

SCRATCH is the heartbeat of the 3D stereo DI workflow at Duboi

With a four-year pedigree as a rock-solid conforming system, SCRATCH® has also become the hub for all RED-originated and 3D stereo feature film projects running through Paris-based DI house DuboiColor.

The Facility: Duboi, Paris

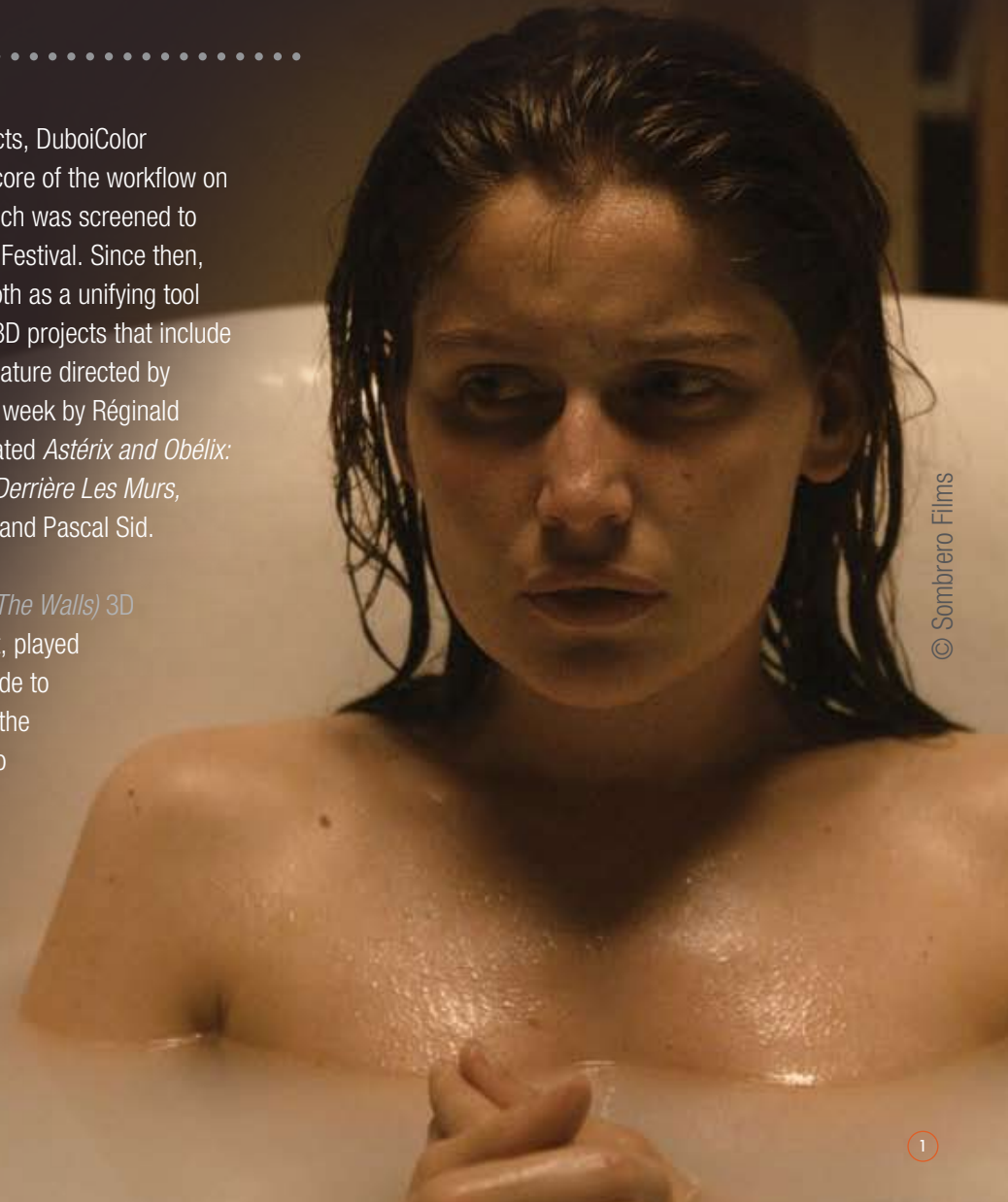
“Every film that goes through our DI workflow, about 80 per year, is conformed in SCRATCH, because it's reliable, fast, and it just works,” says Eric Martin, director of post-production at DuboiColor. “The new SCRATCH Six is an excellent evolution of software that we've been using for many years. RED EPIC footage is very easy to deal with, and since it handles data management and 3D stereo grading so well, SCRATCH has become the heart of the workflow on all 3D stereo projects.”

DuboiColor is the DI division of French creative post-production group Quinta Industries, which delivers end-to-end audio-visual services to local and international clients in cinema and TV production. DuboiColor has harnessed SCRATCH's powerful conforming capabilities since 2007, including the recent Cannes Film Festival winners *The Artist* (2011), directed by Michel Hazanavicius and *Polisse* (2011), directed by Maïwenn. RED based production getting a full SCRATCH DI include *Les Mythos*, directed by Denis Thybaud, and Wang Xiaoshuai's *Eleven Flowers*.

With the proliferation of 3D stereo projects, DuboiColor successfully deployed SCRATCH at the core of the workflow on a 3D stereo teaser for *Les Krustons*, which was screened to buyers attending the 2010 Cannes Film Festival. Since then, SCRATCH has been proving its value, both as a unifying tool and a fast, creative DI grading suite on 3D projects that include *The Prodigies* (2010), a 3D stereo CG feature directed by Antoine Charreyron and graded within a week by Réginald Gallienne, Laurent Tirard's hotly-anticipated *Astérix and Obélix: God Save Britannia*, and the acclaimed *Derrière Les Murs*, written and directed by Julian Lacombe and Pascal Sid.

The Project: *Derrière Les Murs (Behind The Walls)* 3D

It's 1922 and Suzanne, a young novelist, played by Laetitia Casta, heads to the countryside to write her latest book. However, while in the area young girls from the village begin to disappear without a trace, and Suzanne falls victim to terrifying hallucinations and nightmares, as well as rejection by the suspicious locals. As she descends into near-madness and paranoia, the tragedies of her own daughter's loss and past



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alcoholism gradually emerge. In this dark and foreboding film, where characters lurk in the shadows, she discovers the only place she can write is in the eerie confines of the darkened cellar of her rented house.

Project Leader: Richard Deusy, DI grader

Richard Deusy has been a color grader for twenty years in features and commercials, specializing in DI since 2000, and using SCRATCH for four years. His recent credits include *The Artist* directed by Michel Hazanavicius, *Polisse* directed by Maïwenn, and *l'Ordre Et La Morale*, directed by Mathieu Kassovitz. He has also graded several RED originated features in SCRATCH, including his latest feature *Louise Wimmer* directed by Cyril Mennegun.

The challenge: unifying the 3D DI workflow in production and post

“On a full-length 3D feature - especially one such as *Derrière Les Murs*, which was shot over six weeks on a modest budget - efficient data workflow, quality control, conforming, 3D stereo image manipulation, coordination with VFX and editorial, DI grading and deliverables are all crucial tasks,” says Deusy.

“Stereo shoots involve not just managing the takes and timecodes of Left & Right eyes, but clear communication too - passing vital metadata from devices such as cameras, lenses, stereo set-ups and looks back and forth between multiple constituents from the production to the DI grader, to the VFX and editorial departments. *Derrière Les Murs* is a great

showcase for SCRATCH's 3D capabilities across all of these areas.”

The solution: SCRATCH

“The key advantage of SCRATCH, above all other systems, is that it has always had a built-in, elegant workflow for 3D stereo,” says Deusy. “It's a data-centric hub with all the essential tools that bring together the key people and assets in production and post, while enabling clear communication from the shoot through to the end result.”

Derrière Les Murs was shot at 1920 x 1080p using dual Panavision Genesis cameras fitted to a mirror rig, supplied by French stereography specialists Binocle. The 4:2:2 capture was to Panavision's SSR, with the footage offloaded to a Codex Portable recorder, which was also used to directly capture 4:4:4 footage for VFX shots.

Stereo 3D Dailies

The dailies, accompanied by a 3D report from the on-set stereographers, were delivered to Duboi on Codex DiskPacks, and then offloaded as 2K DPX files to the company's SAN. The first tasks in SCRATCH were Quality Control and the application of balancing grades to the L&R takes.

“Grading 3D stereo dailies is straightforward in SCRATCH,” says Deusy. “I made colour changes to the Left eye takes through Scaffolds, and could then, with a single keystroke, apply those grades, and the necessary exposure compensation for the mirror rig, to the corresponding shots in the Right eye.”

“Along with being able to review L & R dailies individually, I could also playback the converged picture in SCRATCH in realtime. Using the SHOT FRAMING toolset, I could adjust the X and Y offset to change the convergence of a shot, then subtly

scale the L or R to remove any black edges within the frame. I could also correct some of the vertical or horizontal disparities.”

One of the stereographers was present during each SCRATCH dailies review session, checking the on-set 3D report and then reporting back any adjustments that might be required in convergence, camera settings, focus, lenses or color.

Integration and automation

“During the production stage, SCRATCH's XML feature was really helpful in supporting the workflow and communication. We used XML to prepare the daily QC reports for the production company and the crew on set, which were sent from SCRATCH as a PDF, and also published as an HTML to the web. The collated metadata - from the dailies grading and review sessions, including details about convergence, shot names, time codes, exposures - was all in one project in SCRATCH. This was invaluable to the editorial, VFX and DI teams as post-production got underway.”

After pre-grading in SCRATCH, Elodie Ly Tri and Olivier Ablines exported the shots as Avid stereogroup DNxHD36 MXF files for the editorial team, who were based in an adjacent room. To make it clear and easy for the editors, Ly Tri and Ablines managed all of the relevant metadata in SCRATCH, renaming shots to each slot where they might apply a cut, and adding the reel IDs as required. SCRATCH presented the files in the editors' preferred over-and-under view.

As SCRATCH was linked to a monitor and a digital projector, the editorial team were able to pass back EDLs, then pop next door to review the on-going editorial with respect to how the results would look on TVs and in theatres.

“This was a really interactive process, with SCRATCH being the

hub of the activity,” says Ly Tri. “What's really cool about SCRATCH is that you can group all of the DPX dailies, and the on-going DPX conforms, into different CONstructs. Having access to all of the DPX files, all of the time, made it very easy, not just for conforms, but also for offloading shots to the VFX team.”

DuranDuboi's Nuke compositing team also uses a SCRATCH system networked to the same SAN. Ly Tri and Ablines prepared a CONstruct with the VFX shots, including a LUT, and sent that over to DuranDuboi's SCRATCH, allowing it to link to the same colour-corrected media and export as required to the compositing team. Completed shots came back via the SAN, and were simply dropped back on to the master timeline.

The final 3D color grade

The final 3D grade of *Derrière Les Murs* took three weeks, two of which were spent with the directors Pascal Sid and Julien Lacombe, and the cinematographer Nicholas Massart, using SCRATCH's array of selective grading tools (the key features were masks, keying and textures) to accentuate the horror of the story. A further week was spent finessing highlights, reflections, sorting out final convergence issues, and making the final DCP, HDCAMSR and film print deliverables.

“In terms of color grading, the challenge on *Derrière Les Murs* was to support the DP's work on set, stay natural and refine a period look without going sepia,” says Deusy. “For example, in one sequence the action was set at night with the villagers holding torches. The mood had to be cold, but the flames from the torches had to stay warm. I used SCRATCH's masks, keyer and texture tools to balance this sequence.”

Reviewing SCRATCH's overall performance at DuboiColor, Eric Martin says, “SCRATCH provides continuity on 3D data-based

projects, at every stage from the dailies to the final deliverables. It's like a Swiss Army knife with great tools in every area, and is scalable from a simple 2K player, to a conform tool, to a full-on DI finishing system. The new SCRATCH Six can handle new camera formats, and integrates even better with Avid and Nuke. We've worked closely with the ASSIMILATE team for several years, and really appreciate how they have listened to our needs. SCRATCH is a stronger product because of this client-friendly approach.”

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