

## **‘Eyeborg’ man films vision of future (w/ video)**

August 30 2011, by Nancy Owano

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(PhysOrg.com) -- A Canadian filmmaker whose childhood hero was Lee Majors as a bionic man is making the most out of what he has done to compensate for having lost one eye by becoming Eyeborg Man. Rob Spence, who lost an eye in a childhood shooting accident, calls himself Eyeborg Man because he wears a prosthetic eye that behaves as a miniature video camera, transmitting footage wirelessly to a recording

device. What he looks at realtime is filmed realtime. He sees it as a kind of window on his soul. Those in medical science see it as a step toward stirring interest in the future of bionics. Spence's bionic eye consists of a wireless video camera that sits between two layers of a prosthetic eye. The design comes from his collaboration with a former engineer for the rocket firm SpaceX, Kosta Grammatis.

Also, an ocularist made a mold of the eye to see how much space they had to work with for the camera. A tiny 3.2mm 328 x 258 [video camera](#) was provided by OmniVision. That company has developed some of the world's smallest imaging solutions. A battery from PowerStream, which measured 5x9x10mm, was used along with the wireless transmitter. The components were connected via printed circuit board.

Spence talks about the features of his camera in action as part of a documentary that he has made, commissioned by makers of the new video game, Deus Ex: Human Revolution. The game imagines a world when people with mechanical augmentations roam the earth. His documentary accompanies the game's launch. The game makers asked him to look at whether this fictional world was actually so far away.

Spence pops the camera into his eye and turns it on by waving a magnet in front of it. The video is transmitted to his hand-held LCD viewer. In his film, Spence further demonstrates where body enhancements are today. In addition to showing advances in prosthetic limbs, the film shows a blind man from Finland who, with a chip implanted under his retina, can see the shape of a banana on a black table. Then there is the head of Tanagram Partners who has been working with Augmented Reality. He shows off a firefighting mask and glove, under development, where the firefighter can access information off the mask's screen and can view a menu off a computerized glove when squeezing the gloved hand. He says he expects the mask and glove to be in production within the next two years.

While Spence's bionic eye is really no big deal as a prosthetic eye--after all, the in-socket camera does not restore his vision and is not connected to his brain--Spence has demonstrated an effort to shrink wearable technologies and embed them as part of the human body. That effort was the reason that OmniVision was keen to help. Success with the device could possibly accelerate vision-restoring research.

But to answer his assigned question: How far along are we in bionic body parts? He is told that researchers are just beginning to experiment with neuroprosthetics but the day will come. He is also reminded that technology moves more quickly than we can imagine.

**More information:** [eyeborgproject.com/](http://eyeborgproject.com/) and [www.vimeo.com/eyeborg](http://www.vimeo.com/eyeborg)

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