spheronvr

Introducing a new benchmark in photorealistic 360-degree scene capture: the SpheroCam HDR

John Ruskin famously once said: "Quality is never an accident. It is always the result of intelligent effort." If you want quality in 360-degree digital camera technology, you should consider SpheronVR. The company continues to set new standards in what's achievable; and its High Dynamic Range (HDR) technology, with its 26 f-stop dynamic range, is a photographic milestone.

The PanoCam digital panoramic camera was the first product released by SpheronVR, back in 1999: since then, it's been continually developed. The latest model to be released is the SpheroCam HDR. Imagine a camera that's capable of recording 360x180-degree scenic detail, from the incandescent highlights to the inkiest shadows: the SpheroCam HDR is the first camera capable of measuring a scene's real-world luminosity, without clipping pixels or bleaching regions within an image.

Instinctively, everyone knows how light should reflect off a car window, but placing a car (or any object) in a virtual scene requires technology that can seamlessly weave real light, real material and real geometry together with a physically accurate light simulation, to create a believable visualisation. Spheron's reality-based visualisation (RBV) solution is to combine the incidental light data in a scene (using the SpheroCam HDR for quick capture) with a 3D reconstruction and several

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dedicated light and material shaders – written for *mental ray* in *Maya* – to create an accurate light simulation.

Bidirectional reflective distribution function (BRDF) is the measurement of how light scatters off a real object. The SpheronBRDF material shader adds these calculations to your rendering process to create authentic light-play on an object. The SpheronIBL shader computes the illumination effects of the HDR image on any virtual objects placed into the scene. It'll deal with all diffuse and specular material properties and handle any reflections and refractions. Finally, the SpheronShadows shader not only deals with shadowing of virtual objects, but also simulates the caustic effect of the object on other surfaces.

www.spheron.com

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ALL-ROUND VIEW With a resolution of up to 50 megapixels, the SpheroCam HDR captures all the detail you need to create a virtual environment, while SpheronVR's custom shaders for mental ray in Maya enable the seamless blending of real-world settings and virtual models

SEEING THE LIGHT In a real-world setting, light can vary between intense and pitch-dark. The SpheroCam HDR captures accurate luminosity information in every direction as it saves images, enabling you to bring real-light effects into your virtual environments. Custom shaders ensure that the accurate illumination is applied to models imported into the scene as well