

Welcome to the 2017 HPA Tech Retreat

which, thanks to everyone, is

Sold Out, Again!

these slides are already at
bit.ly/hpa2017-intro



Mark Your Calendars!

2018 HPA Tech Retreat



- Week of February 19 through 23, 2018
- **new location: J. W. Marriott Resort & Spa, Palm Desert**
- Submit proposals as soon as you'd like; deadline will be in late October:
 - TVMark@EarthLink.Net or Media.Mark.Schubin@GMail.com
 - if you don't get a response, I probably haven't received your proposal



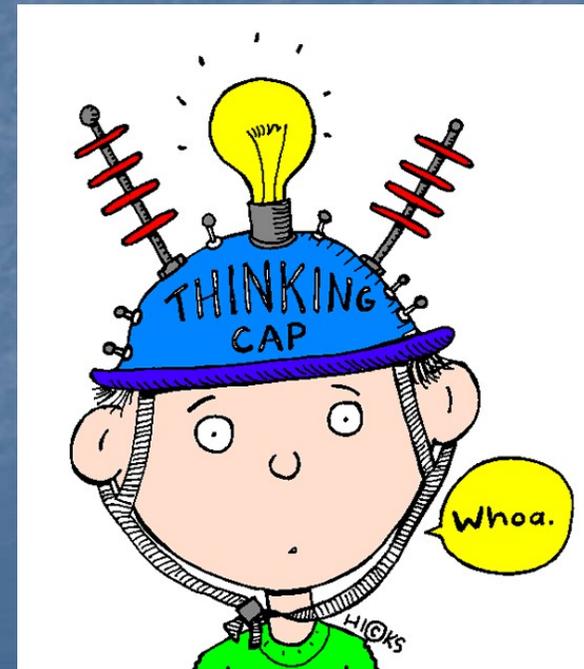
The Basics



- The schedule ***rules*** – T-Mobile time
 - download the app or check online; there might have been changes
- Power available in all table rows, Wi-Fi in room
 - SSID: Hyatt Meetings Password: hpa2017
- Innovation Zone open to 7:30 pm today, tomorrow 8:30 am to 2 pm
No Innovation Zone Friday
 - Indian Wells Ballroom Larkspur & Kachina (exit & turn left)
- Lunch at the terrace and lawn off the foyer
- Breakfast-roundtables in the Desert Vista ballroom;
topic lists posted at doors
 - Slots still available; if you'd like to moderate one, please let me know

The Basics – Part II

- Quizzes:
 - all are eligible (except me); any research is ok; cheating is not possible (so go ahead & try)
 - answers *can* be found online (if you know where to look)
 - place entries in bowl by session end (quiz #5 by last refreshment break)
 - have name and quiz # on entry
 - no penalty for wrong answers
 - win a stick-on medal!



Quizzes

- Quiz 0 (yesterday's): Was the Super Bowl LI TV audience the largest ever? Explain. Answer coming soon.
- Quiz 1: How many were elected mayor of the city of Hollywood, California? Tie-breaker: What class city?
- Quiz 5: Where was *The Hollywood Reporter* first published?



The Basics – Part III

- Speakers: Send or give presentations to Max for posting (optional)
- No recording please (except for personal use)
- Be nice!
 - computer sounds muted
 - communications devices on vibrate
 - **ALL** calls and conversations outside the room
- WiFi: Again, SSID: Hyatt Meetings, PW: hpa2017
- Please fill out evaluations on the app
 - both sessions and demos, please



Presentations That Have Been Posted

(keep checking)

Tech Retreat Program

Read More

HPA TR-X
Monday Seminars

Tech Retreat Pricing

HOME → 2017 TECH RETREAT → PROTECTED: 2017 TECH RETREAT PRESENTATIONS

Tech Retreat Presentations
(Password Protected)

View

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HPA2017pass

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Tech Retreat Participants

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Tech Retreat Call For Proposals

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Tech Retreat Sponsor Opportunities

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Technology Year in Review



Twitter profile up, stock value down
(Oct 5 - \$24.87, Feb 10 - \$15.58)

“Old” Media

- **Billboards: \$7.3B 2015 (\$5.9B 2009)**

<https://www.nytimes.com/2016/09/05/business/media/look-up-in-the-digital-age-billboards-are-far-from-dead.html>

- **Books: 65% of U.S. adults in last year**

<https://www.nytimes.com/2016/09/03/business/no-the-internet-has-not-killed-the-printed-book-most-people-still-prefer-them.html>

- **LPs: Vinyl sales beat downloads**

<http://www.bbc.com/news/entertainment-arts-38221420>

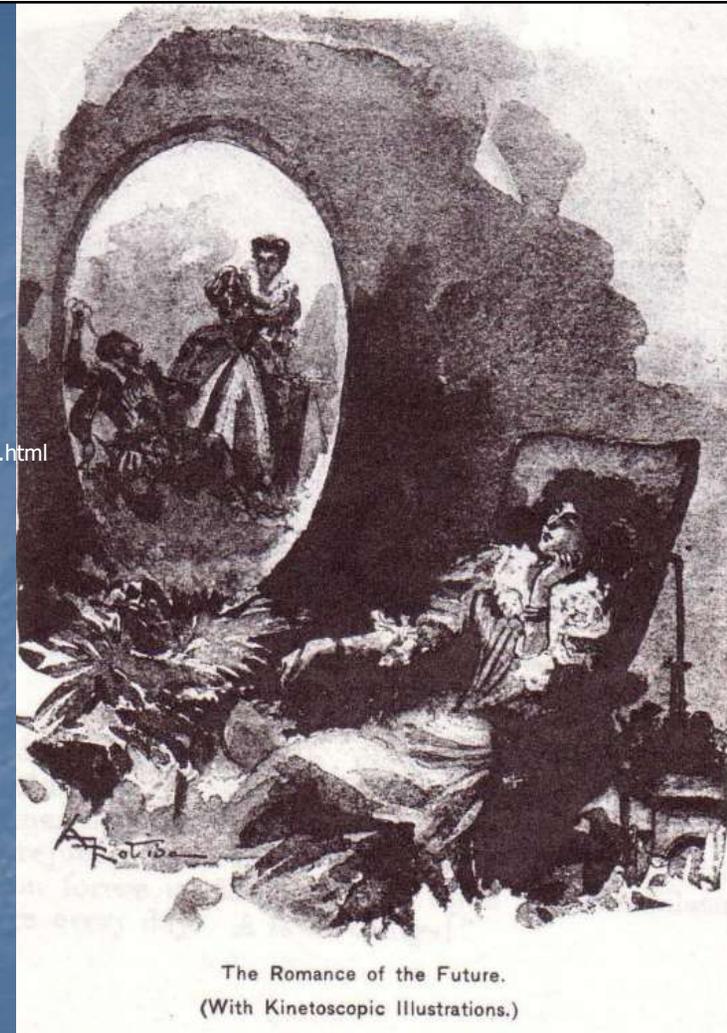
- **Cinema: U.S. revenue record**

<http://www.boxofficemojo.com/yearly/>

- **Newspapers: Buffett buys, *NYTimes* up**

<http://www.westsidespirit.com/local-news/20160831/local-news-in-a-world-capital>

<http://www.cnbc.com/2016/11/17/new-york-times-says-subscriptions-are-booming-after-trumps-election.html>



from “The End of Books”
Scribners Aug 1894

Really, Most-Sincerely Dead?

www.fiercecable.com/cable/3d-tv-officially-dead-as-sony-and-lg-stop-making-sets



FierceCable



Cable

3D TV is officially dead as Sony and LG stop making sets

by *Daniel Frankel* | Jan 23, 2017 12:53pm

MEDIA

With New Invention, Virtual Reality's Potential for Magic Gets Real

By BROOKS BARNES FEB. 19, 2017



Sarah Topham, left, and Ashley Hess taking part in the Void, a virtual reality experience, in Lindon, Utah. The start-up has refined the concept of mapping a virtual world over a physical set.

RELATED COVERAGE



Virtual Reality Has Arrived in the Art World. Now What? FEB. 3, 2017



APP SMART
Virtual Reality on the Cheap? Try These Apps on Your Phone JAN. 11, 2017



Virtual Reality Stories That Transported Viewers in 2016
DEC. 13, 2016



FEATURE
Want to Know What Virtual Reality Might Become? Look to the Past
NOV. 3, 2016

and you thought
you'd seen all
the headsets



gethushme.com

ADVANCED TELEVISION

IHS: “UHD could be another 3D”

By Chris Forrester

December 22, 2016



A report from IHS Media & Technology Digest says the content side of the Ultra HD supply chain has been “slow to respond” in providing UHD programming to consumers.

ADVANCED TELEVISION

Research: 4K TVs likely to increase energy bills

December 15, 2016



and...

Preliminary findings released from UK energy company British Gas's upcoming *Home Energy Report 2016*, set for publication in January 2017, reveal that household energy bills from watching TV are likely to increase for the first time since 2011. Data analysed by the Centre for Economics and Business Research (Cebr) points to the new generation of 4K TVs as the source of this upturn in increased energy consumption: data shows they require a third more energy than a HD TV.

[LEARN MORE >](#)

COMCAST 
TECHNOLOGY SOLUTIONS

Most Americans don't know what 4K is

Michelle Clancy | 24 January 2017

Despite the pressure for broadcasters to invest in 4K technology, nearly two-thirds (64%) of Americans still don't know what it is.



In a recent survey, Snell Advanced Media (SAM), found that compared with any other age group, mMillennials are most likely to know exactly what 4K is compared to any other age group, but that still accounts for less than a one third of all 18- 24-year-olds (29%). But, In addition, a quarter of them (25%) had purposefully watched something in 4K in the past six months and 17% of early millennials (25-34) actually own a 4K TV.

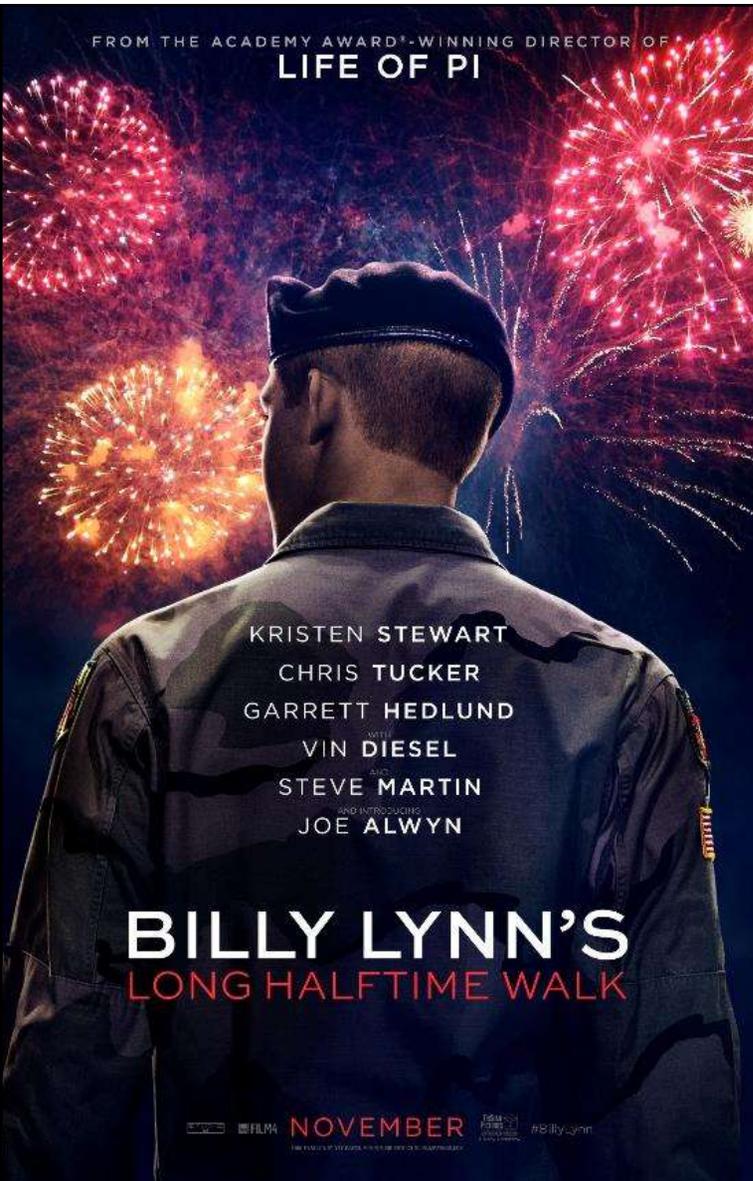
Over-the-Top Quality
Learn How Video Quality Impacts Your Bottom Line

[LEARN MORE >](#)

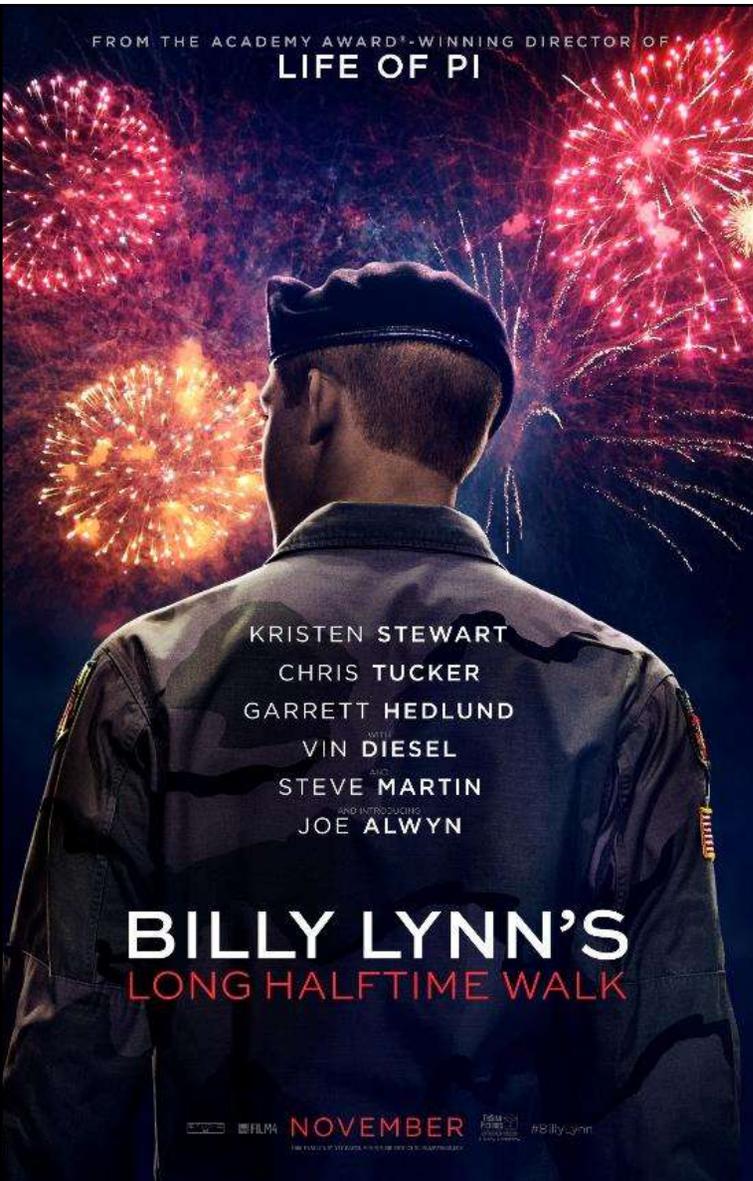


Click Here to download our latest whitepapers

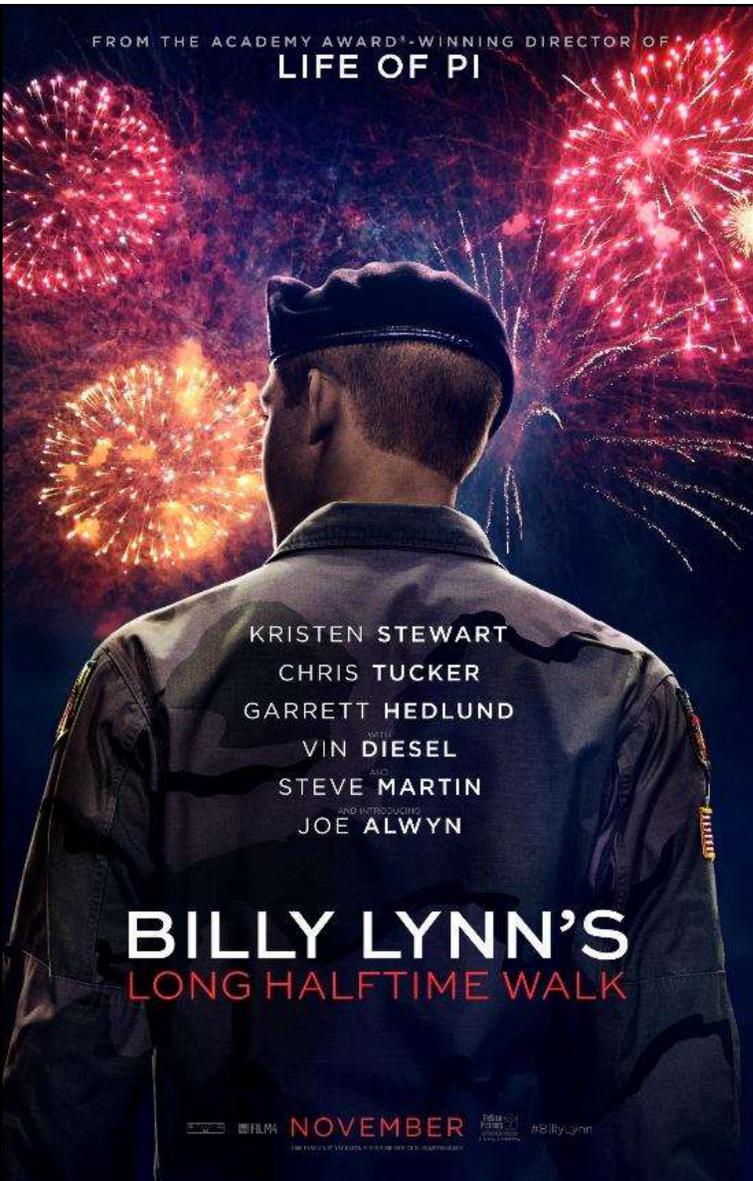
- MOST RECENT IN 4K/ULTRAHD**
1. 4KUNIVERSE plans Cirque Berzerk specials
 2. Most Americans don't know what 4K is
 3. Mercury Films taps Trigital, SDI for 4K film restoration



- 4K, 120-fps/eye, S3D, HDR (cinema)
- Academy-Award-winning director
- stars appealing to young women, young men, older audiences
- sex, sports, food, cool vehicles, cool weapons, drugs, money, Hollywood, patriotism, love, family, nudity...
- "Groundbreaking Masterpiece," "Dynamic Work by a Master Filmmaker," "An Evolutionary Leap in Cinema," "More Real than VR"

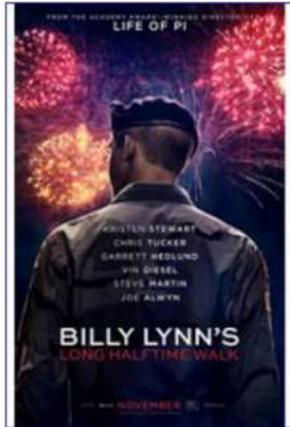


- 4K, 120-fps/eye, S3D, HDR (cinema)
- Owen Gleiberman in *Variety* Oct 14: "Record this moment; it all started here."



- 4K, 120-fps/eye, S3D, HDR (cinema)
- Owen Gleiberman in *Variety* Oct 14: "Record this moment; it all started here."
- Owen Gleiberman in *Variety* Nov 20: "*Billy Lynn's Long Halftime Walk* is the most accomplished and provocative movie in a long time that ever went down as a debacle."

Billy Lynn's Long Halftime Walk



Domestic Total Gross: **\$1,738,477**

Distributor:
TriStar

Release Date:
November 11, 2016

Summary | Daily | Weekend | Weekly | Foreign

Total Lifetime Grosses

Domestic: **\$1,738,477** **5.6%**
+ Foreign: \$29,192,507 94.4%

= **Worldwide: \$30,930,984**

Domestic Summary

Release Dates: **November 11, 2016**
(limited)

November 18, 2016
(wide)

Limited Opening Weekend: **\$114,129**
(#32 rank, 2 theaters, \$57,065 average)

Wide Opening Weekend: \$901,062
(#14 rank, 1,176 theaters, \$766 average)

% of Total Gross: 51.8%
> [View All 5 Weekends](#)

Widest Release: 1,176 theaters
Close Date: December 15, 2016

The Players

Director: Ang Lee

Actors: Vin Diesel

Garrett Hedlund

Steve Martin

Kristen Stewart

Chris Tucker

Chart

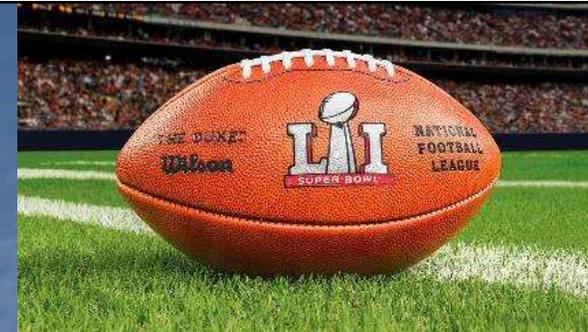
Chart	Rank
All Time Domestic	6,637
Top Movies in the Past 365 Days	210
Opening Weeks	4,623
Worst Opening Weekend Per-Theater Averages	54
Worst Openings - Wide Releases	89
Theater Averages - All Time Adjusted	99
Theater Averages - Opening Weekends	84
Opening Weekends	4,682
Biggest 2nd Weekend Drops	19
Smallest Drops, All Wide Releases	4,400

Charts (Premier Pass Users Only)

Charts (Premier Pass Users Only)	Rank
Opening Weeks Adjusted	4,669
Worst Opening Weekend Per-Theater Averages Adjusted	33
Worst Openings - Wide Releases Adjusted	48
Opening Weekends Adjusted	4,723

Super Bowl LI

- combining all channels (incl. Spanish-lang.)
 - record total U.S. viewers: 172M
 - 1st Super Bowl with overtime, 1st with winner overcoming a 25-point lead
 - no record average viewers: 113.7M (vs. 115.8 M in 2015)
 - most live-streamed: average 1.72M (up 23% over 2016) 1.5% of TV
- 2016 Olympics primetime average viewers:
 - NBC TV + streaming 27.5M (down from 31.1M in 2012)
 - TV: 25.4 average (down 18% from 2012, below even 2008)
 - streaming (not just PT): 100M unique viewers (up 29% over 2012)
 - 33 minutes average over two weeks plus
- ESPN Pro Bowl: lowest audience since 2007



ADVANCED TELEVISION

Millennial interest in TV sport waning

November 11, 2016

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🐦 Tweet

G+1

in Share

Research by Ampere Analysis across 32,000 consumers in Europe and the US has revealed that young millennials' (aged 18-24) interest in sport is on the decline. Best viewed live and in HD, sport has long been considered immune from many of the pressures facing linear TV. However, analysis suggests demographic and



When counted:

- **Vine** – upon completion
- YouTube (unofficially) – after 30 seconds
- Facebook, Instagram, Twitter – after 3 seconds
- Snapchat – after 1 second
- Twitch, Vimeo – instantly

https://www.nytimes.com/2016/10/03/business/media/the-online-video-view-we-can-count-it-but-can-we-count-on-it.html?_r=1

HOME SEARCH

The New York Times

SUPPORT

MEDIA

The Online Video View: We Can Count It, but Can We Count on It?

Advertising

By JOHN HERRMAN and MIKE ISAAC OCT. 2, 2016



The Other Quadrennial Bonanza?

- TV ad spending by
 - Obama 2012: \$404M
 - Clinton 2016: \$332M



The Other Quadrennial Bonanza?

- TV ad spending by
 - Obama 2012: \$404M
 - Clinton 2016: \$332M
 - Romney 2012: \$492M
 - Trump 2016: <\$19M



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HOME DIGITAL ▾ CONTENT ▾ ULTRA HD/4K BROADCAST PAY TV ▾ AD TECH

Cord-cutting wanes, as those planning to carry pay-TV increase

Michelle Clancy | 17 December 2016

The number of consumers who plan to carry a pay-TV subscription actually increased this year, making fears of widespread cord-cutting seem outsized.

In PricewaterhouseCoopers' Videoquake 4.0: Binge, Stream, Repeat – How Video is Changing Forever [report](#), the firm found that 84% now plan to take a subscription, vs.

LEARN MORE >

HOME DIGITAL ▾ CONTENT ▾ ULTRA HD/4K BROADCAST PAY TV ▾ AD TECH

Fifth of US broadband households cancel OTT service in last 12 months

Michelle Clancy | 03 February 2017

It's not just pay-TV services that should worry about churn rate as research has revealed 19% of US broadband households have ended their over-the-top (OTT) video services over the last year.

**Subscribers Cancelling OTT Service
in Past 12 Months**

U.S. Broadband Households

According to Parks Associates' OTT Video Market Tracker [service](#), the overall churn rate for OTT

meanwhile, **455** scripted series in 2016, up 71% in five years

ADVANCED TELEVISION

89% of viewing still on TV

November 2, 2016

lots of U.S. numbers
yesterday from Nielsen

Mark Schubin, HPA Tech Retreat, 2017 February 22

The juggernaut of mobile phone use is changing the viewing dynamic, but not in the way most assume, according to the Video Advertising Bureau's (VAB) latest State of Digital Video report. Viewers continue to leave the desktop for smartphones in droves as they take advantage of more on-demand options, while viewing on enabled smart TVs and multimedia devices grows significantly.

Still, 89 per cent of viewing is on TV with 8 out of 10 minutes being with Live TV; and time watching TVs beats time watching on smartphones 9 to 1 (desktop time also beats smartphones, 7 to 1). What isn't changing is what they're watching – predominantly TV shows.

NEWS

Technology

Warner Brothers reports own site as illegal

🕒 5 September 2016 | Technology

Vobile takedown notices for official WB movie sites,
plus sites that had licensed content from WB

nypost.com/2017/01/27/amazon-has-forever-changed-the-lives-of-women-named-alexa/

NEW YORK POST

SECTIONS

SEARCH

TECH

Amazon has forever changed the lives of women named 'Alexa'

By Rob Verger

January 27, 2017 | 2:05am | Updated



CIRCUIT BREAKER

TECH

AMAZON

Amazon's Alexa started ordering people dollhouses after hearing its name on TV

Check your settings

by [Andrew Liptak](#) | [@AndrewLiptak](#) | Jan 7, 2017, 5:52pm EST

Google Super Bowl commercial

MUST READ **THE 5 BIGGEST TECH TRENDS OF 2016: ZDNET EDITORS SOUND OFF**

IEEE publishes draft report on 'ethically aligned' AI design

More than 100 experts in artificial intelligence (AI) and ethics are attempting to advance public discussion surrounding the ethical considerations of AI.



By [Stephanie Condon](#) for [Between the Lines](#) | December 13, 2016 -- 23:52 GMT (15:52 PST) | Topic: [Innovation](#)

panel tomorrow

Pokémon GO





TRENDING

TOPICS ▾

WRITERS ▾

PODCASTS

EVENTS

INTERNET OF THINGS

SECURITY

Friday's huge internet outage, explained

Security expert Brian Krebs says the Internet of Things is to blame.

BY [ERIC JOHNSON](#) | [@HEYHEYESJ](#) | OCT 22, 2016, 1:00PM EDT

oh

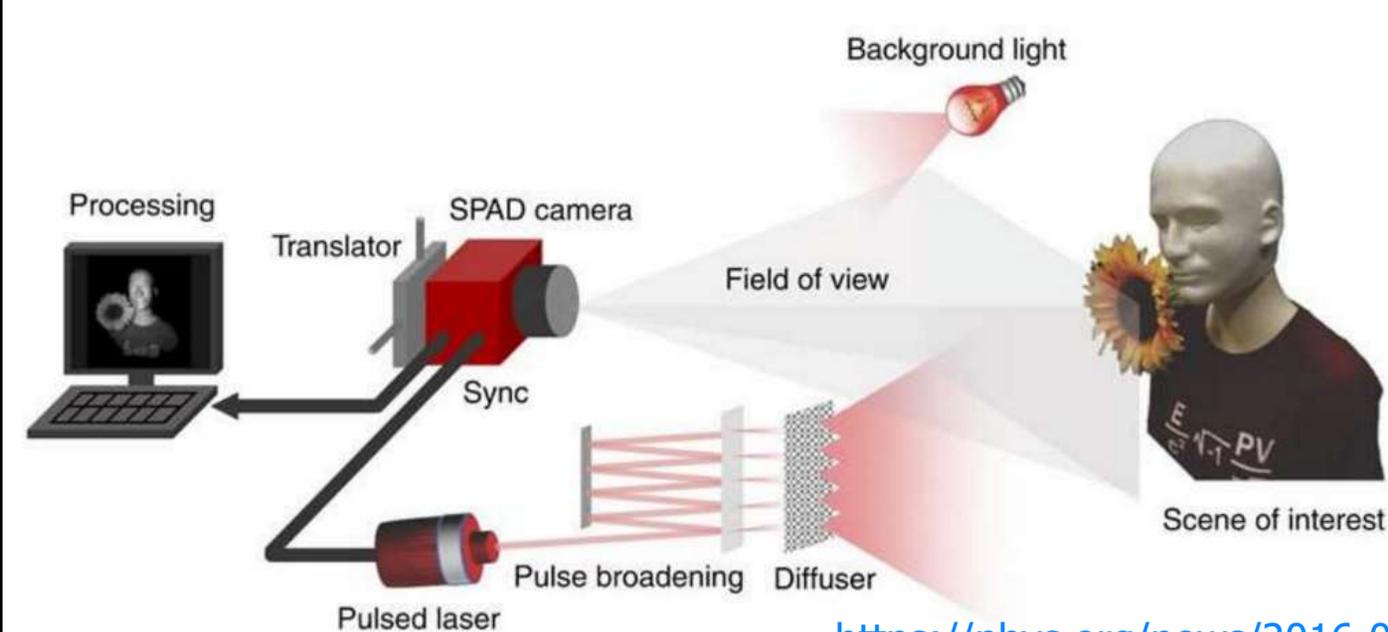


search

Home » Physics » Optics & Photonics » July 13, 2016

Researchers generate 3D images using just one photon per pixel

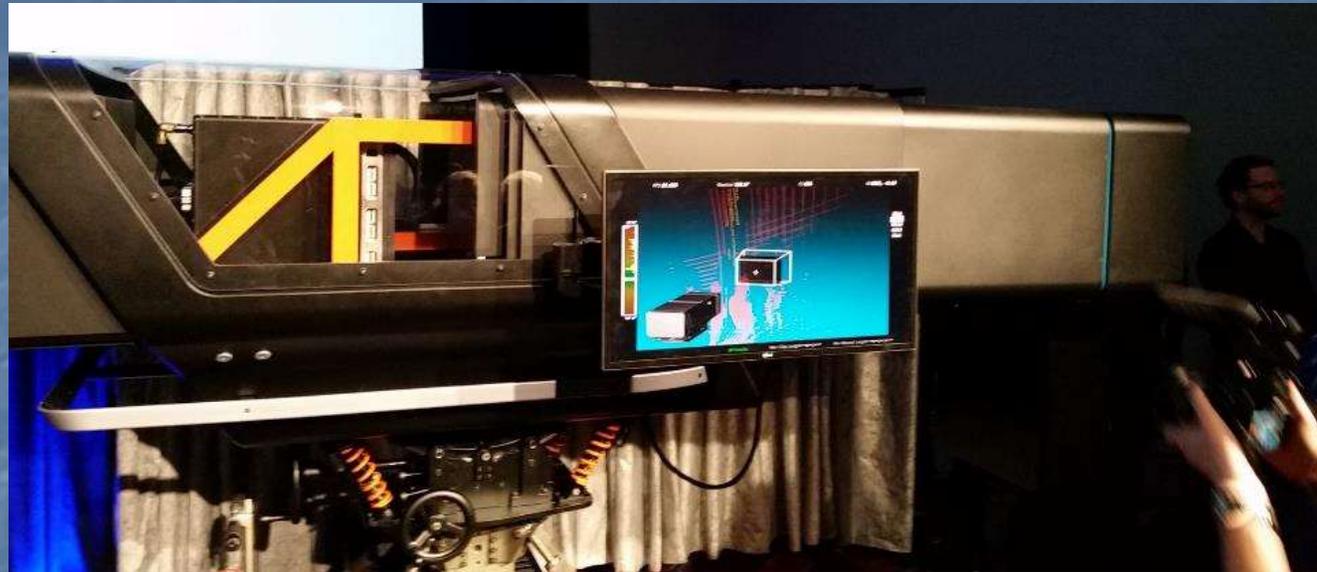
July 13, 2016 by Lisa Zyga feature



<https://phys.org/news/2016-07-3d-images-photon-pixel-video.html>

Lytro Cinema at NAB

- Imager
 - 755 RAW Mpels
 - 300 fps
 - 16 stops DR
- Post
 - refocus, DOF
 - reframe, relight
 - depth keying
 - tracking



presentation tomorrow

generic: computational cinematography

MIT Team Creates Video From Still Photo

Deep-learning algorithm predicts future movement

November 29, 2016



By Deborah D. McAdams

 Follow @TVBroadcast 

 Like 18

 Share

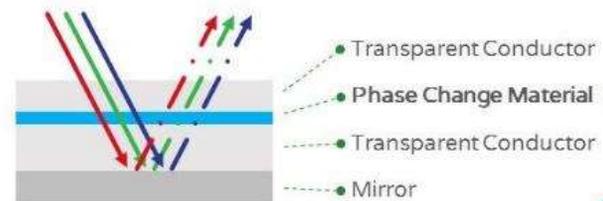
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<http://www.tvtechnology.com/news/0002/mit-team-creates-video-from-still-photo/279915>

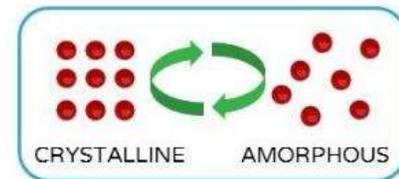
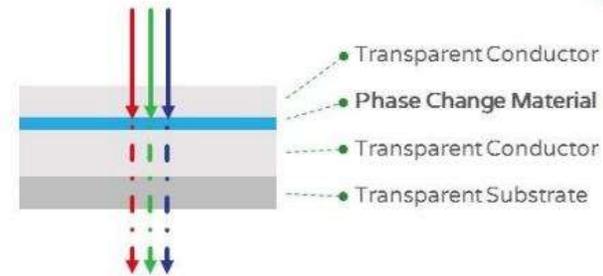
Bodle Technologies Reflective Pixels



Reflective-type device



Transmissive-type device



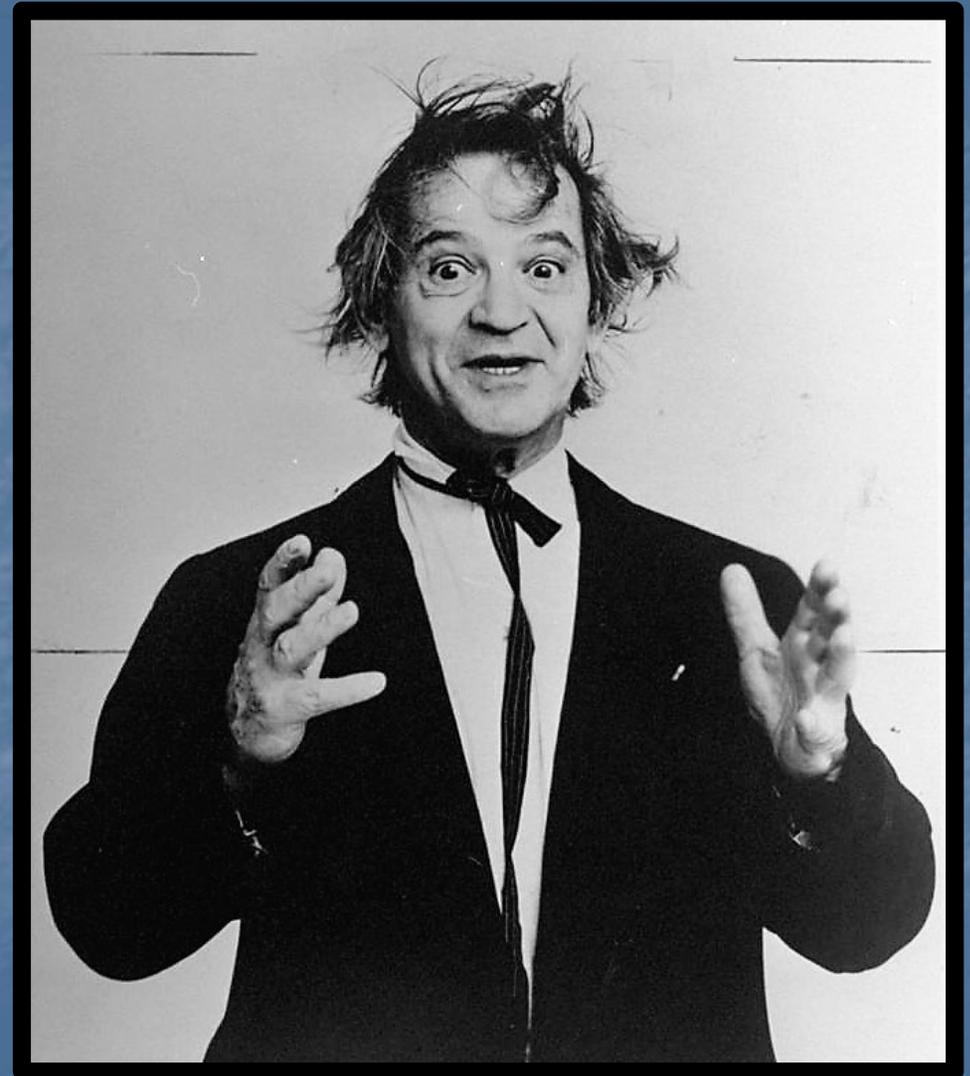
Amazing!



Dynamic Projection Mapping
onto Deforming Non-rigid Surface

<http://bit.ly/hpa17projection>

“If we don’t change
direction soon,
we’ll end up
where we’re going.”
Prof. Irwin Corey
1914-2017



Questions?
(if time allows)

these slides are already at
bit.ly/hpa2017-intro