

BluFocus presents:
3D-FOCUS: Part I - Blu-ray
An Introduction to 3D
by Industry Experts

FOCUS

An ONLINE WEBINAR
March 4th, 2010
11:00am PST
www.blufocus.com



Welcome



- Introduction of **3D-Focus Webinar: Part 1 – Blu-ray**
- Submit questions via chat or email 3D-FocusWebinar@blufocus.com
They will be collected for the Q&A section at the end of all presentations.
- Please note that not all questions might be asked depending on number received.

ENJOY!! Let's begin!

Start time: 11:00 pst



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3D Overview

- THX – Rick Dean



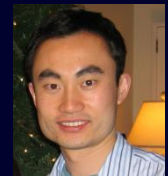
Video Encoding

- Sensio – Etienne Fortin
- TDVision - Manuel R. Gutierrez Novelo



3D Authoring

- Sonic – Chris Neely
- Netblender – Denny Breitenfeld
- Sony – John Ying & Rob Aubey



Content Creation

- Trailer Park – Curt Doty



Software/Hardware

- NVIDIA – Alex Soohoo



Accessories

- RealD – Matt Cowan
- XpanD – Ami Dror



3D Testing

- BluFocus/3D-Focus – Juan Reyes



3D Overview



Mr. Rick Dean
Senior Vice President



With more than 20 years of experience in the motion picture industry, Dean guides the strategic development of new technologies and THX certification programs. Over the years, Dean has worked on numerous groundbreaking entertainment projects, including the DVD and D-cinema releases of Star Wars Episodes I, II and III. He served as technical director for the re-mastering and post-production of the Star Wars Trilogy DVDs, a project that has set a new standard for sound and picture excellence in the DVD format. Dean has transformed the THX mastering program from Laser Disc to standard definition DVD, D-cinema and Blu-ray disc formats. Prior to joining THX, Dean was vice president of engineering at Deluxe Labs, Video Division. During his tenure at Deluxe Labs, he oversaw and performed mastering operations for Twentieth Century Fox. Rick currently serves as Governor, Hollywood Section of the SMPTE and Chairs the 3D@Home Consortium.



3D Overview

3D Focus Part 1: Blu-ray

Rick Dean, THX Ltd.
Chairman, 3D@Home Consortium



2010.....3D Comes Home

3D dominated CES 2010

- Blu-ray
 - BD Format delivers robust data rates and features
 - Announcements being made for Movie releases
 - 3D and related streaming features will drive BD Player sales
- 3D TVs debut
 - Manufacturers announce 3D TVs delivered this year
 - Flagship models; will become standard feature within a few years
- 3D Delivery Networks
 - Frame compatible 3D formats dominate early 3D experience
- Games
 - More immersive game play; PS3 with BD functionality upgrade coming



THX

3D Challenges

- Standards Development – Still underway
 - Early releases will preclude final standards
- Production Challenges
 - Live productions (sports) require updated infrastructure, new techniques, costly
 - Master Format still not defined, what about Meta Data?
 - What to do about Legacy content?
- Consumer upgrades will be costly in near term
 - New displays and Blu-ray disc players required
 - Upgrades to Set-top-boxes required, but undefined
- Education
 - Dealer Education
 - Consumer Education



Photo courtesy Panasonic

3D Technology

- Stereoscopic 3D
 - L/R eye available today using glasses, delivered in multiple ways:
 - Frame Compatible 3D, little infrastructure upgrades required
 - Side/Side, Top/Bottom and others
 - 2D + Depth
 - Enables both 2D and 3D delivery
 - New delivery infrastructure required
 - L/R Sequential, Double Frame rate
 - Similar to Digital Cinema
 - Requires additional Bandwidth



3D Content - Opportunities

- Original 3D Titles
 - Content created in 3D for cinematic release
 - Re-Mastered for BD, streaming and broadcast
- Sports, Live Events
 - Evolving Art form, new techniques and practices
- 3D Conversion
 - Legacy movie and video game libraries converted to 3D, Needed for integration of sports and live event programming

FROM THE DIRECTOR OF "TITANIC"

AVATAR

AVATARMOVIE.COM

Making The Lord of The Rings: The Return of The King - Theatre 2, Park Road Post

THX



Images courtesy Twentieth Century Fox & Activision

The 3D creative environment

- Tools for content creation must evolve
- 3D production is not new, but not refined
- Best Practices to set-up and maintain the post production environment have not been well documented and available to the industry
- What products should be used for production and QC?
- Same for the Home, but should reflect the environment where content is created if possible.
- What size screen is needed for the creative process, what size best for the living room, How do they relate?



We know the Technologies Needed.....

- But what about the Consumer Experience?
 - 3D closely follows HD conversions in the home
 - Added Consumer confusion?
 - Blu-ray delivery stands to be unique, what about other markets?
 - Cable, Satellite and ATSC will depend on existing Infrastructure for delivery of improved 3D
 - STB's will generate 2D menus when watching 3D programs
 - The effective use of Meta Data is critical, and be delivered along with content.

Metadata at Work

- Metadata will help define a User Experience with 3D in the home
- Create metadata ecosystem
 - Flag content during production; provide descriptors throughout the chain to help present the content the way it was intended
- Enable defined 3D functionality and experience on CE devices
 - Remove complexity from user experience
 - Allows products/services to differentiate themselves
- 3D Blu-ray Players
 - Metadata is related to content, define subtitles, picture enhancements
 - Store as 2D+D, then play out L/R sequential frames

There is more to this story however....

- 3D will launch into an eco-system, products need to work together.....there is an expectation that it will work well
- Legacy devices in the Home,
 - AVR's will need to pass through 3D formats
 - Built-in picture processors need to be placed in "by-pass" to avoid negative impact on content
 - STB's will need updates
 - Prior Display Models sold as 3D Ready may need updates.
- Keep in mind, there is already a lot of consumer confusion
 - Minimize additional confusion in the marketplace
 - We are delivering an "Entertainment Experience" not a "science project"

Our Value Proposition

Provide Big Picture

- End-to-end view of 3D value chain
- Enable information for strategic decision-making
- Provide reports & market analysis

Help in Identifying Technical Issues

- Lend focus to technology interoperability
- Information via liaisons with key organizations & standards bodies

Advocacy & Influence

- Set consumer and industry expectations
- Research consumer reactions
- Showcase industry at exhibitions & conferences
- Public website

The Industry working together for Solutions

- Consumer Electronics Association (CEA)
- Society of Motion Picture and Television Engineers (SMPTE)
- MPEG
- Digital Video Broadcasters
- HDMI
- Society of Cable Telecommunications Engineers (SCTE)
- EBU
- 3D@Home Consortium

Summary

- 3D will succeed when standards are implemented that everyone can support
- Commitments exist for content from studios, sports networks and cable channels, Games are as important
- User Generated 3D market is expected to be large and will take advantage of the displays and infrastructure that will be in place.
- Must establish attractive CE price points