

NEW CENTURY PRODUCTIONS

Looking to the future of 3D production with Grass Valley HD equipment today

CUSTOMER:

New Century Productions (NCP), Sweden

www.ncp-tv.com

APPLICATION:

Live 3D production of the comedic opera *Zémire et Azor* at the Royal Swedish Opera House in Stockholm

EQUIPMENT:

LDK 8000 Elite multiformat HD cameras, Kayak HD video production switcher, and T2 iDDR



BACKGROUND

As a project manager that has been handling video productions for live broadcast for over 40 years, Hans Öberg clearly understands the value of time and efficiency. As he sees it, less time and better efficiency results in a successful telecast and a happy client.

When it comes to streamlined 3D production workflows, however, Öberg believes the technology is still maturing, but it will get easier to use and productions will eventually run more smoothly in the near future.

Öberg's company, New Century Productions (NCP), in Göteborg, Sweden, is well versed in the production of high-definition (HD) live sports and entertainment events and is one of the "go to" production services suppliers when a major event occurs in Sweden or abroad. In 2011 alone, NCP produced: the 2011 World Cup of Biathlon, in Antholz, Italy; 2011 World Cup Alpine Skiing, in Are, Sweden; World Cup Cross Country, in Sweden; and the 2011 Wimbledon tennis tournament,

in London UK (supplying the national feed for Japanese broadcaster NHK), Diamond League, and classical music and opera.

For all of these projects and more, NCP relies on Grass Valley™ live HD production equipment to get the job done. This includes numerous LDK 8000 Elite multiformat HD cameras, the Kayak™ HD video production switcher and the T2™ iDDR (for recording and playback of pre-recorded clips during a production).

LIVE OPERA IN VISUAL STEREO

In May, NCP tackled its first 3D production, working at the Royal Swedish Opera House in Stockholm to televise a live staging of the comedic opera *Zémire et Azor* in stereoscopic HD (dual 1080i signals). NCP parked a 3D-capable OB van outside the Opera House to handle the production, which used the Grass Valley Kayak to mix the various live camera angles. (The project was also recorded on solid-state memory for archiving and repurposing.)

From Stockholm, the event was transmitted via satellite to dozens of theaters across Sweden as well as at select viewing locations equipped with 3DTV sets. By all accounts, it received rave reviews and more 3D projects are now being discussed.

"I think live 3D production will become a common way to produce live events, but it will take time. It's the same as with the early days of HD. We started with SD and then learned a few things as we migrated to HD. The equipment got better and we got better at using it. We recognize that these rigs should be reduced to one camera and one lens. It will come in the future, I'm sure of it."

Hans Öberg, Project Manager
New Century Productions



"We didn't have any technical problems at all," Öberg said, adding that the Grass Valley cameras (two LDK 8000 cameras mounted on each of two Microfilm Rigs located inside the opera house) worked perfectly, right out of box, with no modifications required.

Öberg believes the Microfilms rig is the easiest on the market to use and helped the production team reduce setup time significantly (compared to other rigs on the market that NCP has used). However, the need for smaller rigs became quite evident.

3D LESSONS LEARNED

"We learned a lot of lessons during that broadcast," Öberg said. "I don't think all of the required systems are fully mature yet. We have to get [the production tools] down to a single camera and a single lens at each position, like what we now use for HD projects. There's a lot of time spent getting ready and the equipment is too big. We have to produce a better workflow in order for more producers to ask for 3D."

These are interesting comments coming from a man who admits that it took 10 minutes to physically mount LDK 8000 Elite cameras (with full mechanical alignment) to the Microfilm rigs and another 10 minutes to align the lenses (Canon and Fujinon) for full lens zoom and focus capability from a lookup table (LUT) of six separate adjustments that had been pre-determined to achieve the best results.

Grass Valley OCP units were used for shading and the precise matching of the cameras that is so critical to comfortable stereoscopic 3D viewing. The camera technicians first had to adjust the color of the vertical camera on the beamsplitter rig as properties change running through a mirror. A mirror, by nature, changes the color wavelength, so absolute correction is not possible on any rig. This is due to a mirror having metallic properties, which changes the polarization of a color's wavelength. Öberg said an organic mirror is what the optical industry requires.

The Microfilms rig and associated Total Control (software-based) setup tool aligns two pictures (left-eye/right-eye) on top of one another. This is achieved using a dedicated computer that is only connected during setup. A stereoscopic analyzer onsite captures set reference points from the two HD camera images and overlays this using sub-pixel management. A stereographer can then carefully adjust the image—pixel-by-pixel—either vertically or horizontally as required.

EXISTING HD GEAR CAPTURES 3D ACTION

"There's no doubt that the quality of the LDK cameras was excellent," Öberg said, "but we had to use two rigs—a side-by-side (at back of house) and a beamsplitter rig (up front)—instead of maybe more camera positions that are handled by a single camera and a single lens."

He also said the price of the rigs and other equipment has to come down in order to be practical because the TV production market "is very competitive."

For now, Öberg said they would use their existing Grass Valley HD equipment because it works without any extra investment on his part. However, he does look forward to what the future holds.

"As production professionals, we have the experience to do the job, now we need equipment manufacturers to step up and give us the right tools," he said. "I am confident that Grass Valley will continue to lead the way and help us get there practically. 3D adds a lot of value to a live production, that's why everyone gets so excited about it."

GLOBAL SERVICES



Grass Valley Global Services specializes in the defining of, deployment of, and support of today's dynamic file-based workflows, based on Grass Valley and third-party solutions. With Grass Valley Global Services, you can achieve your operational goals in the most efficient and cost-effective way possible with a partner you can trust.

www.grassvalley.com/support

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