totally accurately, it has a lot of calculating to do, and even on the fastest available Core 2 Duo with 2GB of Ram and a huge amount of RAID hard-drive, it was slow, very slow; actually, very, very slow. I've tried it in the past on my standard on-set portable, a Sony Vaio with a 1.1Ghz processor and 512MB of Ram. It's a very small and lightweight machine, the kind that will just pop in to a camera bag.

So did it run? Well, crawl on all fours is a better description. It was so slow as to be totally unusable. However, used as Kodak intended, how is it? I spoke to DP Jess Hall and his assistant Tom Balogh about their use of KLMS on the Working Title film *Hot Fuzz*.

Jess was extremely complimentary about it; it gave him control over how the pictures looked all the way through the process, from stills to pre-visualize the look, through 'recipe' files to control the dailies, to predicting the effect of post processes on the final image. He felt that it speeded up communication with everyone involved in the film, and on a tight schedule allowed him to concentrate more on getting the look he wanted and less on worrying if his message was getting through. Like all DPs, he was worried that if they had one-lights to edit, people would get used to that look, and when it came to the final grade they wouldn't want to stray far from what they had. KLMS gave him the look he wanted all the way through.

I asked him about the speed of the system and he agreed that it was slow; he felt that it was vital to use an assistant, as it was too slow for a DP to use while shooting, although he could use it after shooting. Of course, this then leads the DP into two problem areas: one, the 'recipes' won't be ready to go off to the lab with the rushes, and two, well, he has to sleep some time…

Tom reinforced this point and told me how he used a digital stills camera in five-shot burst mode to grab stills from the camera angle – the burst mode to make sure he had a shot where the cast had their eyes open. He would then do a first grade in KLMS and, when he had the chance, Jess would check it and suggest alterations. I guess it's kinda like having the lab grader on set. The ability to output prints was also very useful, as he was able to keep reference stills easily available and looking like finished images, unlike continuity stills.

Kodak has dithered about how to market this product. At the moment there are two versions available, both on a 'per project' basis and both considerably more expensive than any other system. Moles within Kodak say the company is very close to changing the way it markets KLMS and that soon you'll be able to buy and own it just like you can Photoshop. Well, if they follow that route I'll be the first in the line to buy it. Oh, I forgot, apart from it's own 'recipe' files it will also output files for Autodesk Lustre.

I'll now cover three systems briefly as they're either not available yet or not of interest for field use.

Cut-down systems

Lustre Station is a cut-down version of Lustre. Although it was designed more for assistants to dust bust and shape track, it will do primary grades, but last time I asked it was only available to people who owned full Lustre suites, so that leaves the majority of us out.

Scratch from Assimilate is a great system, but the 'cut-down' that I tried on Mutants was still far too 'feature rich'. What? Yeah, I know. I'm complaining about kit doing too much, but on set I need something fast and simple.

The problem with the version of Scratch I had on Mutants was that it still needed a laptop with an enormous amount of grunt. The system I was loaned was amazing, and I'm sure I must have imagined it, but I could have sworn all the lamps on set dimmed every time I graded a shot! I know that Assimilate has listened and am looking forward to NAB, as I hope to be able to bring news of a much simpler system aimed at DPs. It also has at least one feature that I asked for, but of course they've gone further than I asked and come up with something much better.

Now, a system that caught me totally by surprise. I was visiting Filmlight to catch up on its latest upgrades and to see pictures projected at 4K, both film and digitally originated. The test images from the Red camera were looking great, and then they ran some material shot 15-perf, 65mm and scanned at 8K. Those goalposts just keep on moving.

Where was I? Oh yes. Filmlight's Wolfgang Lempp waited until the end of the demo, and then said he had something he thought I'd be interested in. He showed me a cut-down version of Baselight running on a Mac laptop, working on moving images as well. I was blown away! I can't really say much more at this point. It is, of course, only compatible with Baselight, but who would expect anything else?

The real shock was the price: "in three figures". Even taking into account that I'd have to buy a Mac, it's a great deal. I'd better get some serious work this year, as there appear to be quite a few toys I want!

Finally, the system that I'm most familiar with and that I beta-tested for a long time, Iridas SpeedGrade 2006, a program that runs on both Windows and Mac machines and needs very little in the way of horsepower.

I graded and generated LUTs for *Mutants* on the small Vaio that I mentioned earlier; OK, I had to use an Iomega USB hard drive to cope with the amount of data, but the machine never held me up.

I've written in *Showreel* previously about the workflow and how we're grading, but since then the latest version has acquired additional output options: it will output 1D LUTs for S.two and BlackMagic, 3D LUTs for Truelight and LUTher, and will now also output DPX files as well as jpg. It will accept almost any file format as input, but if you need to see as accurate an image as possible then you're best off taking in DPX files. They've also added a very simple primary grading system, which is incredibly easy to use.

A lot of people have said to me that this system cannot be totally accurate, and it's true that the first LUTs I generated for Mutants displayed pink highlights when loaded into a fully calibrated system. It was quite easy to calculate an offset for this, but a very simple solution is at hand. A ColorVision Spyder calibration system is incredibly cheap. If you're happy to work in daylight color balance and at a 2.2 gamma,

then Spyder Express 2 is around $100. If you want more adjustment available, then Spyder Pro is under $400 and this will let you set any gamma, any colorimetry and any color temperature. This includes options for Rec 709, the industry standard for HD, PAL, NTSC, Cineon, sRGB and many other options. It will also compensate for viewing conditions if you want it to.

Now this brings me to a great story. I can't tell you where it came from or who the company is, but I promise it's true. One of the top five London post-production companies had its monitors all lined up to Rec 601, the SD standard, and had no way of lining them up to 709! Hmm, a DP has a better calibrated system than one of the top five post houses. What is the world coming to?

So what conclusions am I drawing from all this? Well, right now I wouldn't hesitate to go for SpeedGrade, just as I recommended in the last review I did of these systems. The main difference this time is that there are a lot of systems snapping at its heels, and things are changing very fast. I certainly intend to buy the KLMS software just as soon as they decide to sell it. I'll probably end up buying a Mac to be able to run Baselight Lite, which opens up another possibility for me. SpeedGrade, KLMS and Baselight all run on a Mac; I guess that I'll have a grading machine with me in future that will also let me run G&D's 3cP (if they decide to sell it). Ah, but I'm really interested in where Scratch is going and if Autodesk wake up and reposition Lustre Station…

I guess that just as I own a lot of exposure meters, I'll end up owning multiple grading solutions, each of them with features that are better than others in some areas and worse in other areas. But if I'm forced to use only one, there's one meter I'd choose: a Minolta VI. And if I had to use only one grading system today, it would be SpeedGrade – on whatever platform.

Geoff Boyle

Reel Show cinematography editor Geoff Boyle's recent feature films as director of photography include The Mutant Chronicles, Dark Country and, currently, Street Fighter 2. He received his first camera, a Brownie 127, when he was eight. From then on the future was clear. After art school in the late 60s, he worked as a stills assistant. One day he was asked if he knew anyone who could film a concert. Of course he did! He moved into film and shot documentaries for TV, 10 years or so of 20/20 for ABC and a lot of music videos. In 1985 he shot a 'making of' about the Pirelli calender. Terence Donovan liked the way he lit and asked him if he shot commercials. From 1990 to 2005, he has shot almost entirely commercials, with occasional sidetrips into drama, a short he shot – About A Girl – winning a BAFTA in 2001. He also shot special effects on Enemy at the Gates, won the SMPTE Eastman Gold medal in 2000 and was made a fellow of the BKSTS that year. He started the cinematography mailing list (CML) in 1996 with 60 members. It now has over 3,000 members in 148 countries and is acknowledged as the pre-eminent internet site for cinematography.