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Blackbird Digital Authors Music DVDs, Using AJA's Io with an Apple G5 System By Rich Winter

My company, Blackbird Digital, recently had the pleasure of authoring two music DVDs for both domestic and international release; Primus: *Hallucino-Genetics*, and Neil Young: *Greatest Hits*. The two titles share the same domestic release date, November 16, as well as the same replication plant which meant their due date was also the same. This made for a very tight production schedule with little room for any delay or problems.

After a two year stint at American Zoetrope authoring titles including the *Godfather Collection*, and a variety of films for the Criterion Collection, MGM, and Paramount Home Entertainment, I started Blackbird Digital with the goal of offering creative post-production, and DVD design and authoring services.

I split most of my work between two systems: The first, which handles most of the video editing aspects for our clients, is an Apple Dual 1.8GHz G5 with 2.5GB RAM, 1TB of Medea G-Raid Storage, and the AJA Io. This system is connected via Gigabit Ethernet as well as SDI and AES/EBU, to a Windows 2000 based Boxx Dual 2.2GHz Xeon, with 2GB Ram, and DVS Video Hardware. While one system is encoding, rendering, or writing DLTs, productivity is not hindered as the other system is online and available for any of the tasks necessary.

Hallucino-Genetics captures Primus on the final night of their 2004 tour at the Agora Ballroom in Chicago, performing one set of music from their back catalogue, followed by a second set of their 1990 studio debut recording *Frizzle Fry* in its entirety. The performance was shot with eight different cameras. The band performed mostly in the shadows, apart from three large weather balloons suspended above the band, onto which different video loops were projected. I worked with Filthy Ape Creative Services, which originally designed these visuals and was the tour's projectionist, as well as Zoltron.com, which produced the disc and the packaging, as well as web content for the band, and the band's various side projects. I had seen the band on their previous tour, the Tour de Fromage, and had been very impressed with the both the content and synchronization of the visuals to the music, so it was a real pleasure working with this

creative team and learning more on how the live interactive visuals were done. More information on the technique and equipment used can be found at www.filthyape.com

The concert, at over two and half hours, was delivered to us on two Digital Betacam reels. The disc's stereo PCM track was taken directly from the audio on the Digibeta via the AJA Io, and the surround sound track was output from ProTools as separate mono 16 bit/48kHz AIFF files. Initially, the video encoding of the project was done using a two pass Variable Bit Rate encode with a Sonic Solutions SD-2000 hardware encoder. Like we do on most Single Sided/Dual Layer (DVD-9) projects, for video encoding approval we'll split the discs' two layers into their own separate projects. This makes for quite a bit more work for the authoring facility, but ensures that the artist can see and hear their content exactly how it will appear on the final disc. Once the video and audio encodes have been approved, we'll move onto the final tweaks in the discs authoring and navigation, and compile the full-length project. We then deliver single disc viewing copies using a great freeware utility called DVDshrink. This windows based software allows one to recompress the video encode specifically to fit onto a single DVD-r.

The reviews were very positive on the look and sound of the disc, however revealed an important editorial change. This change amounted to needing to reedit the concert and subsequently re-encode and recreate the surround stream to reflect the video edits just days before its due date. Unhappy with the softness of some of the NTSC to PAL conversions I've used in the past, the initial plan was to use our fast CPUs and software to convert the 29.97fps 720x486 master into 25fps 720x576 PAL. Since we had already had the entire concert online for the format conversion, this change so late in the process was attainable and doable, and happily still deliverable on time.

With most DVD titles on the market today, the bits used on the disc are primarily reserved for video content. On the *Greatest Hits* project, the focus was quite the opposite. It is the first disc that I'm aware of in the DVD-Video format that delivers fully uncompressed 24bit 96kHz audio. To put this in perspective, this is over 10 times the typical bandwidth of a standard Hollywood 5.1 surround track, and 20 times that of the typical stereo track. According to Neil Young "There is just no comparison between DVD-stereo and a regular compact disc or even 5.1 sound. It's the difference between a true reflection of the music and a mere replica". The video content accompanying this high resolution audio, shot in HDCAM, are simple overhead shots of the original recording playing in real time, accompanied by photos and memorabilia associated with that song.

This is the third title for Neil Young and Shakey Pictures in which I have worked in conjunction with the Total Media Group of South San Francisco. Total Media Group handled the production and video post-production on both the *Greatest Hits*, as well as the post-production on Neil Young's *Greendale* and *Inside Greendale*. They afforded me a suite in which I could do the initial menu design and prototyping with Neil and the discs' producer and long time collaborator, L.A. Johnson. This is the first project where I utilized DVD Studio Pro 3 for menu prototyping. Although we didn't use DV DSP for

the authoring of this title, I found the programs' Photoshop layer support to be very helpful for quick visualization of the discs' navigation.

Again with the plan already set to do Software based format conversion, we digitized the uncompressed video clips and I was able to take these clips back to the studio and frame accurately determine the chapter points, complete the 100+ menus on the disc, and do the NTSC to PAL conversion.

Both clients were very pleased with the detail and quality of the format conversions, as well as the final product and delivery. Given the relatively low cost of storage and uncompressed I/O today, having the uncompressed footage available even at the authoring stage, has allowed for a flexibility to accommodate changes late in the process, that I couldn't imagine doing it any other way.

For more information on Blackbird Digital please visit www.blackbird.tv, or contact Rich directly at studio@blackbird.tv.