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COVER STORY: 'SUPERMAN RETURNS'

Daniel Restuccio



true 35mm depth of field.

The recorder is a detachable Sony SRW-1 VTR built to emulate a Panavision film magazine. Panavision highly encourages cinematographers to expose as if the camera held film, use only a light meter and rates the ISO from 400 to 640. Sigel exposed at 500 and recorded Superman in standard mode 4:1 at 4:4:4. He used a Sony HD monitor, but also says his waveform monitor is the best light meter he's ever used.

Superman Returns shot principal photography for about eight months on locations and sets in Australia and Los Angeles. In Australia, the SR tapes containing the raw RGB data was sent to Cutting Edge Post in Sydney. Cutting Edge processed around 110 hours of dailies over 10 months, including tests.

Six Avid workstations were set up at Fox Studios for post. Co-editor Elliot Graham says he and co-editor John Ottman started cutting in February 2005 and worked for three weeks on previs sequences. They started shooting principal photography and cutting the second week in March 2005. Once principal photography wrapped, post moved to offices on The Lot at Warner Bros., a suite of offices that became command central.

During pre-production, Scott Anderson, president of Digital Sandbox, was brought in to mastermind the design of a digital workflow. Anderson's vision, rooted in his origins as a photographer, was to preserve and protect the integrity of the master digital information, establish exacting standards, maintain maximum creative flexibility yet apply precision guidelines and technical specifications to support that.

The "digital hub" is Anderson's practical application of that vision, a single location that "air traffic controls" the input and output of all digital assets and their assembled variations: raw footage, visual effects, grading and edits.

The master tapes were sent to The Lot, cloned, and transferred to a Globalstor server with 40TB of storage. A Blackmagic HDLink and Adobe Premiere was used to capture the SR footage as 10-bit RGB DPX files.

A Scratch Assimilate workstation was set up as their digital negative conform machine to re-match the color correction that was done in the field, first by eye and then using a tool to extract LUTS from corrected footage. The guiding principles were: convert everything to DPX; get a good one-light color timing. All grading was "virtual" just-attached metadata. Nothing destructive was applied to the d-negative until the last minute.

Virtually no one had worked with Panalog footage before, so there were some bumps. Anderson praised all the vendors who generously cooperated in adjusting and tweaking their tools and technologies to match the pipeline specifications that he needed.

The next major task was ensuring quality control of raw footage sent to, and completed shots received back from, the 12 visual effects companies that worked on *Superman Returns*. As of May, there were over 1,400 effects shots. That may go to 1,500 by the time the picture is finished, says visual effects supervisor Mark Stetson.

Some of the major visual effects companies included: The Orphanage, Sony Pictures Imageworks, Pixel Liberation Front (for previs), Framestore CFC, New Deal Studios, Rising Sun Pictures, and Frantic Films.

Once the picture was locked and some reels were being shown to the public, Anderson turned his attention to the conforming process. The on-going calibration effort to synchronize the color display systems, monitors and projectors between The Lot, VFX vendors and Technicolor Digital Intermediate was ramped up to ensure that everyone was literally looking at the same picture.

As of May, Anderson had done three full conforms: the d-negative as DPX files is built as "reels" like film. Any changes made at The Lot or Technicolor are rippled to both facilities so that screenings at both locations match perfectly.

Superman Returns will get output digitally to both film and to a special 3D Imax version containing 20 minutes of footage processed to work in 3D.

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