

## Mistika Case Study

**SGO Mistika's exceptional Stereo 3D tools and advanced Metadata-based stereo Workflow was used from Start to Finish on "The Great Gatsby" directed by Baz Luhrmann**

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**Marc Solomon, Executive Vice President Feature Post Production at Warner Bros.**

**Sydney, Australia, 22 July 2013** - SGO Mistika's unique and exceptional Stereo 3D tools and advanced metadata-based stereo workflow were used from start to finish on **"The Great Gatsby"** directed by Baz Luhrmann. Stereo 3D was used in the film as an effective device in the stunning motion picture to connect the audience intimately to the action. The corrective stereo colour balancing was achieved using Mistika.

**Production Company Bazmark Film III's VFX Department**, headed by VFX Supervisor Chris Godfrey, purchased a Mistika system from SGO's official Australasian partner **Mojo Media Solutions**. The Mistika was in use constantly by Bazmark from the first day of the shoot and right the way through to the end of the DI.

In addition, a **second Mistika system supplied by Soundfirm Sydney** was brought in for the sixteen week finishing period as a key part of the **DI pipeline designed in tandem by VFX Supervisor / Digital Color Timer Tony Cole** and **Post Production Supervisor Henry Karjalainen**. Renowned Australian feature sound mixing and editing facility, Soundfirm invested in a Mistika 2K finishing system with advanced DI colour grading and Stereo 3D options back in January 2012 as they expanded into the exciting world of DI and Stereo 3D finishing.

**MISTIKA PERFORMS THE DAILY GRIND IN BAZMARK'S VFX DEPARTMENT**

Bazmark Film III's VFX Department utilised Mistika on a daily basis for all of the RAW 5K stereo footage being shot in Red Epic-X cameras by Director of Photography Simon Duggan ACS. All of the takes, which were time-synchronised in Mistika, were also processed through the SGO system operated by VFX Supervisor / Digital Color Timer Tony Cole and VFX Online Editor Justin Tran. A **customised colour conversion procedure** was designed by Tony Cole where a first pass of stereoscopic 3D corrections for size, colour and geometry were added, all in metadata form at the initial stage of the process. As the candidate VFX shots were identified by the Editorial and VFX teams, Tony and Justin pulled the shots from the large media storage pool attached to Mistika, where they would re-load the existing Mistika metadata and refine them to make additional and even more precise stereo corrections.

**Mistika's unique optical flow-based processing** was used to provide pixel-based colour matching between the two eyes, an issue caused by polarisation, filters, mirror and lens differences in 3D camera rigs. Many of the VFX shots involved resizing, which consequently affects the Inter-Axial (IA) separation of the two eyes.

### **MISTIKA'S EXCELLENT HIGH-END STEREO 3D FINISHING PROVIDES TIME-SAVING ACCESSIBILITY**

The second Mistika system, supplied by Soundfirm Sydney, **was used as a core piece of a DI pipeline** which was designed in tandem by VFX Supervisor / Digital Color Timer Tony Cole and Post Production Supervisor Henry Karjalainen. The DI took place in the Soundfirm DI theatre, located around 400 meters away from the Bazmark VFX offices. Bazmark installed a high speed data connection between the two buildings so that the Soundfirm Mistika could access the same media storage that was being used by the Bazmark VFX Department, where all of the raw camera files were already available on spinning disks. This time-saving set-up prevented the need to create an expensive duplicate copy of over 300TB of raw footage just for the DI team to use.

Making this vital connection to the existing Mistika's storage also gave Mistika DI and Finishing Operator, Nir Shelter direct access to the already existing Mistika metadata previously created over the preceding eighteen months work by the Bazmark VFX Department. This was of huge benefit to the conform and finishing process as the EDL's being supplied by Editorial contained only Left Eye timecodes, yet due to Mistika's ability to conform against its own metadata, it was still able to conform both eyes from a Left Eye only EDL, in a single step, even though the Right Eye source timecodes were often a few frames different. This amazing capability provided instantly synchronised conformed stereo sequences from the raw RED Epic 5K files, and in addition, these conformed shots already had stereo corrections via metadata prepared earlier by Tony and Justin.

**Stuart Monksfield, CEO of Mojo Media Solutions explains** "The unique capability of Mistika to recursively conform against its own metadata is a huge advantage where editorial changes continue to be made after the DI finishing process has begun. In the case of a stereo project where an EDL is not available for the second eye, the last thing you want to do, is spend time eye matching the second eye each time an updated EDL is issued. The DI pipeline Henry Karjalainen designed for this project is a great example of how Mistika's power and flexibility can help give back time to a project, and in many cases Mistika pays for itself from this point alone."

Nir Shelter was one of the 3D engineers during principle photography aligning and working with the 3D camera rigs onset. Later on in the pickup shoots, he was a 3D engineer and the Data Manager before moving on to use Mistika within the DI phase of the post process. Nir used Mistika to check and adjust stereo alignments, geometry, colour balance of all non-VFX processed shots and he also re-created complicated **dynamic timewarp speed change effects at full resolution in Mistika**. The values of the dynamic re-times done in one tool in Mistika were made available to be re-used in other re-time effects. This meant that once a desired re-time had been plotted out on a graph it would be possible to apply the same values to other re-time effects to achieve different looks. The interchangeability of the values between the different tools was an incredibly useful function that lent itself beautifully to the workflow.

**Nir relied on the optical flow processing in Mistika** to adjust some of the shots that went over depth budget due to enlargement for re-framing purposes achieved during the DI. The re-compositing of certain shots were later fixed in Mistika after reviews on the larger DI grading screen.

**Nir Shelter explains** “Outside of the 'Stereo Correction' tool one of the most powerful stereo tools Mistika has is the '**3D Comp**' tool. This was often used in the project's DI for isolating specific regions of the frame which required a different correction to the rest of the frame. Then with the use of the propagation function it was possible to apply identical values to the same parameters on multiple clips from a single take on the one timeline. This was a huge time saver as the clips with the propagated values would just need a quick tweak rather than creating new corrections from scratch.”

Nir continues further “The Mistika text-based metadata files were a huge time saving aspect of the systems functionality as well. The files would be dropped into a render-queue in specific priority batches. The render-queues enabled us to render media in a higher priority batch, that was necessary media for renders in a lower priority batch within the same queue. After using proxy clips in the timeline to attain correction values we were able to render shots from raw codecs to lossless intermediate codecs and then to finishing codecs all within one render queue. Then the text-based metadata files were archived in dated folders to enable future renders of the same media, if need be.”

**Post Production Supervisor Henry Karjalainen** who managed the post production and co-created the efficient DI workflow using Mistika says “The Mistika is a great finishing tool. We were certainly left with no surprises after the planning and development stage for *The Great Gatsby*. Nir really hit the ground running with the Mistika using the 3D RED Epic 5K footage - everything just worked in the most brilliant way. We are all very pleased with the exceptional results.”

**Stuart Monksfield continues** “The team responsible for *The Great Gatsby* should be extremely proud of their achievements. The movie looks fantastic and the box office sales reflect the incredible effort everyone put in. I am delighted Mistika and Mojo Media Solutions were able to play some part in that success.”

**Director of SGO's Global Sales & Operations Geoff Mills** says “World-class projects such as *The Great Gatsby* rely on a world-class finishing and workflow system such as Mistika that can handle any project, despite camera file formats, image resolutions and be able to create rushes and editorial media, conform, finish, create effects, DI grading and delivery mastering. It is exciting to see Mistika's innovative capabilities placed at the centre of these amazing projects' pipelines to achieve incredible results that are visually stunning.”

**Miguel Angel Doncel, CEO of SGO**, the Spanish firm that develops and manufacturers the award-winning Mistika technology adds “We feel immensely proud to have played a role in Baz Luhrmann's *The Great Gatsby* and it is another stunning testimony of how Mistika is being used to produce the highest quality Stereo 3D images and workflows for high profile productions. The dedicated team at SGO will continue to push the envelope and develop pioneering 2D and Stereo 3D workflows to deliver cutting-edge technology that the motion picture industry demands.”

**Executive Vice President Feature Post Production at Warner Bros., Marc Solomon** states “SGO has shown that it is a cutting edge, forward thinking company with expansive digital tools and experienced professionals. Their contribution to the post of *The Great Gatsby* helped us to provide a spectacular looking film.”

Warner Bros. Pictures presented, in association with Village Roadshow Pictures, in association with A&E Television, a Bazmark/Red Wagon Entertainment Production, a Film by Baz Luhrmann, “*The Great Gatsby*”. The film for Warner Bros. Pictures and Village Roadshow Pictures is based on F. Scott Fitzgerald's novel about the corruption of the American Dream in the 1920's era and Jay Gatsby's tragic life told through the eyes of narrator Nick Carraway. The film was distributed this summer 2013, in 3D and 2D by Warner Bros. Pictures, a Warner Bros. Entertainment Company, and in select territories by Village Roadshow Pictures. Visit the official movie website here [www.thegreatgatsby.warnerbros.com](http://www.thegreatgatsby.warnerbros.com)

### **About *The Great Gatsby***

The film features Leonardo DiCaprio as Jay Gatsby and Carey Mulligan as Daisy Buchanan. Oscar® nominee Baz Luhrmann directs the film in 3D based on Fitzgerald's book. Luhrmann produces, along with Catherine Martin, Academy Award® winner Douglas Wick, Lucy Fisher and Catherine Knapman. The executive producers are Academy Award® winner Barrie M. Osborne (“Lord of the Rings – Return of the King”) and Bruce Berman. The editors are Matt Villa ASE, Jason Ballantine ASE and Jonathan Redmond, and the director of photography is Simon Duggan ACS. The music is by Craig Armstrong.

**About BAZMARK**

Visit them at [www.bazmark.com](http://www.bazmark.com)

**About Soundfirm**

Soundfirm is Australia's largest and most highly awarded post production company. With three state-of-the-art facilities situated in the centre of Melbourne's production hub; on the Fox Studios lot in Sydney and in Central Beijing, their studios are fully equipped to meet all audio and picture post production needs.

Visit them at [www.soundfirm.com](http://www.soundfirm.com)

**About Mojo Media Solutions**

Based in Sydney, Australia, Mojo Media Solutions is a customer focussed reseller of product and technology to the Film, Television and Media industries across Australasia. With a strong engineering and operations background, in particular for 2D and stereoscopic 3D post production for television and features, Mojo also provides a variety of technical and consultancy services to compliment the solutions it provides. Visit them at [www.mojomediasolutions.com](http://www.mojomediasolutions.com)

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**About Mistika** - As the cornerstone of many internationally acclaimed facilities and broadcasters, Mistika provides creative tools for 2D and highly-developed stereoscopic 3D productions, boasting remarkable speed and real-time visual effects, colour grading, editing, compositing, graphics and multi-format mastering and much more. With Mistika operating from non-proprietary hardware with an open file structure, including widespread codec-support, it enables easy integration and compatibility with other systems. Mistika uses NVIDIA's Quadro GPUs to accelerate algorithmic computations involved in all visual effects, pushing the boundaries of science. SGO entrusts Mistika to HP's platforms in order to achieve maximum real-time editing, ultimate grading and compositing. HP Workstations are time-tested and dependable and exclusively used to accelerate 2D and Stereo 3D post production workflows in all Mistika projects. Mistika's breathtaking speed is indicative of how demanding it is on bandwidth to its storage devices and ATTO Celerity Fibre Channel host bus adapters (HBAs) provide that vital connection. Find out more about Mistika at [www.sgo.es](http://www.sgo.es)

**About SGO**

An established European developer of leading high-end solutions including its flagship DI and Stereo 3D finishing system Mistika, and onset application Mistika Live application for the post production and broadcast industries, supported by specialist technology partners such as HP and NVIDIA. SGO also relies on ATTO Technology, Inc., the storage and network connectivity solutions provider to bring even greater performance standards to Mistika workflow solutions for high-end film and broadcast projects. With ATTO Technology's experience in engineering advanced technology into real-world product solutions, they provide SGO with a unique competitive advantage. A global company, SGO continues to expand rapidly with offices and reseller partners across the world. Visit them at [www.sgo.es](http://www.sgo.es)

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### Image Captions and Credits

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(L-r) CAREY MULLIGAN as Daisy Buchanan and LEONARDO DiCAPRIO as Jay Gatsby in Warner Bros. Pictures' and Village Roadshow Pictures' drama "THE GREAT GATSBY," a Warner Bros. Pictures release. Photo by Daniel Smith

**GG-08419**

(L-r) CAREY MULLIGAN as Daisy Buchanan and LEONARDO DiCAPRIO as Jay Gatsby in Warner Bros. Pictures' and Village Roadshow Pictures' drama "THE GREAT GATSBY," a Warner Bros. Pictures release. Photo courtesy of Warner Bros. Pictures

**GG-10347R1**

(L-r) LEONARDO DiCAPRIO as Jay Gatsby and CAREY MULLIGAN as Daisy Buchanan in Warner Bros. Pictures' and Village Roadshow Pictures' drama "THE GREAT GATSBY," a Warner Bros. Pictures release. Photo courtesy of Warner Bros. Pictures

**GG-12699r**

(L-r) LEONARDO DiCAPRIO and CAREY MULLIGAN with director BAZ LUHRMANN on the set of Warner Bros. Pictures' and Village Roadshow Pictures' drama "THE GREAT GATSBY," a Warner Bros. Pictures release. Photo by Matt Hart

**GG-12703**

(L-r) TOBEY MAGUIRE as Nick Carraway, LEONARDO DiCAPRIO as Jay Gatsby, CAREY MULLIGAN as Daisy Buchanan and JOEL EDGERTON as Tom Buchanan in Warner Bros. Pictures' and Village Roadshow Pictures' drama "THE GREAT GATSBY," a Warner Bros. Pictures release. Photo courtesy of Warner Bros. Pictures

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(L-r) AMITABH BACHCHAN as Meyer Wolfshiem, TOBEY MAGUIRE as Nick Carraway and LEONARDO DiCAPRIO as Jay Gatsby in Warner Bros. Pictures' and Village Roadshow Pictures' drama "THE GREAT GATSBY," a Warner Bros. Pictures release. Photo courtesy of Warner Bros. Pictures

**GG-22844r**

(L-r) CAREY MULLIGAN as Daisy Buchanan and LEONARDO DiCAPRIO as Jay Gatsby in Warner Bros. Pictures' and Village Roadshow Pictures' drama "THE GREAT GATSBY," a Warner Bros. Pictures release. Photo courtesy of Warner Bros. Pictures

**GG-FMFP-0187**

(L-r) LEONARDO DiCAPRIO as Jay Gatsby, CAREY MULLIGAN as Daisy Buchanan, TOBEY MAGUIRE as Nick Carraway and JOEL EDGERTON as Tom Buchanan in Warner Bros. Pictures' and Village Roadshow Pictures' drama "THE GREAT GATSBY," a Warner Bros. Pictures release. Photo courtesy of Warner Bros. Pictures