Leading Retina Surgeon Incorporates HD Microsurgical Imaging

State-of-the-art medical grade high definition microsurgical imaging technology used at the Cincinnati Eye Institute

Cincinatti, OH – June 2009- Dr. Christopher Riemann, a leading vitreoretinal surgeon specializing in minimally invasive microsurgical techniques has incorporated full high definition imaging into his operatory which is devoted exclusively to microsurgery of the retina.

Using a Leica operating microscope and the latest microsurgical techniques Dr. Riemann treats surgical vitreo-retinal diseases including diabetic retinopathy, macular diseases, retinal detachment, retinopathy of prematurity, vascular diseases of the retina, and ocular trauma. With new advances in digital imaging these cases can now be imaged in full uncompressed high definition. According to Dr. Riemann "Uncompressed 1080p60 video has been the holy grail for video imaging for quite some time. The technology to cost-effectively bring this into the operating room is now unequivocally here and has revolutionized medical video imaging."

The appetite for high-definition video is steadily increasing among U.S. consumers and healthcare professionals alike. The growing enthusiasm for the superior picture quality of wide-screen HD televisions (HDTV) is driving consumer and professional electronics companies to develop new products to meet this demand. This is especially true in various medical professions, which are increasingly looking to video manufacturers like Optronics to develop new products that meet their needs. An HD picture provides increased color accuracy and an amazing amount of detail that is unprecedented, not only in HDTV broadcasts but also in surgical microscope applications like Dr. Riemann's.

Unlike HDTV, the Optronics Microcast® HD Studio™ is a medical grade high definition microscope camera system that produces full-uncompressed 1920x1080 pixel images with superior color accuracy, detail and depth perception of microsurgical fields.

"It's not HDTV – it's uncompressed Full-HD for operating microscopes. Microcast HD Studio is a microsurgical camera system that delivers 60 complete images every second – 1080p60 -- which is analogous to human vision. And that's just the beginning," according to Rich Crandall, Director of Business Development with Optronics. "Microcast HD Studio, captures full HD stills and extremely high-quality progressive scan MPEG-4 H.264 video without a computer, allowing the surgeon to focus on surgery not camera programming or computer interface…no other microscope camera system can do this."

Every ophthalmic surgeon has different requirements when recording HD video and a variety of solutions are emerging to facilitate their needs. One solution utilized by Dr. Riemann is to record a minimally compressed HD image from the Optronics Microcast HD Studio camera directly to his Apple Mac Book Pro. This is accomplished by using a product from AJA called the IoHD. This device is a fully transportable plug-in solution for capturing and playing back HD footage in Final Cut Pro on a Macintosh computer.

“According to Mike Szumlinski of Macprofessionals (based out of Novi, MI) who supported the installation and configuration of the AJA device, “We can bring full raster HD video directly into a Mac using a single Firewire 800 connection. This is made possible because the IoHD supports the new Apple ProRes 422 Codec natively in hardware, to bring production-quality surgical HD footage from a camera like the Optronics Microcast HD to the Mac.”

The IoHD is the only device that supports the Apple ProRes 422 and Apple ProRes 422 (HQ) in hardware, enabling true 10-bit editing on an Mac laptop. With this high performance hardware and codec, surgeons can work with 1080 HD, in full-raster 10 bit 4:2:2—in real time.

The Microcast HD Studio, IoHD and Macbook Pro pair effortlessly to create a unique Final Cut Pro microsurgical recording and editing system for surgical microscopes. This is a solution that takes leading HD imaging hardware and creates a complete non-linear microsurgical editing workstation in only minutes.

“Our HD imaging technology is being adopted by ophthalmic surgeons like Dr. Riemann, who use operating microscopes and need to capture the detail and precision which is only possible with high definition” said Mr. Crandall. “These surgeons are leaders in their field who are embracing the latest advances in medical grade HD microsurgical imaging for use in their surgeries.”

“Pairing an off-the-shelf, AJA IoHD with an off-the-shelf MacPro laptop, and Final Cut Pro yields a reliable, cost effective, portable workhorse of a video capturing and video-editing platform that allows the surgeon to take full advantage of the brilliant 1080 Full HD image produced by the Optronics Microcast HD Studio camera. The impact on surgical teaching is simply breathtaking.” said Dr. Riemann.

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