

Company 3 Uses SCRATCH in RED 3D Dailies Pipeline for 'Pirates of the Caribbean: On Stranger Tides'

Facility: Company 3, Santa Monica, CA

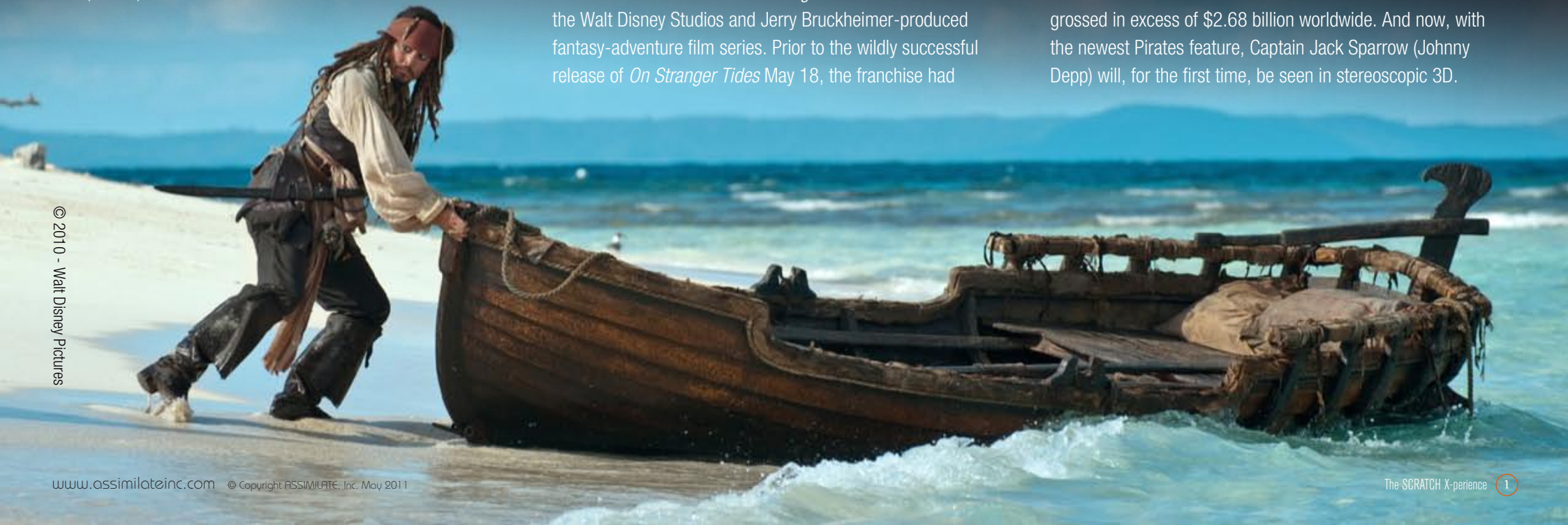
Company 3 is known throughout the world for its artistic color grading and pioneering technology. They have provided comprehensive post-production services for Hollywood blockbusters such as *Alice in Wonderland*, *Robin Hood*, *300*, *Transformers: Dark of the Moon*, *The Hurt Locker*, as well as on flagship commercials for a wide range of companies, including Audi, BMW, Heineken and Nike.

Company 3 used ASSIMILATE's SCRATCH DI tools as part of its dailies workflow on RED-camera originated features, from *Gamer* one of the first full-length RED ONE films to the newest installment of the *Pirates of the Caribbean* franchise, *Pirates of the Caribbean: On Stranger Tides*.

Project: *Pirates of the Caribbean: On Stranger Tides 3D*
Pirates of the Caribbean: On Stranger Tides 3D is the fourth in the Walt Disney Studios and Jerry Bruckheimer-produced fantasy-adventure film series. Prior to the wildly successful release of *On Stranger Tides* May 18, the franchise had



grossed in excess of \$2.68 billion worldwide. And now, with the newest Pirates feature, Captain Jack Sparrow (Johnny Depp) will, for the first time, be seen in stereoscopic 3D.



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Project leader: Dylan Carter, Director of Non-linear Workflow, Company 3.

Dylan Carter was responsible for the overall design, build and management of Company 3's 3D stereo dailies workflow for *On Stranger Tides*. He also maintains a lead role in developing and perfecting the overall data workflow at Company 3. Carter established the company's Data Content Center to service the ever-growing need for the seamless transition of digital assets between production and post departments.

Challenge: Establishing a pipeline to allow the filmmakers to view stereoscopic dailies.

Carter explains, "It was obviously very important that the director, the cinematographer, the VFX and editorial teams, and many others vital to the production, be able to review stereoscopic footage very soon after it was photographed."

The film was shot with a two-camera Fusion rig using dual RED MX cameras set in a variety of configurations. Carter's assignment was to facilitate a workflow that could 1) transform

the two streams of raw .r3d files into something viewable; 2) be able to address the convergence and alignment issues that accompany all stereoscopic cinematography; 3) get the material to colorists at Company 3 in Santa Monica and Deluxe 142 in London, where colorists could apply a primary dailies grade while editorial teams handled color management and metadata, scene order, and audio syncing; and 4) get the revised material back to the on-location theater to project the aligned, graded, synched dailies stereoscopically for all who needed to see them.

Carter recalls, "At the time there were no off-the-shelf solutions for us to provide these services near set so we custom built a dailies workflow specifically for this show." After searching for the most appropriate tool to sit at the center of this workflow, Carter selected ASSIMILATE's SCRATCH.

"I investigated other technologies, but SCRATCH was really the best choice at the time," says Carter. "I was impressed by its frame-accurate 3D stereo layoffs to HDCAM at 4:2:2 and its ability to handle the flip-flop and side-by-side adjustments that can be necessary when working with material shot with a beam-splitter rig."

Company 3 made use of turnkey SCRATCH-based systems that were assembled by ASSIMILATE partner Globalstor. These units traveled to an assortment of locations, including Hawaii, Los Angeles, and Pinewood Studios in the UK. "They were absolutely great to work with," Carter says of Globalstor. "They built two complete systems with dual RED Rocket accelerator cards to de-Bayer the raw files, and with plenty of internal drive space. The Globalstor hardware just showed up and worked."

For the major portion of the shoot completed in Hawaii, the Company 3 dailies hub was located in the ballroom of a hotel

on location which had been outfitted with a 2K digital projector and a 15-foot screen.

As the production team shot scenes, .r3d files would come into this traveling dailies workspace on drives. The RED Rocket cards within the Globalstor SCRATCH systems would de-Bayer the raw files, transforming the material into viewable video. Then the left and right eye would be played out of SCRATCH and projected onto the screen where a stereographer could, using a combination of proprietary Company 3 software and the SCRATCH toolset, address alignment issues. Having same day projected 3D dailies was an indispensable tool for the stereographer; it allowed him to review each evening and then adjust his stereo set-up for the next day's shoot.

The SCRATCH CONstruct (timeline) module played an important role in the ability of the dailies team to keep all the files and metadata organized. It was through this CONstruct feature that scene order and audio file information could be retained as metadata and sent from the workstations to the facilities and back.



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“SCRATCH excelled in its ability to work with Open XML and allowed us to make custom scripts,” says Carter. “This helped us streamline a lot of the editorial process involved in this whole dailies set-up. We also made great use of the ‘sticky notes’ function that lets you add pertinent information about any file so that anyone, at any stage of the process, can open the file and read the comment.”

A stereographer could also make use of this SCRATCH set-up to handle alignment issues while shooting continued, and to make the cinematography team aware of anything that might be adjustable on the rig before rolling an additional take.

Once the RED camera original r3d files arrived at Company 3, a dailies colorist working on a local SCRATCH system loaded the project file created at the remote location. This project file contained convergence metadata, as well as scene and take, and was already organized according to the script notes, which allowed the colorist to concentrate on coloring. Once the grading was done, the project file was returned to the remote hub Carter had established. Carter notes, “Generally we would screen grade dailies directly out of our SCRATCH set-up using the native RED files, plus our color metadata to a 2K projector. If necessary, people could also look at ungraded dailies even more quickly, usually the same day.”

Challenge & Solution: Handling RED EPIC 5K footage
ASSIMILATE has supported native RED 4K, RED MX and RED MX-3D workflows as they were available, and even before RED officially shipped its 5K EPIC sensor, ASSIMILATE had already been working with a pre-release SDK to optimize interaction between its SCRATCH products and the new EPIC files.

So when the filmmakers of *On Stranger Tides* chose to shoot pick-ups with these then un-released cameras, Carter's team at Company 3 needed to develop a workflow that could offer the

filmmakers an identical service to the one they had provided for principal photography.

Though prepared for a challenge when upgrading the pipeline to accommodate new 5K files and the added functionality of the EPIC, Carter still found that the process was remarkably smooth. “We were able to use the exact same hardware,” says Carter. “EPIC was in beta and nobody but ASSIMILATE had access to it at that time. We used the newest build of SCRATCH and got some updated firmware for the RED Rocket cards from RED. We dropped the EPIC footage into our SCRATCH set-up and it just worked!”

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