Channel Presentation: Broadcast / Video / Sound

1. **Title Card**
2. **Channel Opportunity**
3. **Major Technologies**
   1. Broadcast
      1. Web Enabled Televisions
      2. In Home 3D
         1. 3D Enabled Televisions
         2. 3D Broadcasting
         3. 3D Viewing Technology
         4. Future Technology
   2. Video
      1. 3D Camcorders
         1. Panasonic Pro $21,000 HD Camcorder
         2. DXG $400 3D SD Pocket Camcorder
   3. Sound
4. **BROADCAST**
   1. **Web Enabled Televisions**
      1. ***Major Brands***
         1. **Toshiba**
            1. Line with “Cell Processor” (found in PS3); high performance platform
            2. Each chip sports 8 3.3GHz processor making it 1000x faster than the average desktop
            3. Includes Net Super Resolution technology which has compression and noise canceling tech to improve web viewing experience.
            4. Also supports 802.11 wireless, DLNA (Digital Living Network Alliance) compliant, features a some version of VOIP (Voice Over IP; not Skype), pre-loaded NetTV channels , a 1TB hard, as well as a built-in Blu-ray player.
            5. Supports Yahoo! Widgets Platform
         2. **Panasonic**
            1. VIRACAST
            2. Supports YouTube, Picasa, Bloomberg, Real-Time Weather, and video-on-demand from Amazon
         3. **LG**
            1. Supports Yahoo! Widgets Platform
            2. Offers Skype Enabled televisions @ 720p video conferencing
         4. **MIPS** & **Android** **Partnership**
            1. Brings Android into living room peripherals
            2. Displays at 1080p
            3. Provides a standard developer friendly platform
      2. ***3rd Party Support***
         1. **Boxee**
         2. **Yahoo! Widgets Platform**
   2. **In Home 3D**
      1. ***3D Enabled Televisions***
         1. **Major Brands:**
            1. Toshiba “Cell Processor” Televisions

Boast real-time 2D to 3D conversion using a technology called TriVector.

These TV’s are not yet released to the market.

* + - * 1. LG

Will be first company to hit the market with 3D capable televisions

TV’s will include ability to switch between 2D and 3D.

Purports to sell 400,000 3D TVs during 2010

Has teamed with Korean SkyLife, one of the largest 3D TV broadcasters in the world.

* + - * 1. Samsung

Releasing two versions of 3D-ready plasmas. These devices are currently release in Korea only.

* + 1. ***3D Broadcasting***
       1. **Networks plan to start broadcasting in 3D by 2011**
          1. Discovery, IMAX, Sony

Features a mix of 3D content starting 2011

Will broadcast 24hrs / day

* + - * 1. ESPN

Features sporting events broadcast in 3D

* + - * 1. DirectTV

Will establish a 3D HDTV channel that features a mix of movies, sports and other programming.

* + - * 1. SkyLife
    1. ***Viewing Tech***
       1. **Traditional 3D Glasses**
          1. Anaglyph image, the “old-school” 3D we all know (Blue and Red Glasses). An image has two different color layers, one for each eye, with slightly different perspectives. Each lens of the glasses blocks one color layer on each eye allowing the brain to assemble the separate images into a single 3D image.
       2. **Polarized 3D Glasses**
          1. Similar to traditional anaglyph viewing. Two synced projectors throw images with slightly different perspectives at different polarizations. Each lens blocks one of the views creating a stereoscopic image.
       3. **LCD Shutter Glasses**
          1. These block vision alternately in each eye in time with the refresh rate on the display by rapidly darkening each lens, while the display alternately shows images with slightly different perspective.
       4. **Glasses-less 3D Viewing** 
          1. **Parallax Barrier**

The screen’s parallax barrier—think of it as a very finely grated fence with precisely angled holes—directs different light into each eye. Your brain turns the mixed signals into a 3D image.

Currently suffers from a limited viewing angle and a screen with this feature is always in 3D mode.

* + - * 1. **Continuous Motion Parallax**

A form of parallax barrier but favors “voxels” over pixels which can project multiple light beams in multiple directions simultaneously.

* + 1. ***Future Tech***
       1. **Sony’s 360 Degree 3D Display** 
          1. Cylindrical display is about 10.6 inches tall and 5.1 inches in diameter.
          2. Images are displayed at 96x128 resolution
          3. Without the aid of any eyewear images appear to have depth and can be viewed from all angles.
          4. Sony is considering various uses, like digital signage, oreven a digital photo frame.
          5. <http://www.youtube.com/watch?v=lAS55_RngoQ&feature=player_embedded>
       2. **JVC Pseudo 3D**
          1. JVC has built a prototype that converts 2D signals into 3D signals in real time via a small processor in the unit.
          2. Still requires glasses; however viewing is reported to cause much less dizziness compared to more conventional 3D systems.
          3. Gizmodo reports its impression of the pseudo 3D conversion: “…With the eyewear on, it takes a few moments for your brain to adjust, and then footage of the Alps in spring starts taking on eye-popping depth. It's not exactly convincing enough to want to reach out and touch the wildflowers, though it makes regular flat-screens seem, well, very flat in comparison.”
          4. Prototype has no immediate plan to commercialize, however the technology has been licensed to Canada’s Sensio Technologies Inc.
       3. **3D in 3D**
          1. Light-Field Display

Video: <http://gl.ict.usc.edu/Research/3DDisplay/>

High speed video is projected onto a quickly spinning mirror, which then "reflects a different and accurate image to each potential viewer." The system uses an algorithm to figure out the correct shading and occlusion for the image

* + - * 1. Plasma-laser Hologrammy Device

Takes advantage of the "plasma emission phenomenon near the focal point of focused laser light." By manipulating the laser's focal point, along the x, y and z axes, they can display real 3D images in mid-air.

<http://www.physorg.com/news11251.html>

* + 1. ***Limitations***
       1. Lack of applicable content
       2. Content is expensive to produce
       3. Most solutions require expensive or uncomfortable glasses

1. **VIDEO**
   1. **3D Camcorders**
      1. ***Panasonic 3D HD Camcorder***
         1. Price point: $21,000
         2. Format: HD video to a flash hard drive
         3. Limitations
            1. High price point
      2. ***DXG 3D SD Pocket Camcorder***
         1. Price point: $400
         2. Format: SD Motion JPEG
         3. Limitations
            1. Only shoots in SD, though an HD version is coming
            2. Motion JPEG format can only be viewed on a DXG compatible display
2. **Sound**
3. **Thoughts**