

CES 2010: 3D, NeTVs, LCDs, and Plenty to See

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Recent TV Price Benchmarks

- **LG 32LH20** 32-inch 720p LCD TV \$399
- **Toshiba** 40-inch 1080p LCD TV \$649
- **Insignia** 42-inch 1080p LCD TV \$750
- **JVC LT47P789** 47-inch 1080p LCD \$797 *(w/BD player!)*
- **Panasonic TCP50U1** 50-inch 1080p plasma \$849
- **Vizio VF552XVT** 55-inch LED LCD \$1,899
- **Samsung UN55B8000** 55-inch LED LCD \$2,919
- **Sharp LC60E77UN** 60-inch LCD TV \$1,999
- **Mitsubishi WD82737** 82-inch 1080p DLP \$2,880

Recent TV Price Benchmarks

- For 50-inch and smaller screen sizes:
 - Prices average **\$16-\$17** per diagonal inch
 - Such a deal! In **2008**, average was **\$23-\$25**
- For 55-inch and larger sizes:
 - Prices average **\$34-\$35** per diagonal inch
 - Higher prices mostly driven by LED BL use
 - This category is much smaller part of market

And Now, The News

Ripped From The Headlines

- Online Video Audience Continues to Climb
 - According to Nielsen Online, *137.4 million Americans watched Web video in December 2009, a healthy increase of 10.3 percent versus the same month in 2008. Those viewers streamed over 10.7 billion videos during the month, representing an increase of 11.8 percent versus the same time period a year earlier. YouTube continues to account for a disproportionate amount of the video consumed on the Internet. (From Multichannel News, 1/12/10)*

Ripped From The Headlines

- Two-Thirds of U.S. Homes Have HDTVs
 - *Nearly two-thirds of U.S. households now have an HDTV, and another 12 percent are looking to purchase one in the next two years. However, only five percent of survey respondents said they plan to buy a 3D-capable television in the next two years...43 percent of respondents associate Sony with high-quality HDTVs...while only 11 percent associated Samsung with high quality HDTVs...Panasonic got a 5% nod, Vizio managed 4%, Phillips and LG 3%, and everyone else 2% or less. (Opinion Research Corporation, 1/28/10)*

Ripped From The Headlines

- Don't Take Anything For Granted...
 - *Over two-thirds of American pay television subscribers would be willing to switch providers if offered a price discount of 20%. While cable customers were the most likely to churn, only half as many (33%) of telco TV/IPTV subscribers would jump ship. Overall, respondents reported high satisfaction with their current DTV provider, with 71% claiming to be "somewhat" or "very" satisfied. Telco/IPTV customers reported 95% overall satisfaction, compared to 78% for satellite, and 67% for cable. (Strategy Analytics, 2/02/10)*

Ripped From The Headlines

- Wal-Mart Puts The Squeeze on Redbox

- *Wal-Mart has imposed strict limits on the number of DVDs any one customer can buy at a time, making it harder for movie-rental kiosks to get their hands on large numbers of newly-released discs. The new rules include a **five-DVD cap on new releases**, mirroring limits placed by Target in December. **Redbox and NCR** are among the **largest U.S. operators of DVD-rental kiosks**, which rent movies for about \$1 a day and **are the fastest-growing distributors of movie rentals**. Kiosk rental sales are expected to rise **42% to \$1.3 billion** this year. (From Variety/Adams Research 2/03/10)*

From The Front Line: CES 2010

Missing In Action

- **Hitachi didn't show**
 - May be exiting the business?
- **Pioneer didn't show**
 - Opted to save money
- **Sanyo, Westinghouse Digital were off the floor**
 - Many smaller booths were seen this year
 - South Hall was underutilized
 - No exhibits at the Sands!



An improvised meeting/lunch room

Three's Good, Four's Better

- **Sharp QuadPixel LCD**
- Adds a yellow stripe to the existing RGB format
- LED backlight provides better white balance
- Expands display gamut between red and green
- New, faster LC AL layer
- Available on 920, 820, and 810-series LCD NeTVs



Dude, more yellow is mellow.

A Crack In The DRM Wall...

- **LG BD950 networked Blu-ray player**
- Internal 250GB HDD
- 802.11n connectivity, DLNA-compliant
- Downloads content purchased from VUDU
- GraceNote MusicID built-in
- No price or delivery date yet



It's a BD player! It's a DVR! It's networked! (And boy, does it catch fish!)

LEDs + 3LCD = Projection!

- **Samsung F10 3LCD projector**
- Luminus RGB LED engines
- 1024x768 resolution
- 1000 lumens brightness
- LED time to half life is estimated at 30,000 hours
- Price: \$1,500
- **Availability: Q2 2010**



Bye-bye projection lamps...

ATSC + LEDs = Projection?

- **Desonic 'HomeBoy' LED projector**
 - Rated at 100 lumens
 - 800x600 resolution
 - Uses LCoS imaging panel with sequential LED color
 - Built-in ATSC tuner
 - LED lamp life est. at 50,000 hours



Where's the portable antenna?

Virtual Archaeology

- **Samsung brush-screen LCD demo**
- Uses a virtual brush to “clear away sand” from relic
- Sophisticated x,y motion interpolation with velocity compensation
- Demonstration used latest 8000-series plasma TV



Sometimes the simplest ideas are best

Pocket Rocket

- **Aiptek Trio PenCam**
- Pen-sized camcorder
- Records 1820x720p HD video using H.264 codec
- Also 5MP digital camera
- Preview screen is 1.1" AM OLED display
- Records to 4 GB flash RAM



What will they think of next?

Hey, Everybody – Portable TVs!

- **LG DP570MH portable MH TV and DVD player**
 - Compliant with ATSC MH standard (ATSC A/153)
 - 7-inch LCD screen
 - WQVGA (480x234)
 - 2.5 hours battery life (4.5 hours in DVD mode)
- **MSRP: \$249.00**



You can take it with you!

Cutting All Of The Cords

- **Haier Wireless LCD TV**
 - No AV connections!
 - No wired LAN connections!
 - No AC power connections!
 - No LinkedIn connections!
(Sorry, I got carried away there...)
- AC power coupled to 32-inch TV through inductive plate mounted behind/below ($\approx 100W$)
- Based on WiTricity IP, also uses WHDI for streaming HD



Why - it's 21st century technology!

Do They Need Chaperones?

- **Luftco Wireless USB file transfer demo**
 - Standard USB flash drive outfitted with **Bluetooth** connectivity
 - Simply align, press both buttons, and sync is established!
 - Files copied automatically from drive to drive



Your place, or mine?

And You Thought Texting While Driving Is a Bad Idea...



How do four 24-inch 1920x1200 monitors and *Grand Theft Auto* at 60 MPH grab you?

Taylor Swift in 3D!!!

- **Performed at Sony's CES press event**
- **DUH!!! MOMENT:** Who needs 3D imaging, when Taylor is standing right in front of you, 15 ft. away?
 - **Something to ponder:** In 3D, does she need to sing both lead and harmony?



"In the flesh" still beats 3D any day.

Animated ID Cards

- **Samsung OLED ID card**
- **Demo:** Small AM OLED screen is embedded in card
 - Activated by proximity to RFID sensor
 - Head rotates 360 degrees, then zooms into tight CU
- Battery is super-thin Lithium ion type, part of card
- Not a product, just prototype



Here's looking at you, kid...

Rube Goldberg Would Be Proud

- **Casio XJ-A150/250 DLP projectors**
- Use a hybrid light source:
 - Red LED
 - Blue laser
 - Green phosphor-coated scanning color wheel
 - XGA and WXGA resolution
 - 802.11n on certain models
- All this, for less than \$1K!



And it's skinny. And it's only \$800.

Well, There Goes That Excuse...

- **Kodak PLAYSPORT HD camcorder**
 - Shoots 1920x1080p/30
 - 5 MP still camera (16x9)
 - 2" color LCD display
 - SD/SDHC memory cards
 - Li-ION battery
 - Still works even in ten feet of water!
 - **MSRP: \$149.95**



Something fishy about this...

Two Projectors In One

- **LG CF3D projector**
 - 3x .61" SXRD panels
 - 1920x1080 resolution
- Uses dual light engines (6 imaging panels total)
- 2500 ANSI lumens
- Dual lamp design
- Camera sensor compensates brightness of each projector with aging



Hard to believe we're seeing double...

Fill It With Regular, Please

- **LG Fuel Cell Phone Demo**
 - Powered by a compact methanol fuel cell (2.5 cc)
 - 3" LCD touch screen
 - Bluetooth 2.1
 - G-motion sensor
- How many 'miles to the call' will this phone get?



No more dead batteries?

Stamp Out Macroblocks

- **IST StreamCleaner**
 - Advanced image processing for digital video
 - Filters and reduces mosquito noise, blocking, and other compression artifacts
 - Another version works with iTunes-quality video
- Limited ability to upscale low-rez video for 1080p displays (oh, well...)



It's not perfect...but it's better than expected.

I Saw Right Through That

- **Samsung transparent OLED display demo**
 - 14-inch AM OLED screen
 - Achieves 40% transparency while displaying color images
 - WXGA resolution
 - Super-thin notebook display
 - Uses transparent indium-tin oxide (ITO) electrodes and OLED films
- **Supposedly coming to market in Q3 (we've heard that before...)**



Menus At Your Fingertips

- **LBO Lite Touch Holographic Projector**
 - Can project a 10-inch image on tabletop
 - IR touch sensor
 - Uses Adobe Flash 3.1 OS
 - 2 GB internal RAM, accepts up to 32GB micro SD memory cards
 - 802.11n or Bluetooth for wireless connectivity



Your touch is my command...

Yes, They Were At CES Again...

- **United States Postal Service booth**
 - Promoting new Olympic stamps
 - Also direct mail and overnight delivery
 - Still sponsoring a racecar...
 - ...and still raising rates for 1st class postage
- Located right next to an image enhancement company (any irony in that?)



Wait – I Almost Forgot!

- **Panasonic NI-W750TS Clothes Iron**
 - Award-winning 3D design
 - 360° Titanium faceplate
 - Energy efficient
 - Dolby Digital 1.0
 - 60 Hz variable motion
 - HDMI (Hot Design Matsushita Iron)



A real “hot” CES product!

Afterthoughts...

Things To Ponder

- #1: How long before all NeTVS are wireless?
- #2: Will active shutter 3D keep plasma TVs in the game?
- #3: Will all BD players evolve into media hubs?
- #4: Is ATSC MH the salvation of DTTB?
- #5: Can wireless HD signal distribution succeed in the home?
- #6: What difference does the thickness of a TV really make?
- #7: How long before all LCD TVs use LED backlights?
- #8: What's holding back sales of big screen TVs (>50")?
- #9: Is 3D really a game changer, or just a fad?

Thank You!