

# DOLBY NEWS

*"...the 3D winner is Dolby 3D—  
and not just by a nose."*

Stephen Shankland, CNET

2008  
ShoWest  
Edition



# Digital Cinema. Simplified.

*Whether you're looking for the complete system or an individual component, Dolby has the digital cinema products and technologies that can be tailored to meet your unique requirements now and in the years to come.*



# Digital Cinema. Simplified.



## Manage It

**Dolby® Theatre Management software** is designed to fit all sizes of theatre configurations—from a single screen to a large multiplex.

The software is available as part of the complete Dolby Digital Cinema system to support and network a maximum of three screens, or with Dolby Show Library to network additional screens. Dolby Theatre Management software gives you advanced control over scheduling and playback via an intuitive screen-based interface. The software is fully extensible from single-screen digital installations to complete complexes, and can even control film-only as well as digital and hybrid screens.

It handles all operating and scheduling, displays the status of shows, and lets you set up lighting and masking changes. Once configured, it operates everything automatically. There are two versions available: Dolby Screen Manager and Dolby Theatre Manager.

When you purchase a single Dolby Digital Cinema system, made up of Dolby Show Store and Dolby Show Player, Dolby Screen Manager is built in. The software enables single-screen operation for a networked multiplex of up to three screens. The Dolby Show Store and Dolby Show Player units provide everything you need to load, store, decode, and deliver digital movies to your digital cinema.

Dolby Theatre Manager is designed for a theatre network that goes beyond three screens. Dolby Show Library and its built-in Dolby Theatre Manager are at the heart of the network. A high-capacity central server that streamlines your operations and networks together four or more digital cinema screens, Dolby Show Library gives users the ability to load all content at one central location and subsequently distribute files electronically to networked Dolby Digital Cinema systems within the multiplex.

Dolby Theatre Management software is the industry's most powerful scalable platform for running your multiplex theatre and business operations.

## See It

**Dolby 3D Digital Cinema** is an extension of Dolby Digital Cinema. In addition to providing a great 3D experience to everyone in the house—with rich, realistic color and a strikingly clear sharp image—Dolby 3D Digital Cinema offers a flexible playback system and total efficiency. The Dolby 3D Digital Cinema playback system supports both 3D and 2D presentations without the need for a dedicated 3D auditorium. This provides the flexibility of easily alternating between 3D and 2D presentations. And rather than the expense, hassle, and technical compromises of installing a silver screen (necessary with other systems), Dolby 3D Digital Cinema uses the standard white screen as well as the standard digital cinema projector, equipped with a simple filter accessory.



## Hear It

The **Dolby CP650DC** is our cost-effective digital cinema audio solution. With functionality created specifically for digital cinema presentations, it supports the popular operational features, reliability, and quality of the Dolby CP650.

Designed to accommodate a more efficient work flow and fully interoperable within the Dolby product family, Dolby Digital Cinema products and solutions put the focus on quality, flexibility, and efficiency, so that they can operate with your existing technology and allow room to grow.

Regardless of your needs, Dolby Digital Cinema solutions offer the opportunity to make use of computer networks and technologies to their greatest advantage for more efficient theatre operation and the opportunity to streamline the way you do business.

### *Dolby CP650DC*

*As we continue to bring you the quality audio you've come to expect from Dolby, we introduce the Dolby® CP650DC, the latest version of the Dolby CP650 audio processor. Designed with functionality specific to digital cinema applications, the Dolby CP650DC supports the popular operational features, reliability, and renowned quality of the Dolby CP650, minus support for 35 mm film.*

*The Dolby CP650DC configuration allows replay between conventional digital cinema multichannel 5.1 or 6.1 (Dolby Digital Surround EX™) soundtracks, along with Dolby Digital bitstream decoding. In addition, the CP650DC provides global audio delay for correct synchronization and the option of internal active crossovers for either two-way or three-way main outputs for optimum dynamic range. The Dolby CP650DC connects directly to the digital audio output of a Dolby Show Player or any digital cinema server. The Dolby CP650DC is also the only cinema processor with the capability to independently control the volume of various content (preshow advertising, trailers, and feature presentations).*





*Jim Farney*  
*Director of Marketing*  
*Motion Picture*

# *My Two Cents*

*by Jim Farney*

*“Dolby’s commitment is to  
simplify digital cinema.”*

**As ShoWest 2008 arrives**, there is so much happening in digital cinema that it boggles the mind. The massive and unprecedented technology conversion to digital cinema is quickly accelerating, with literally tens of thousands of screens due to be converted in the next few years. Digital 3D has recently produced some astonishing numbers at the box office, leading some to call 3D the killer app for digital cinema. And the number of VPF integrators offering programs continues to grow. It’s a lot to make sense of. But this much is clear: the train is leaving the station, and it’s time to determine your destination and on whose train you want to ride. >>

>> *Naturally, Dolby has some ideas.*

*That happens when you've spent the last 35 years working directly with exhibitors to enhance the moviegoing experience. Successful digital cinema certainly requires excellent individual products, but it's a showstopper if they aren't designed from the beginning to integrate with other products to produce a real-world solution.*

*Dolby has created a complete family of interoperable and network-savvy products, including our digital cinema servers, 3D technology, and cinema audio processors—plus a central Show Library coupled with user-friendly theatre management software to tie it all together. Our goal is to leverage the incredibly powerful underlying IT infrastructure to bring new operational efficiencies and revenue possibilities to the theatre. Not only does Dolby® Digital Cinema equipment integrate seamlessly with our own product family, it also works well with equipment from other leading vendors.*

*Since the release of Chicken Little, our digital cinema server has worked with Real D technology. And from day one it has interfaced with a variety of external automation systems controlling curtains, lights, and dowsers. Theatre management systems (TMS) from both AccessIT and Technicolor can now control Dolby's server as well.*

*Our own TMS, Dolby Theatre Manager, can control Doremi servers, and our program to interface with leading external POS systems is underway, with the Allure EntTek Enterprise POS™ already integrated.*

*Last but not least, we have launched a program to allow other cinema servers to host Dolby 3D, with Doremi and XDC efforts underway and others in discussion. Our commitment to open systems is already showing tangible results. So whether you want a fully integrated system from one manufacturer, or the option to pick and choose among vendors, Dolby's commitment is to simplify digital cinema.*

*We've also worked hard to take the compromise out of digital 3D. Dolby 3D requires no silver screen. Silver screens were retired decades ago because of the severe compromises inherent in the technology. Silver screens are plagued with hot spots and maintenance concerns—a compromise not only for 3D presentations but also for every 2D movie that plays on the same screen. Plus, Dolby's 3D picture quality is almost universally regarded as the best there is. (Take a look at Stephen Shankland's CNET review of all three commercially available 3D systems reprinted in this newsletter.) Hint: most major-studio screening rooms are equipped with Dolby 3D because the studios have to be able to judge the technical quality of their movies without limitations.*

*Dolby welcomes you aboard our train. We look forward to continuing our 35 year relationship as your technology partner—and to ensuring that digital cinema is a success in your theatres.*

*Dolby 3D Digital Cinema*





Directors choose **Dolby® 3D Digital Cinema** for its realistic adherence to their creative vision. But that's not the only reason Dolby 3D Digital Cinema is being selected for 3D premieres worldwide. Sarah Pierce, Director of Operations for the 2008 Sundance Film Festival, called Dolby 3D Digital Cinema the "ideal solution."

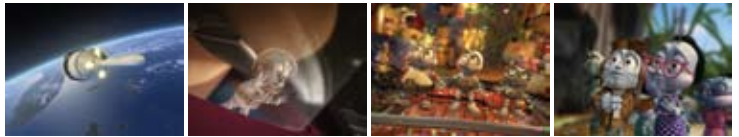


In January, the world premiere of 3ality Digital's *U2 3D*, distributed by National Geographic Entertainment, was shown at Sundance in Dolby 3D. In addition to the tantalizing 3D experience delivered to every person in the audience, the technology allowed festival organizers to quickly transition screenings from standard 2D format to 3D without the use of silver screens.

"Since we have a full slate to screen, we cannot afford to devote one theatre entirely to 3D," explained Pierce. "By using the white screens already in place, we can shift between formats within minutes."

The Dolby 3D filter wheel inside the projector easily moves out of the light path when switching

## Chosen for 3D Premieres Worldwide



from 3D to 2D digital cinema presentations. The wheel is compatible with DCI-compliant projectors featuring Texas Instruments™ DLP® digital cinema technology and is inserted into the light path before the image is formed, delivering a stable and sharp picture.

The list of titles presented in Dolby 3D continues to grow. *Fly Me to the Moon*, released by nWave Pictures, was screened in Dolby 3D on a 64-foot screen at Kinopolis Brussels. Ben Stassen, CEO of nWave Pictures, commented, "The future of 3D cinema depends on the filmmakers' and exhibitors' ability to deliver truly immersive cinema experiences to audiences, which can best be achieved in large stadium-seating theatres with big screens. The screening of *Fly Me to the Moon* using Dolby 3D Digital Cinema technology on a 64-foot screen at Kinopolis Brussels is proof that the future is here today. I have attended numerous top-quality digital 3D screenings around the world, but never before have I seen such a perfect 3D image on such a huge screen."





## CNET Review of *Beowulf*

### Who Shows the Best View of 3D *Beowulf*?

Stephen Shankland

The race for the best 3D movie projection technology began in earnest last week with the release of *Beowulf*, and I'm here to judge the first lap.

*Beowulf*, which recounts the Anglo-Saxon adventures of a Swedish prince of that name, is the first wide release of a 3D movie, showing on hundreds of screens in 3D. And for the first time, viewers had the choice not only of watching with Imax® 3D and Real D projection technology, but also newcomer Dolby® 3D.

Based on watching the movie start to finish three times, the 3D winner is Dolby 3D—and not just by a nose.

Dolby's technology gave a sharp image that showed every beard bristle, the colors were relatively rich, flicker from moving objects was nonexistent, but most significantly, the sense of depth was strong. Even the subtle differences between a character's facial features were perceptible, and



*“. . . the 3D winner is Dolby 3D—and not just by a nose.”*

group shots with a host of characters showed as true depth, not as a number of gradually more distant two-dimensional layers. I was truly impressed.

Before I go further, a qualifier. Three viewings of this movie was a lot to endure, given the comic-book-grade plot and cardboard characters, but it's not much as statistical samples go to judge projection technology.

It's hard to say how much of my experience was based on the underlying merits of the technology and how much on the particulars of the theatre and viewing. But the Dolby 3D experience was significantly better enough that I'm comfortable awarding it the crown.

#### **Compare and Contrast**

All three 3D technologies were compelling, but none was perfect.

My first viewing was with Imax 3D, which was displayed on the company's famously large screens.

Of the three, Imax 3D was the most in-your-face experience of 3D effects, with swords, castle spires, and spear points jutting sharply out of the screen. The company deliberately adjusts movie perspective to achieve this effect.

“When you experience 3D with us, you experience the 3D at the bridge of your nose. It is an immersive, full-contact experience,” said Greg Foster, Imax's Chairman and President of Filmed Entertainment. And he's right.

However, I was distracted many times during the movie by “ghosting,” in which some of the light intended for the right eye leaks into the left and vice versa. In high-contrast moments, such as a brightly glowing, gold drinking horn held against a dark cave wall, the result is dim secondary copies of elements of the scene.

More disappointing, though, was my befuddled perception of some high-motion 3D scenes. I often found it hard to track objects and people during fight scenes with rapidly moving objects and a whirling camera perspective, for example.

So when I went to my second viewing, in Real D, I was favorably impressed. It wasn't as crisply focused or immersive as Imax 3D, but there wasn't as much ghosting, and I had much better luck keeping track of the fast-moving scenes. For example, in one early scene where King Hrothgar flings gold coins at his subjects, I actually saw coins rather than distracting gold flashes.

Instead of occupying most of my field of vision, the action seemed to take place in a box on a stage in front of the audience. And most of the action was “behind” the front of the screen.

The Real D audience seemed more wowed than Imax 3D viewers. Despite the more understated 3D, I observed a lot more flinching and startled gasping among audience members than in the Imax show.

Dolby 3D, though, beat out Real D for clarity, color, and coherent 3D. I was looking hard for ghosting and found it only twice, once with a sword and once with Grendel's mother's snaking tail. Many scenes that hadn't worked before came together—one example being the flying gravel pushed by Beowulf's ship as it's towed up the beach—and I found myself relishing the depth of flying dragons and other subjects. Falling snow, driving rain, and blowing embers imparted a feeling of space, not mere distractions.

That said, I still had problems. Not once was I able to make sense of the clouds of sand billowing around an

underwater dragon or the froth of bubbles seen in the lair of the monster Grendel and his mother. A chain moving through a pulley knocked me cross-eyed. I also had troubles with foreground objects such as cave stalactites or characters half offscreen.

### 3D Movies: The Future

*Beowulf* is set in Denmark during the sixth century, the darkest of the Dark Ages, but watching it is a view into the future of moviemaking. I was impressed by various clips, but now having seen what a director with forethought can do with the technology and what it adds to the movie itself, it's clear to me 3D isn't just the flash in the pan it has been in the past.

For me, the 3D movie experience ranged from remarkable to gimmicky, but at no time did I find that it had faded unobtrusively into the

background. No doubt part of that is because it's a spectacle that moviemakers are using to pack theaters and charge premium prices.

The three 3D technologies all share a common principle: alternate rapidly between two slightly different vantage points, one for the left eye and one for the right, so human brains in the audience can reconstruct the third dimension just as they do in the real world. To keep left-eye light out of the right eye and vice versa, the audience wears special glasses; the cheap cardboard handouts with red and blue plastic lenses are long gone.

There are differences, of course, in the projection technologies. Imax 3D, with about 120 3D screens installed so far, uses the oldest approach—two separate but synchronized reels of film and polarized light to split the views—though it will start going digital in 2008. Real D, whose



technology is on more than 1,000 screens, uses a digital projector passed through a device that polarizes light one way and another for each eye.

Dolby 3D, which just entered production and so far is only on 75 screens, uses filtering technology so that the left and right eyes see images composed of slightly different hues of red, green, and blue. That approach caused problems for me seeing *The Nightmare Before Christmas*, in which elements of even red were hard to look at because the right-eye channel was significantly more orange.

*Beowulf's* computer-generated images are based on the real movements of actors digitized with motion-capture systems. Although I can't stand the characters' resulting rubbery features and robotic hands, the technique is a good foundation for 3D movies.

With the in-computer virtual "filming," the camera's perspective can shift gradually or dramatically, taking the audience with it. With computer-generated movies, those radical perspectives are nothing new, but 3D adds a new element. For example, when the still-unseen monster Grendel shatters open the door of Heorat, King Hrothgar's mead hall, the camera slowly moves to the front of the hall, and the sense of dread is all the greater as the vantage point approaches the entrance where we expect a vile demon.

The movie, however, seemed adapted for the constraints of 3D display. One problem, for example, is that 3D movies are significantly dimmer, in part because each eye is effectively seeing black half the time and because necessary filters cut down light even more. In what was likely not a coincidence, *Beowulf* seems to take place entirely during the dark

days of northern-latitude winter and is set mostly in wanly illuminated halls and caves.

Overall, though, the experience was engaging, even the third time around. And I recommend checking the movie out in whatever 3D format you can find. Imax's Foster makes a compelling point about the merits of 3D. And even though I'm not a big movie buff, I agree.

"What's happening is a lot of 15- to 30-year-old people were staying home, watching movies on 72-inch plasma screens, and not going to the movies the way I was going when I was a 15-year-old," Foster said. "We need technologies to get them to realize they can't replicate the moviegoing experience [found] in a movie theatre."

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# Digital Cinema Mastering and Distribution

Dolby Production Services worldwide mastering and distribution services continue to expand. Films distributed in recent months include *As You Like It*, *The Battle of Algiers*, *Enchanted*, *The Golden Compass*, *Gone Baby Gone*, *Harry Potter and the Order of the Phoenix*, *The Kingdom*, *Molière*, *Mr. Magorium's Wonder Emporium*, *National Treasure: Book of Secrets*, *Pirates of the Caribbean: At World's End*, *Ratatouille*, *Saw IV*, *30 Days of Night*, and *La Vie En Rose*.

## The Number of 3D Feature Releases Continues to Grow

### 2008

*Bolt*  
*The Dark Country*  
*Horrorween*  
*Igor*  
*Journey to the Center of the Earth 3D*  
*The Smurfs*

### 2009

*Avatar*  
*A Christmas Carol*  
*Coraline*  
*Frankenweenie*  
*Ice Age 3*  
*Monsters vs. Aliens*  
*Tintin*  
*Transformers 2*



To handle the growing demand, we've built a new dedicated mastering suite in our Dolby UK office and expanded the Dolby UK mastering team. The number of drives distributed internationally has also grown steadily. With *Ratatouille*, for example, 150 drives were distributed in the UK alone.

In the US, the Dolby Burbank office provided digital cinema content preparation for independent production companies as well as major Hollywood studios. Recently we provided the master DCPs for the worldwide release of *The Golden Compass* in over ten territories. The Content Operations Group in Dolby Burbank specializes in the conversion of nondigital cinema high-definition masters into fully compliant DCPs.



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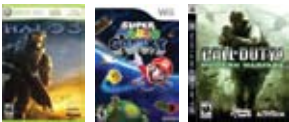
# SOUND BYTES

## Dolby in Games

Over 2,000 console games support Dolby® technologies, including top sellers *Halo® 3*, *Super Mario Galaxy*, and *Ratchet & Clank® Future: Tools of Destruction™*. In hardware news, Astro Gaming has introduced the A40 Audio System, a new gaming headset/amp combination that supports Dolby Digital, Dolby Pro Logic® II, and Dolby Headphone technology.



The Vudu set-top box and movie download service features Dolby Digital Plus.



Today's top-selling games incorporate Dolby technologies.

Astro Gaming's A40 Audio System supports Dolby technologies.



## Dolby at the Grammys

Behind the performances and accolades of the 50th Annual Grammy® Awards, which took place February 10 at the Staples Center in Los Angeles, a significant technical achievement occurred in producing the world's most famous music telecast. For the first time, producers of the show provided a single 5.1-channel surround sound mix, entrusting a quality two-channel mix to occur automatically at the CBS network center in New York.

To make this happen, Dolby provided equipment and onsite support to the Recording Academy to aid in eliminating the need for creating and delivering two separate mixes. Key factors for success were the ability to accurately monitor and coordinate the mixes made in five onsite locations and to anticipate the downmixed two-channel output of the network center.



## Dolby Debuts New Video Technologies at 2008 International CES

At the 2008 International Consumer Electronics Show (CES), Dolby demonstrated its new suite of high-dynamic-range (HDR) imaging technologies and announced that the first to market, Dolby® Contrast, will be ready for distribution to LCD manufacturers in the first quarter of 2008. Dolby Contrast provides dramatically enhanced image contrast, enabling LCD televisions with backlight units to leverage LEDs with local dimming. The result is outstanding contrast ratios and improvements to the overall image quality.



## Worldwide Training and Support

Our digital cinema solutions extend beyond supplying equipment. We also offer comprehensive training and support. Over the past year, we have conducted several digital cinema and 3D training seminars for authorized dealers and technicians. To meet the needs of the ever-changing cinema industry, we continue to offer training seminars. For more information on upcoming training, contact us at [cinemasupport@dolby.com](mailto:cinemasupport@dolby.com).



# **DOLBY**<sup>®</sup>

**EVOLUTION OF THE DOLBY BRAND** As a company, Dolby is changing, and as a result, the Dolby<sup>®</sup> brand is also changing. Synonymous with great audio technology for the last few decades, Dolby is expanding its horizons to encompass exciting new markets and technologies, including 3D digital cinema, video processing, and mobile entertainment. So now you won't just hear the Dolby difference, you'll see it, too. What you've known as a sound company has become much more—a wide-ranging entertainment technology provider. And it's just the beginning.