

Project: "SCRATCH CASE STUDY"

▲ The making of "Che"

using SCRATCH and the

RED ONE 4K Camera



# The Making of "Che" using SCRATCH and the RED ONE 4K Digital Camera

The filming and post production for "Che" was as daring in its own right as the film's protagonist himself. Director Steven Soderbergh and his team used the latest technologies for data acquisition and workflow, with filming of the beta RED ONE™ Digital 4K cameras for the shoot and ASSIMILATE's SCRATCH® Digital Process.

The post production of "Che" was on an aggressive timeline to meet its May 21 premiere at the 2008 Cannes Film Festival. Larry Blake, head of technical post production for Soderbergh's films, worked with David Kirchner, Associate Editor, and Nat Jencks, Digital Workflow and First Assistant Editor, to build a cost-effective "Che" DI studio next door to Soderbergh's New York City offices. Being a very hands-on filmmaker, Soderbergh was actively involved in every step of the process.

The Cannes Festival's best actor prize went to Benicio Del Toro, starring as the Argentine doctor who became one of the great heroes of Fidel Castro's Cuban revolution. The U.S. distribution rights for the two-part 4-1/2 hour film have been purchased by IFC Films. After a one week awards qualifying run in Los Angeles and New York in December 2008, IFC will reopen the film in January in cinemas and VOD.

Principal photography for the "Che" films began in Spain in July, 2007, with the RED ONE 4K cameras. Every night after shooting, Soderbergh would do basic color correction in RED QUICK (an early RED grading tool) on a calibrated Apple Cinema Display. Assistant editor Virginia Llera would then e-mail the .RQL files to Jencks so that the settings could be used to 'bake' the original .R3D REDCODE RAW files into the 1080p ProRes SQ files used for editing.

Blake notes that "we - that is Nat, David and I, plus the brain trusts at Technicolor and ASSIMILATE - set up a grading workflow that would begin with Steven doing basic color timing in SCRATCH at his edit room in New



Nat Jencks at work using SCRATCH for the post production of "Che".

York. As Steven is the DP on his films these days [under the pseudonym Peter Andrews], he has a very clear idea of what he's going for, and gets there very quickly."

The final timeline in SCRATCH (version 3 was the primary build used for "Che") was comprised primarily of .R3D REDCODE RAW files from principal photography and TIFF files from the Madrid-based visual effects house El Ranchito. For Part One, these were supplemented by DPX files from scans of Super 16mm footage and scans of archival footage of Cuba.

"We were knee deep in new techniques for filmmaking with challenges that required the complete focus of the team. The dedicated DI studio was the right solution at the right time for us. We're using digital technology to enhance the creative process as well as simplify post production," says Blake.

## The SCRATCH-RED Workflow

Jencks was uniquely credited for "Digital Workflow," reflecting his responsibility for the heavy lifting of the DI process. Soderbergh's team was aware of the complexity and pitfalls that are inherent in untested workflows: The size and nature of the data, the color science involved in non-standardized formats, and the crucial need for LUTs to get the final film-out right. "From the ASSIMILATE support side, Leo Lovera and Tony Cacciarelli were highly responsive, knowing we had a hard deadline," says Jencks.

Approximately six weeks before Cannes, Jencks took the REDCODE RAW data and conformed it to the latest edit. After Soderbergh's initial color grade at his office in the Chelsea area of New York, the SCRATCH construct files were sent to colorist Tim Stipan at Technicolor for additional color grading.

Kirchner: "We had worked a partnership with Technicolor for the color science, so they also calibrated our projector to match their working environment as closely as possible. We ran into some calibration issues with our prosumer projector and realized from that experience that we needed to use a true 2k DLP cinema projector for Steven's future films. Mike Whipple, DI engineer at Technicolor, also was a big help with solutions for streamlining the process."

Jencks explains, "Tim would e-mail his graded constructs back to me, and I would link them

the job done with some cutting and pasting. While this process sounds brutal, a single reel only took maybe 45 minutes to rework. Multiply this by the 14 reels, seven for each of the films. This is not a very big chunk of time in the overall scheme of post production. In the editorial world, we're use to tasks that require patience and attention to detail, as well as finding work-around solutions."

"The bottom line for this 4K workflow is that even though we faced some painful moments, we know that perfecting the automated process is the way to go for the future," says



Benicio Del Toro as "Che", the revolutionary hero

to the media on our systems. Because color grading began prior to the completion of all VFX, it was imperative that grading was able to be transferred seamlessly from REDCODE to VFX shots.

"Working in a 4K timeline, especially with 4K 16-bit TIFFs for VFX, was pushing a huge amount of data and sometimes caused the systems to crash. This is not what you want when up against a tight deadline. However, we were aware of the potential pitfalls that are inherent in a new workflow and we were working with an alpha build of SCRATCH, so problems like this are going to come up. But again, Leo Lovera was there for immediate support and we were able to create workarounds for any problems that arose."

"I initially had big concerns about the conform for the REDCODE files, but this was one of the smoothest parts of the process," says Jencks. "Dealing with change-cuts and doing re-conforms of REDCODE, DPX files, and VFX TIFFs, while maintaining existing color grades was problematic and not possible to truly automate using SCRATCH. I developed work-arounds, some as simple as comparing the two versions using SCRATCH 'trays'. I got

Jencks. "A good thing about the ASSIMILATE team is that they are looking toward the future and want this workflow to work seamlessly for all their clients. They were very open to helping us, and eager for as much feedback as possible from us."

Jencks finished his year of work on the film at Technicolor Rome for the final film outs. "I had SCRATCH loaded on my notebook and was able to make a change and render out DPX files right there. The idea that I could carry the entirety of both these films as uncompressed data in my carry-on luggage, and render final DPX for film out from my MacBook Pro on the fly is a really efficient way to work!"

#### The making of Steven Soderbergh's "Che" in SCRATCH



## The Wrap Up

"It's interesting to see the changes that RED and SCRATCH are bringing to filmmaking. The editorial and post teams can be closer to the action at all times, making changes on the fly and seeing the results quickly," says Jencks. "The software runs on regular PC workstations like Globalstor so the cost of proprietary hardware is greatly reduced. Moving away from costly proprietary systems is of course where we want to go."

"Through the post process for Che, Nat and I have honed this SCRATCH-RED 4K workflow for efficient, streamlined, optimal performance in the future. Steven owns the equipment and a new crew can step into the action with a short learning curve," says Kirchner.

Larry Blake is taking the long-term view: "At the end of the day, whether it's a big or small budget project, we're looking at what cost-effective and efficient methodology can be perfected to deliver a noteworthy viewing experience to audiences. It's a tall order, but in all respects, the RED 4K camera and SCRATCH-RED workflow have been good investments."

"The ASSIMILATE Support team were highly responsive, with tight deadlines we had to meet"