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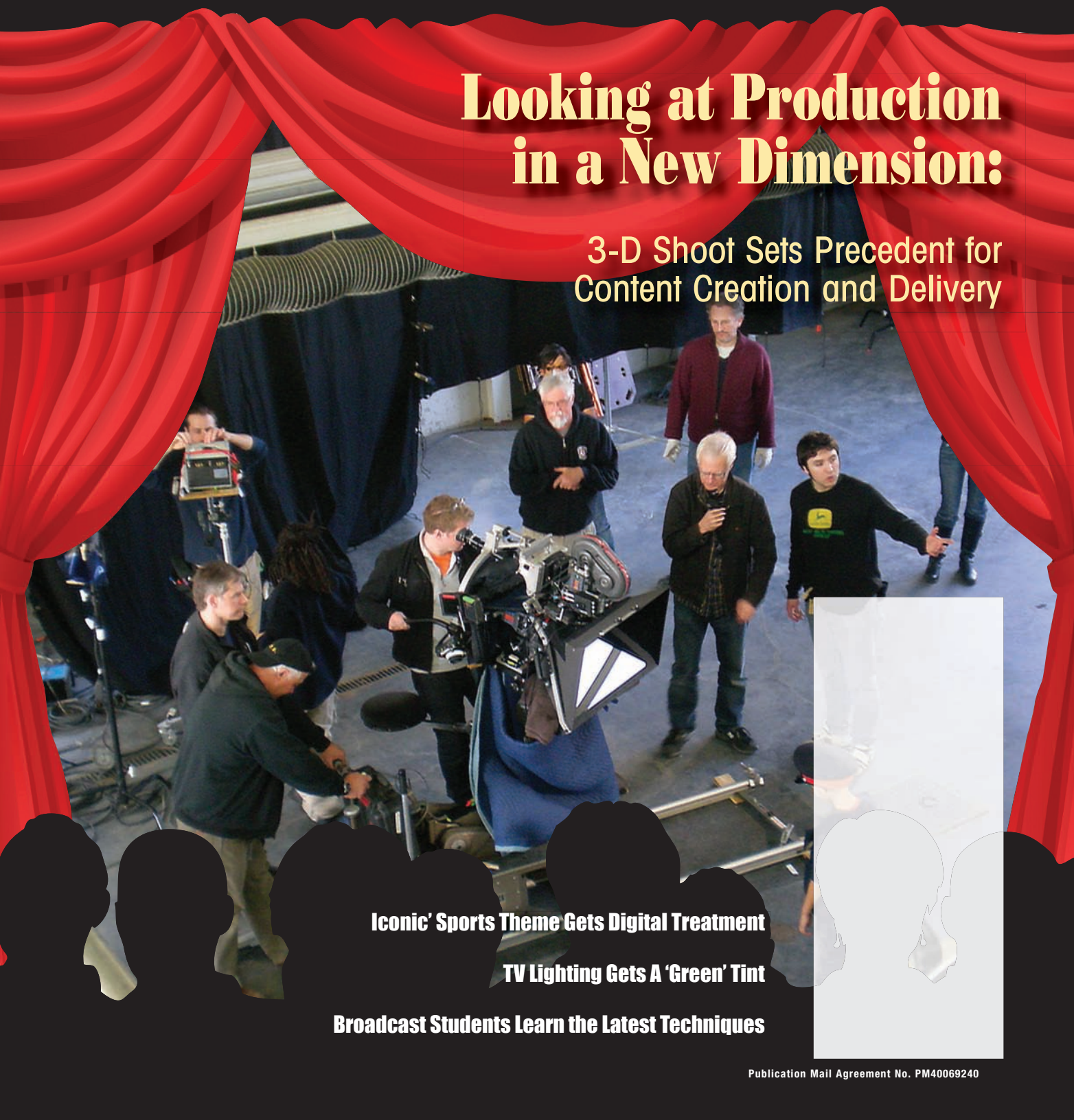
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Looking at Production in a New Dimension:

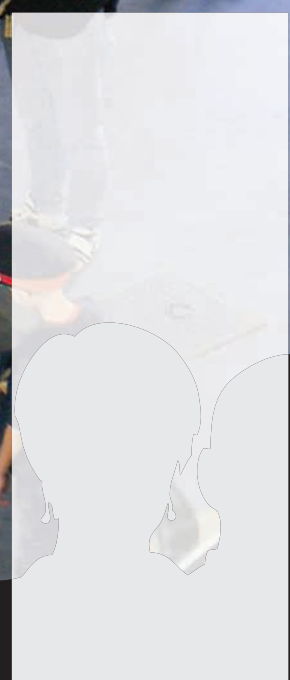
3-D Shoot Sets Precedent for
Content Creation and Delivery



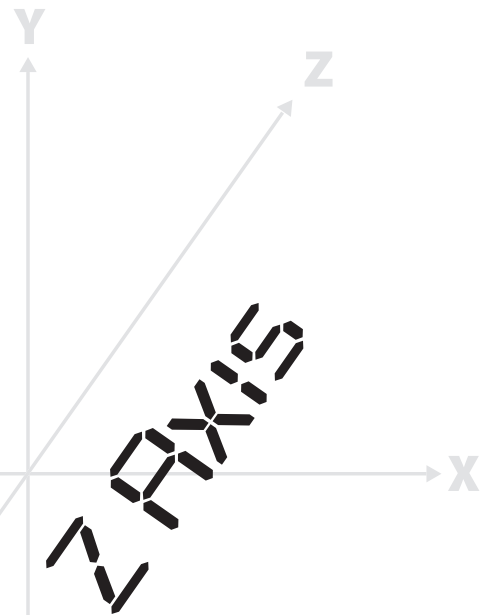
Iconic' Sports Theme Gets Digital Treatment

TV Lighting Gets A 'Green' Tint

Broadcast Students Learn the Latest Techniques



3D

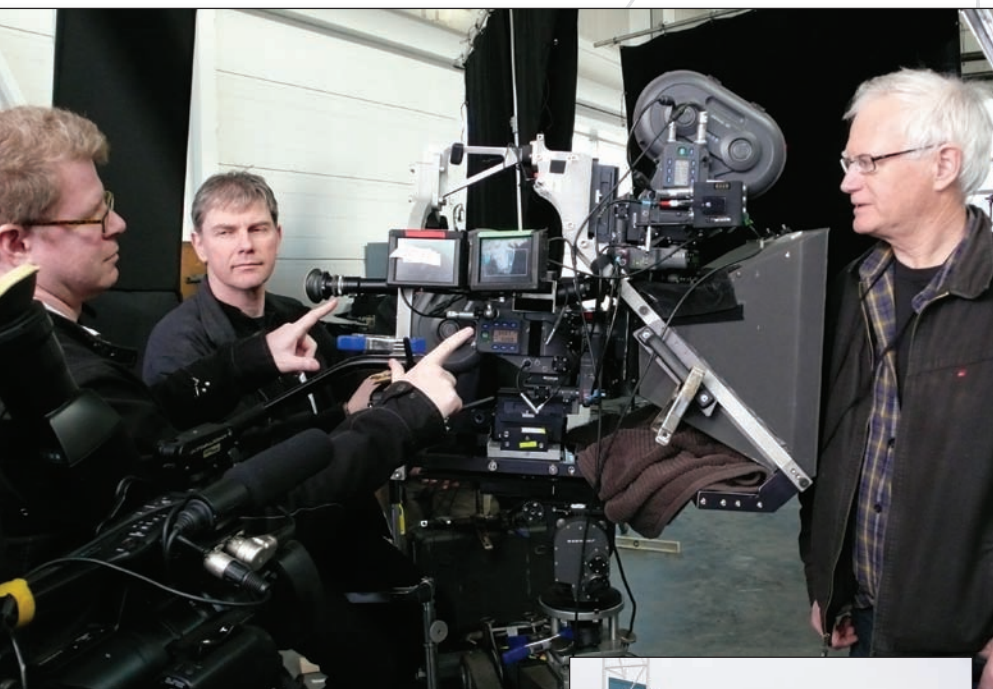


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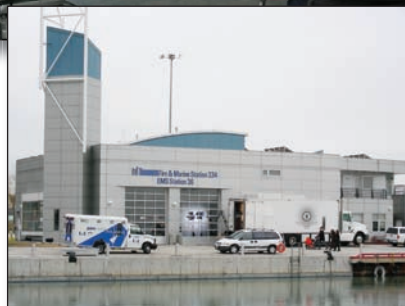
New Techniques and Technologies for Creating, Delivering and Displaying 3-D have Distinctly Canadian Flavour

By Lee Rickwood

It's a firehall, not a movie studio! And it's more than a stone-throw away from the city's so-called Film District, where huge sound stages reside.



Station 334 doubles as a 3-D commercial production set (note the studio lights through the glass garage door at right) as producer director James Stewart, above left, reviews the 3-D camera set-up with crew members.



But, sitting alone on the water's edge, nestled in Toronto's central Harbourfront district, Fire and Marine Station 334 is this day home to a very special cinematographic production.

It's the site for one of the first 3-D commercial shoots ever staged (strictly speaking, it's a PSA), so it provided a rare glimpse inside the world of state-of-the-art digital media production, and look towards the future of TV, movies and mobile content.

Toronto-based Geneva Film Co. producer/director James Stewart was in charge of the production, in which a powerful public service announcement, on behalf of first responders like fire and emergency services, is being created.

The spot was commissioned by the Tema Center Memorial Trust — a national charity that helps emergency services personnel understand and cope with the effects of Acute and Post Traumatic Stress Disorder (PTSD).

To underscore the emotional message and the visceral connection with the audience, the spot was shot in 3-D, and will screen in 3-D equipped cinemas beginning in April. But it could also be watched on 3-D enabled mobile devices (which are now available) and on 3-D TVs (which will soon be).

Of course, the spot will be simultaneously

PHOTO CREDIT: CYLVAN DESROULEAUX

PHOTO CREDIT: LEE RICKWOOD



COMPOSITE PHOTO ILLUSTRATION: BILL WHITE AND ERIC WHITE

No, you do not need glasses.... Advances in autostereoscopic displays and convergence camera rigs are making 3-D media production, such as this PSA shoot in Toronto, and 3-D content delivery a reality - and without the goofy glasses of yesteryear.

prepped for 2-D delivery, on conventional TV and the Web, Stewart explains.

But it's the 3-D aspect that has drawn us to this unusual location - along with a very unusual looking camera rig.

Stewart began working in 3-D back in 2005, and is one of a select group of film directors actively shooting commercials in Live-Action Digital 3-D. "We are working on the leading-edge of the 3-D phenomena — a medium which has the potential to transform not only the advertising world, but all media — gaming, hand-held devices, and cinema as we know it," says Stewart. "This project marks the world's first 3-D PSA - and capitalizes on a fantastic new medium for a good cause. Coming on the heels of the world's first 3-D television commercial for Pepsi during the Super Bowl, this 3-D PSA is a clear demonstration to advertisers and marketers of the

versatility and power of 3-D for communicating emotional, as well as entertaining content."

For this shoot, Stewart worked with gear from 3-DCC, the 3-D Camera Company, which was founded and is based in Toronto.

The 3-D Camera Company (3-DCC) is a partnership between William (Bill) White and William Reeve. The offices of 3-DCC are located in Toronto, Canada and Berlin, Germany.

3-DCC is a partnership between Bill White and William Reeve, well-known and established cinematographers, who entered into a cooperative venture to develop and rent specialized stereoscopic (3-D) image capture equipment for the motion picture entertainment industry.

A new protective case for the iPhone, developed in Canada, enables engaging 3-D content delivery on portable devices.

Broadcasters Delve Into 3-D Game Development

Broadcasters and specialty channels have built successful businesses by delivering flat, 2-D images to the home. Now, some of the more visionary companies are moving to the third dimension, and using mobile devices.

Astral Media already owns some 20 specialty channels, and it operates nearly 100 websites (in addition to being one of the country's largest radio broadcasters). Yet, it is now involved in a development project for 3-D gaming on popular portable digital devices like the Apple iPhone.

"We are excited to extend Family Channel's engagement with young Canadians to include the development of innovative gaming on this highly interactive platform," said Barbara Bailie, Director, Interactive, Astral Television Networks. "Gaming remains the most popular activity on our website, Family.ca, so we're keen to extend our reach into gaming by having our Ontario-based Interactive team work closely with cutting-edge developers to

deliver Family's experience to kids on the move."

With seed money from the Ontario government, and help from developers at Spatial View and the Sheridan College Visualization Design Institute, a new glasses-free 3-D mini-game is in development for Family.ca, to be called *Carnival Craze*.

Family provided sponsorship, creative and brand direction based on their familiarity with online game-play content for audiences aged eight to 14.

The game is played and viewed in natural 3-D using a 3-DeeShell from Canadian manufacturer Spatial View. The shell includes a stereoscopic overlay (a '3-Dflector', or 'parallax barrier') that enables 3-D display on a flat PC or TV screen.

For mobile media users, the 3-DeeShell has a similar polarized 3-D viewing overlay fitted into a protective case, letting users see specially-encoded media with an

The company developed a stereoscopic rig system, on which two ARRI 235 35mm MOS cameras are mounted.

The fully synchronized cameras are specifically modified and mounted on a convergence system to control stereoscopic depth. All the 3-D parameters can be adjusted 'on the fly'.

Stewart (who has worked with many other 3-D systems and many other cameras attached to them) says that variable interocular conver-



apparent third visual dimension.

Spatial View is also making 3-D content creation tools and plug-ins available, connecting to popular digital media platforms like Flash.

Spatial View is also working with high-tech manufacturer Texas Instruments on its 3-D mobile solutions. Spatial View 3-D prototype will enable TI's OMAP development platform to playback and vivid glasses-free 3-D images and videos. The high-performance, low-power consumption OMAP processors are said to permit manufacturers like SpatialView and others to bring to market new, multimedia-rich handheld devices.

Spatial View also provided advisory and collaborative support to the project. The Sheridan Institute helped design the game, working with Spatial View's development team.

gence rigs, in which camera motion and distance between them can be remote controlled, are crucial for doing dramatic sequences, or shooting in enclosed areas.

“Convergence means you can vary the distance between the cameras, bringing it down to about an inch or so. You can’t really do that with cameras mounted side-by-side on a support platform, you really need a convergence rig. It’s very versatile, and yes, very expensive, but it’s the way to go,” he says.

Being able to vary that distance, to ‘tow the cameras in’ can be equated to converging or

focusing our own eyes. If you were to focus on something very close to your nose, your eyes converge, and you go a little cross-eyed. We don’t usually focus back and forth, between things six inches and 20 feet away, but that is what can happen in a 3-D production.

Cinematographers, camera operators and now stereographers on a production set have to be wary of creating a muscular strain, a visual strain, in the audience who watches 3-D content.

The stereographer, usually a knowledgeable cinematographer with added 3-D experience,

is the newest member of the production crew, Stewart explains, noting that directing, staging, blocking, traditional notions of camera composition and movement all have to be re-thought while working in three dimensions.

“We have to realize we now have control over people’s eyeballs,” he says. “Much in the way we massage their ears with the soundtrack, we can now massage their eyes. So we need to storyboard a film or commercial carefully in 3-D.”

Part of that need is viewer safety!

Stewart points out that 3-D filmmakers and cinematographers must be aware of how they

Digital Cinemas Serve Up 3-D Sports and Live Event Broadcasts

The first live 3-D event broadcast to Canadian cinemas was a big success, and it will lead to further such broadcasts, and wider adoption of 3-D technology overall.

“The event was loved by fans and was very well attended by industry insiders and content providers looking to preview this new cutting edge technology,” reported Dean Leland, Vice President — Studio & Media Relations for Empire Theatres. “We were the exclusive (and first Canadian) cinema partner for this event so it was an exciting one for all of us.”

Empire Theatres, the National Basketball Association (NBA) and the Cinedigm Digital Cinema Corporation broadcast 3-D coverage of the NBA’s All-Star Night to the Empress Walk theatre in North York, ON.

The fully marketed deal also brought the 3-D broadcast to more than 80 theatres across the United States.

The technology used was developed in Canada — by Cinedigm in conjunction with International Datacasting Corporation, based in Ottawa and Sensio, based in Montreal, Leland described.

Sensio CineLive enables either 2-D or 3-D content, such as sporting events and concerts, to be broadcast live in digital movie theaters. It uses the Sensio 3-D movie decoding technology and the IDC SuperFlex DVB-S2 broadband transmission technology. It is designed to work with Cinedigm’s satellite network and digital movie systems fitted with 3-D technology.

“Although several 3-D broadcast tests have been performed over the past two years, this is the first commercially viable event of its kind and we are extremely proud to be a part of it. We have been able to stay one step ahead of the industry and, now that the interest in Live 3-D is becoming more real, our technology is not only ready, but it also is the only one to be integrated in a theater network,” said Sensio President and CEO, Nicholas Routhier.

“Empire Theatres and Cinedigm are the ideal partners to work with in delivering the next evolution of 3-D HD to our fans in Canada,” said Dan MacKenzie, General Manager, NBA Canada, Inc. “We have embraced 3-D HD as a new and innovative way to experience the excitement of our game. We look forward to basketball fans at Empire Theatres Empress Walk having a courtside seat for All-Star Saturday Night.”

For the special broadcast, Empress had a new satellite dish

installed, as well as new decoders to enable presentation. A capable digital projector was already in place.

“Fans they said enjoyed the game from the comfort of high back seats, and that the exceptional sound and 3-D visual technology was a thrill to experience,” Leland added. “There are 240 seats in the auditorium at Empire Theatres Empress Walk where we held the event, and by show time, there were only a handful of seats left. For all intents and purposes, a sell out! During the event, we held trivia contests with the audience to award autographed NBA merchandise.”

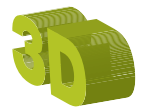
“Cinedigm is the only company that can deliver Live 3-D broadcast on this scale to cinemas and we are thrilled to be working with the NBA and Empire Theatres on this event,” said Bud Mayo, Chairman and CEO of Cinedigm. “Whether it’s bringing live 3-D events or 3-D movies to theatres or allowing theatres to custom-tailor the content they deliver to moviegoers, we are bringing new cinema-based entertainment options to consumers and new revenue streams to theatres,” he added.

Cinedigm’s digital cinema platform and satellite delivery operations support more than 3,700 theatre screens across the United States with over nine million digital showings of Hollywood features to date.

The company has been granted its first main patent for its distribution and formatting technology of stereoscopic contents on different 2-D or 3-D screens, covering the method it has developed and marketed for the distribution of 3-D content over conventional 2-D distribution channels.

Several live 3-D sporting events have been broadcast to theatres - and paying audiences - across the United States and Canada. First, the FedEx BCS National Championship Game was broadcast to some 80 digital movie theatres in 35 states across a network belonging to Cinedigm Digital Cinema Corp. Then, the NBA All-Star game received the same high tech treatment.

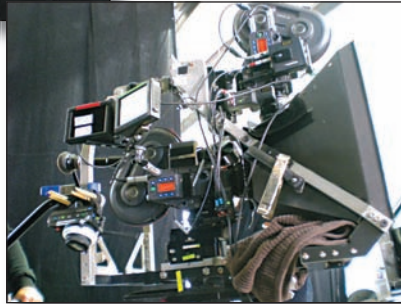
Empire Theatres Limited with its corporate headquarters in Stellarton, NS and regional offices in Halifax, NS, Toronto, ON and Calgary, AB, is a 100% owned subsidiary of Empire Company Limited. Empire Theatres owns and operates 52 theatres, with 386 screens across Canada (including one IMAX Theatre in Halifax) from Newfoundland to British Columbia.



Two ARRI 35mm cameras and a mirrored reflective surface are mounted in this 3-D shooting rig.

The production crew includes: James Stewart Producer/Director; Paul Taylor Co-DP/Stereographer; Tim Bewczyk Co-DP; Marco Willis - Key grip; Michael Soos - Operator; Cylvan Desrouleaux 1st AC Convergence; Dave McCain AC; Danial Campbell PM/1st AD

3D camera by 3D Camera Company; Stock by Kodak; Transfer by Technicolor; Stereo Post work by Creative Post; 2D post work at Geneva Film Co



use or manipulate the point of convergence (foreground focal points) as well as divergence (like background point of reference).

"If you try something simple like focusing your eyes on your finger in front of your face, your eyes are converging on that spot, kind of like cross-eyed. And, in reality, the background is diverging. It's the opposite of cross-eyed! You can get to the point, the bad point, where the audience cannot focus on the background. Our eyes diverge only about one percent," he notes, using bugs and frogs to illustrate how some creature's eyes can diverge much more than that.

"We can create images that cause the eye to do more than that (one percent), so a convergence rig becomes very important to help control that. Pre-planning where the focus is in 3-D has to be perfect, or people's eyes are snapping back and forth!

That's where eye strain comes from."

Camera ops and DoPs are thus quickly learning that there will be certain rules to follow when shooting 3-D movie pictures for large format cinema, as James Stewart, Bill White and a few others point out. Extremely wide vista will need extremely high resolution resolving power to convey details on screen. But shooting in close quarters and at close objects can make very exciting things happen.

As Stewart notes, film and electronic cinematographers have always played with the Z axis, and created the illusion of depth using the existing tools at hand - focus, lighting and set design, forced perspective. Now, there's actual depth to work with, and much more that can happen on the Z axis. "We can bring things way off the screen, and actually invade the viewers 'personal space' if we want to. We can reach out and touch the audience, and they can reach out and touch on-screen people or products.

"It's a magical time in digital media," he says as a result.

Magical, but also a little lonely.

There are just not that many people doing 3-D production at this early stage - "I know them

all" Stewart laughs half seriously. In Toronto, he has just one option for post work: Creative Post, with its Quantel Pablo 4K system, complete with 3-D whistles and bells.

The powerful system is used more often for colour correction, but Stewart says he was happy to find a local shop able to do 3-D conform work. "There's not much 3-D going on - there's just me with a real budget - so I know that it was a risk for Creative Post to invest, but they are future-proofed."

Mark Northeast, vice president of sales for Quantel Canada, creators of the Quantel Pablo 4K stereoscopic editing system, says, "It's a pleasure for Quantel to partner with inventive A-list directors like James Stewart. He has been at the leading edge of this new 3-D technology for years, and understands this new medium like very few directors in the world."

Other big film houses in Toronto, like Technicolour or Deluxe, say they are ready for 3-D, but that no such work is underway right now.

So what is the advantage for a paying client, commercial or otherwise, to get into 3-D if very few others are doing so?

"It's all about right now, and being first," Says Stewart simply. "My clients can do a 3-D commercial and they will be one of the first ever to do so! The catch is that it is the future!"

Tema Conter Memorial Trust founder and National Chair Vince Savoia agrees, saying, "When we approached Geneva about doing our next TV spot, we never dreamed that the project would take our message to this next dimension. James is a leader in the 3-D field, and we felt the immersive nature of this medium was a great fit

for both the PSA and the charity. We have always embraced new technology to raise awareness for our cause. This approach allows us to reach a far broader audience with our story, leveraging multiple platforms - web, television, mobile devices, and cinema simultaneously."

Stewart of course agrees: "I do not see any reason why computer screens, TV screens, mobile devices, cannot be 3-D," he asserts. "There is no reason. We will soon be demanding depth in digital media. Instead of holding up a flat, 2-D piece of paper, we will be immersed in 3-D depth, and it will be natural and easy on the eyes.

"Years from now, we will wonder why we ever did it any other way..."

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