LCD Downstream Industry Overview, Q1-2007

Tom Lo
Outline

- Street Price analysis, by region, and by size for monitor and TV
- TFT Demand Forecast
- Industry Activity Overview
LCD TV Retail Price—Price Gap Narrowing

- In early 2006, 42” price was $1,000 higher than the 40”. Currently, the 2 sizes are at the same price level.
- 37” now priced at $1,314, 38% lower than in 1Q06. Price gap between 40” and 37” is still $320, compared to $370 a year ago.
- Price of 32” is lower than $1,000 in 1Q07, a YoY drop of 34%.
• Price Gaps among different TV sizes are quite stable in the US, an indication of more rational market mechanisms.
• Excluding the US market, bigger price fluctuations in the 42” is seen in the different market segments.
• In 1Q07, 37” price is under $1,000 in US market.
• In UK market, 42” price is very close to the 37”. This is mainly attributed to price gap reduction between the 37” and 42” by LG and Sharp.
In the Japan market, Toshiba used to dominate the 42" segment. In 3Q06, the 42" experienced a price drop similar to the 40" price levels, as Toshiba began to substantially decrease the price of its high end models in 2Q06.

In 1Q07, price curves of the 42 inch and 40 inch intersected again, due to Sharp and JVC’s entry in the 42" market in 4Q06, further intensifying the 42" market competition. Sharp’s 42" was priced at 399k yen in Sep06, and in Mar07, it fell to 227k yen.

Currently, Sony is the primary player in Japan’s 40” market. Thus, it has strong grip over this particular segment. Within a year, Sony’s subsequent introduction of the S series, V series and current X series brought forth subsequent price changes in the 40” segment.

No big price difference in China’s 40”/42” segment. Therefore, consumers appear to place strong emphasis in the TV brand of this particular size group. Amid 1Q07 Chinese Lunar New Year, the average price did not decline evidently in Feb07 and Mar07. However, price declines in 1Q07 saw a QoQ 13~17% drop, higher than the US 9~14% decline.
42” RPTV, PDP TV and LCD TV prices dropped 38%, 57% and 74% respectively between Q1’05 and Q1’07.

Price gaps among RPTV, PDP TV and LCD TV in the 42” was more than $2,000. On the other hand, LCD and PDP TVs were at similar pricing levels.

RPTV price is roughly $500 lower than other FPD technologies.
32” LCD TV Street Price by Region

- 32” price in China is under $800. This is the first time China’s 32” is lower than the US region.
- In JP and UK market, 32” still entails a price tag of at least $1,100.

37” LCD TV Street Price by Region

- 32” price drop in Japan and UK lower than in the US and China. Thus, price difference between the two sides is expanding.
- 37” average price slid below the $1000 level for the first time in US market.
In general, US retail prices dropped more smoothly, while other regions experienced a bigger seasonal fluctuation.

In both China and the US, 40” was under $1,300, while in UK and Japan, they fell through $2000 for the first time.

42” price difference not as big as the 40”.
Replacement of Living Room TV

- LCD TVs are expected to gradually replace the living room mainstream 29” CRT TVs. In 2004, LCD TVs were still expensive; 32” exceeded $3,000. The 32” and 37” was 6~10 times more expensive than the 29” CRT TV. Amid sharp LCD TV price declines in the past 2 years, it is now 3.5~4.5 times more expensive.

- 29” CRT TV price does not drop further in 1Q07. Price remains at $296. For LCD TVs to fully replace CRT TVs, price must be similar to CRT, or in other words be priced at $300.
The 26” LCD TV may be a suitable replacement for the 4:3 20” model. Despite probable demand from the widescreen 23”, panel makers do not plan to promote them. One key reason is they are extremely similar to the 22”.

Whether 20”/23” LCD TVs or 20” CRT TVs, no evident price drops was seen in 1Q07. 26” LCD TV only slipped by 7% in 1Q07. This is mainly because LCD TV makers are focusing primarily in the large sized segment. Thus, in terms of the room TV market, the CRT and LCD TV prices are currently stable.
**LCD Monitor Street Price Trend**

- **15”** remains at $205 in 1Q07. 17” and 19” models see a slight price gap, with only a $2 price difference.

- Price gap between 15”, 17”, and 19”W models has narrowed to $15. By contrast, price gap between 19” and 19”W models has increased, jumping from $38 in 4Q06 to $54. Mainly because 19”W has room for further price drops.

- 19”W price draws closer to 17” at the end of 2006. Just 6 months ago, it was higher than the price of 19”.

- 20”W and 22”W are experiencing a more evident price drop. 20”W was originally viewed as high-end. Yet, its price is being pressured, due to the respective launch of the lower-priced 19”W and 22”W models in 4Q05 and 4Q06. Lower-priced 20” models are also being unveiled. For example, $204 models can be seen in the US market, lower than the $271 average.

- Global average price gap between 22”W and 20”W only $15. 22”W is cheaper than 20” in some markets, such as Japan or Taiwan. Further price declines expected for 20”.
• Similar to the TV, LCD monitors are priced differently in different markets. Whether the 17” or 19”, prices in the US and China are much cheaper than in Japan and the UK. In 1H06, prices were lower only in the US.
• 17” price difference in US/China markets more than $45, cheaper than Japan/UK markets. For 19”, the gap is more than $75.
For widescreen monitors, price changes have been more limited in worldwide markets. In 1Q07, the cheaper US/China markets saw smaller price drops. In Japan/UK, the drop was larger.

Price difference in 19W merely within $50 between the most expensive UK market and cheapest China market. By contrast, price difference exceeds $110 for 20W. This shows the 20w is being positioned differently in the varying markets.

19”/20” was still viewed as high-end models in Japan in 1H06. Therefore, prices are higher than in other markets. Prices did not start to drop substantially until 2H06. For 22”, it was launched as a low priced model in Japan. This shows widescreen monitors are gradually becoming more commoditized in Japan.
Outline

• Street Price analysis, by region, and by size for monitor and TV
• TFT Demand Forecast
• Industry Activity Overview
### LCD Downstream Industry Overview, Q1-2007

#### TFT LCD Demand Forecast

**Unit: K**

<table>
<thead>
<tr>
<th></th>
<th>Q1-05</th>
<th>Q2</th>
<th>Q3</th>
<th>Q4</th>
<th>Q1-06</th>
<th>Q2</th>
<th>Q3</th>
<th>Q4</th>
<th>Q1-07</th>
<th>Q2(F)</th>
<th>Q3(F)</th>
<th>Q4(F)</th>
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<tbody>
<tr>
<td>TV</td>
<td>3,608</td>
<td>3,855</td>
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<td>7,480</td>
<td>12,689</td>
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<td>16,965</td>
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<td>20,937</td>
<td>21,443</td>
<td>21,492</td>
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<td>Monitor</td>
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<td>27,065</td>
<td>28,995</td>
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<td>31,844</td>
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<td>39,327</td>
<td>37,726</td>
<td>39,288</td>
<td>42,493</td>
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<tr>
<td>QoQ</td>
<td>4.5%</td>
<td>11.0%</td>
<td>16.0%</td>
<td>14.4%</td>
<td>-7.0%</td>
<td>5.3%</td>
<td>19.5%</td>
<td>10.0%</td>
<td>-4.1%</td>
<td>6.7%</td>
<td>13.5%</td>
<td>9.3%</td>
</tr>
</tbody>
</table>

- 2007 LCD TV Panel Demand expected to reach 79M, lower than the original 81M forecast. Mainly due to smaller investments from panel makers. Retail prices should drop less severely for 2007.
- LCD Monitor shipments projected at 164~165M, mainly because widescreen monitors shipments higher than originally expected. 1Q07 slipped by only 4%.
- Due to Vista effect, NB panel shipments in 2007 should hit 26% YoY.
**LCD Downstream Industry Overview, Q1-2007**

**LCD TV Panel Demand Forecast**

Unit: K

- TV panels declined 12% in 1Q07. However, this has helped drive down inventory levels.
- For the entire year, 20” expected to experience a downtrend. Stagnant prices in 20”, mainly due to big overlapping between similar monitor sizes. Large sized models still evidently experienced more market growth; most notable in the 40” and above, where a twofold increase is seen in 2006. 37” also experienced a 70% growth.
LCD Downstream Industry Overview, Q1-2007

LCD TV Shipment Forecast by Size Percentage

- **32” demand continues to be the strongest, accounting for roughly 34% of total shipments.**
- **40” LCD TV shipments will reach 25.6% in Q4 2007, and may hit 24% in 2007.**
- **26” hard to compete with 32” in the living room. With the lower cost TN type 26”, they have a chance of seeing more applications in the bedroom.**
**Average Size Analysis by Application**

**Unit: inch**

- **LCD TV**
  - Q1-04: 21.9
  - Q2: 22.1
  - Q3: 22.4
  - Q4: 22.6
  - Q1-05: 22.0
  - Q2: 23.9
  - Q3: 26.4
  - Q4: 26.8
  - Q1-06: 27.9
  - Q2: 28.8
  - Q3: 29.6
  - Q4: 30.6
  - Q1-07: 31.1
  - Q2(f): 31.6
  - Q3(f): 31.8
  - Q4(f): 32.3

- **LCD Monitor**
  - Q1-04: 16.5
  - Q2: 16.6
  - Q3: 16.7
  - Q4: 16.9
  - Q1-05: 17.2
  - Q2: 17.3
  - Q3: 17.3
  - Q4: 17.4
  - Q1-06: 17.5
  - Q2: 17.5
  - Q3: 17.7
  - Q4: 18.0
  - Q1-07: 18.3
  - Q2(f): 18.4
  - Q3(f): 18.3
  - Q4(f): 18.3

- **NoteBook**
  - Q1-04: 14.6
  - Q2: 14.6
  - Q3: 14.7
  - Q4: 14.8
  - Q1-05: 14.8
  - Q2: 14.8
  - Q3: 14.9
  - Q4: 14.8
  - Q1-06: 14.8
  - Q2: 14.8
  - Q3: 14.9
  - Q4: 14.8
  - Q1-07: 15.0
  - Q2(f): 15.0
  - Q3(f): 15.0
  - Q4(f): 15.0

- **Notes:**
  - NB average size was fixed between 14.6~14.9” before 4Q06, but broke through the 15” level in 2007.
  - Average LCD Monitor size continues to see slow growth during the past 3 years. However, it appears to growing faster in 2007.
  - Average LCD TV size enjoyed a big leap in 1Q05, amid rapid 32” ramp up. Although 40” and above will see higher demand in 2007, 32” is still mainstream. Thus, LCD TV average size will not grow substantially in 2007.
The LCD TV average size is strongly growing, and the average size in Q4 Q07 should reach 35”.

The bedroom TV is also slowly gaining popularity. The average size for 2007 should reach roughly 20”. However, with 26” expected to become more attractively priced, the bedroom TV is expected to see stronger growth.

*Assuming 30” or above as the suitable living room TV and 23” or below as the bedroom TV. For 26/27”, they will gradually migrate to the bedroom in 07.
**LCD TV Street Price Forecast**

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<tr>
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<th>Q106</th>
<th>Q2</th>
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<td>26&quot;</td>
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<td>42&quot;</td>
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<td>2,510</td>
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<td>1,675</td>
<td>1,578</td>
<td>1,482</td>
<td>1,385</td>
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</table>

- 32" LCD TV Street price is under $1,000 in 1Q07, and could reach $830 by the end of 2007.
- 37" ASP was $1,333 at the beginning of 2007. 37" LCD TV may possibly hit $1,175 in 4Q07.
- 40"/42" price still experiences large decline in 1Q07. 42" price is lower than 40" price, as more tier 2 brand adopt 42". At the end of 2007, 42" price could still be higher than 40", owing to more FHD 42" adoption.
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- Street Price analysis, by region, and by size for monitor and TV
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  - DTT moving towards platform-centered development.
  - More makers withdraw from PDP TV
  - Samsung to release Duo HD player
  - Sony and Toshiba ready for OLED TV
  - The large electronics chain store in China keep merging
  - TV Maker strategy update
- Summary
## Factors to change LCD TV demand in the Long Run

<table>
<thead>
<tr>
<th>Weight</th>
<th>Issue</th>
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<tr>
<td>☆☆☆☆☆</td>
<td>DTV Broadcasting</td>
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<td>☆☆☆☆</td>
<td>Competition with other FPD</td>
<td>Whether LCD TV can compete with PDP TV in 5x” and above.</td>
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<td>☆☆☆☆</td>
<td>Full support from value chain</td>
<td>Whether panel makers continue to invest in new generation production lines.</td>
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<td>☆☆☆</td>
<td>Popularity of blue ray disc player</td>
<td>Whether Blu-ray and HD-DVD will be compatible or become more popular.</td>
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<tr>
<td>☆☆☆</td>
<td>Important sports events</td>
<td>Whether the Beijing Olympics successfully spurs China market. Whether Pay TV Operators support more HDTV sports programs.</td>
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<tr>
<td>☆☆☆</td>
<td>BRIC or other developing countries’ economic situation</td>
<td>Whether retail prices of living room entry level LCD TVs (32, 37”) is widely accepted by these countries.</td>
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<tr>
<td>☆☆</td>
<td>Other digital trends in family household</td>
<td>Whether home media center and download video may cause the bedroom TV to be replaced by 26” or 32” TVs?</td>
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**DDT moving towards platform-centered development**

• Many countries have started their own digital TV broadcasts, and are striving towards a platform-centered development. This includes the UK’s FreeView, which has already been operational for many years. France and Italy recently unveiled a platform based pay channel terrestrial broadcast.

• France’s Le futur de la television bill mandates all domestic TV sales to be compatible with the TNT platform. Italy, who has the most advanced interactive TV application, is also moving towards a pay channel system for its digital TV platform.

• Traditional DTT can only receive free programs and rely on commercials in generating revenue. Thus, broadcaster tends to operate independently; unlike the separation of the operation and broadcast in Pay TVs.

• After the digitization of terrestrial broadcasting, a pay-system can be implemented in increasing their competitiveness. However, such an approach would require someone to handle the specifications and pay services between the content provider and viewers.

• Digital TVs are also migrating towards a platform-centered development. This will prompt TVs to be compatible with the local platform in order to enable viewers to watch pay channel TVs.

**Free to Air Broadcasting Business Model**

At the very beginning of Digital TV, DTT’s biz model followed traditional analogue terrestrial broadcasting.

**DTT need an operation platform to develop Pay TV biz model. Normally the government will release platform license and as result, TV set need support local platform for the target market.**
More makers withdraw from PDP TV market

- LCD TV has overtaken PDP TV in the 4x” segment, and will enter 50x market after Gen 8 mass production.
- Sony and Toshiba strongly promoted their Bravia and Regza LCD TV in 2005 and 2006, respectively. They have gradually faded from the PDP TV market.
- Beginning from 2007, Philips, JVC, and Funai have also exited the PDP TV market, and focused more on LCD TV.
  - Funai announced in 2007 that LCD TVs are their primary focus.
  - During a March product show in the US by JVC, they showcased an array of LCD TVs, and several DLP TVs, as well. No new PDP TV or CRT TVs were seen.
- Hitachi stated Matsushita is the leading player in the PDP TV market. To avoid further losses, it will devote more resources in large-sized TVs.
  - Hitachi PDP has delayed its PDP investments once again.
- LG is also facing losses in the PDP TV sector. However, it plans to go against conventional wisdom in unveiling a low priced 32" PDP TV targeting the China market. However, it has also started to readjust its PDP production lines. To avoid further losses, monthly 70k output from its A1 plant is confirmed to have stopped operations.
- However, some makers are still strengthening their PDP businesses.
  - To complement Samsung SDI’s new PDP capacity, Samsung has unveiled the Cannes PDP TV brand.
  - The 2007 PDP TV sales target for Panasonic is 5 million.

<table>
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<tr>
<th>Company</th>
<th>'06 Shipments</th>
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<td>3,000k</td>
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<td>LG</td>
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<td>2,500k</td>
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<td>Hitachi</td>
<td>800k</td>
<td>1,400k</td>
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<tr>
<td>Pioneer</td>
<td>650k</td>
<td>720k</td>
</tr>
<tr>
<td>Funai</td>
<td>100k</td>
<td>-</td>
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<td>Samsung</td>
<td>1,300k</td>
<td>3,000k</td>
</tr>
<tr>
<td>LG</td>
<td>1,570k</td>
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</tr>
<tr>
<td>Funai</td>
<td>100k</td>
<td>-</td>
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</table>
Samsung to release Duo HD player

• Samsung officials announced on 27, April 2007 the development of a new generation HD disc player in supporting both Blu-ray and HD DVD formats.
  – The new model BD-UP5000 will fully support both Blu-ray and HD DVD along with interactive technology HDi and BD-Java.
  – Samsung 2006 model BD-P1000 and the soon-to-be-available BD-P1200 are both sole Blu-ray disc player.
  – The BD-UP5000 shall hit stores at year’s end.
• Samsung is not the first company supporting both HD DVD and Blu-ray
  – LG exhibited a dual model Super Multi Blue player and PC optical drive at CES 2007, both models is priced tentatively at $1,199.
  – LG’s Super Multi Blue player can read and write on Blu-ray disc, but cannot write on HD DVD disc.
  – HP has decided to utilize LG’s optical drive in its high end product.
• Both Samsung and LG used to be supporters of only the Blu-ray Disc group.
• The combined shipments of HD DVD and Blu-Ray players are 240 thousand in 2006, and could reach to 3.4million in 2007. Fuji Chimera Research predict that duo HD player will have 1.2 million in 2008, and combo model will become main stream after 2010.
Sony and Toshiba ready for OLED TV

During Finetech Japan 2007, both Sony and Toshiba announced to mass produce OLED TV.
- Sony exhibited 11” and 27” OLED TV at CES 2007 and announced that the 11” will enter the market in the mid 2007.
- The street price of 11” OLED TV is estimated to be 200,000 yen, compared to the current 50,000 yen 13” LCD TV in JP market.
- Toshiba also announced to MP OLED TV larger than Sony’s 27” during Finetech Japan 2007.
  - Toshiba had previously projected 2015 as the launch window for OLED TV.
  - It now plans to produce 30” OLED TV in 2009.

<table>
<thead>
<tr>
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<th>Sony 11” OLED</th>
<th>Sony’s 27” OLED TV</th>
<th>Normal 26” LCD</th>
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<tbody>
<tr>
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<td>1280x600</td>
<td>1920x1080</td>
<td>1366x768</td>
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<tr>
<td>Contrast Ratio</td>
<td>1M:1</td>
<td>1M:1</td>
<td>1k:1</td>
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<td>Color Saturation</td>
<td>&gt;100% of NTSC</td>
<td>&gt;100% of NTSC</td>
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<tr>
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<td>180</td>
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The competition between Sony and Toshiba getting higher

Sony and Toshiba have encountered many similar situations in their development of relevant display technologies. Therefore, direct confrontations between the two are expected to occur more often.

<table>
<thead>
<tr>
<th>Technology</th>
<th>Description</th>
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<tbody>
<tr>
<td>PDP TV</td>
<td>• Both quit PDP TV in 2005 year end.</td>
</tr>
</tbody>
</table>
| LCD TV                    | • Both were slow in entering LCD TV market.  
                          | • Both cooperated with other competitors for LCD pane source. While Sony join venture with Samsung for S-LCD, Toshiba team up with Hitachi and Matsushita for IPS Alpha.  
                          | • Both set sub-name for LCD TV: Sony’s BRAVIA, and Toshiba’s Regza                                                                        |
| New FPD technology        | • Although Sony and Toshiba focus on LCD TV, both don’t think that LCD is long term TV technology, and are developing new flat panel display.  
                          | • Sony plan to mass production OLED TV in 2007 to test the market, and spin of a new company called Field Emission Technologies (FET) for new generation TV technology.  
                          | • Toshiba team up with Cannon for SED technology and developing OLED with Matsushita.                                                    |
| Next Gen. Optical Drive   | • Both Sony and Toshiba are fighting on new blue ray disc spec owner. Sony is promoting Blu-ray and Toshiba has HD DVD                          |
In China Market, the large electronic chain store continue to merge

• After the Yongle and Guomei merger in 2006, Suning and Dazong are also discussing a possible merger.
  – Suning have allocated RMB 3 billion in acquiring Dazong to effectively compete against the US.
  – The original Big 3—Yongle, Guomei, and Suning that was formed in 2006 is being changed by the Yongle and Guomei linkup
  – The retail stores owned respectively by Guomei and Yongle amount to 850. By contrast, Suning has only 450. In 2007, it expects to
    open another 200. By 2010, it projects to reach 1,200.
  – Currently, Dazong has 110 outlets, where 73 are located in Beijing. These outlets could help complement the smaller scale of Suning.
  – Intense competition is seen between the retailers in the major cites. Currently, in Beijing, there are 140 electronic retail stores,
    operated respectively by Guomei, Suning and Dazong.

• China is becoming a very important LCD TV markets
  – China is the largest TV market
    • Total TV demand in domestic market is over 35m.
    • Total workable TV set roughly 400 million in the market.
  – The largest TV industry
    • Local makers produce 70~80 million TV sets each year.
    • Worldwide Tier 1 brands set up production lines in China
      – Matsushita, Sony, Pioneer: Shanghai
      – Toshiba: Dalian
      – Sharp: Nanking
      – Samsung: Tianjin, Shen Zhen
      – Hitachi: Fu Jian
      – Funai: Guandong
      – LG: Nanking, Shenyang
  – LCD TVs are growing very rapidly
    • 2006 LCD TV shipments reached 4.2 million, accounting for 10% of the worldwide share. In 2007, the ratio will grow 70% to
      7.2 million.
China’s TV selling channel to become duopoly market

- Amid China’s huge geographical size, the development of its electronic retail chain stores were more independent and area-based. Each province had their own distinct retail stores.
- In the early 21st century, China’s electronic retail chain stores began to consolidate. The faster the process, the more powerful these retailers will become.
- As the retailers become more powerful, home appliance makers will face bigger pricing pressures.
- In early 2006, Yongle, Gome, Suning and Dazong were China’s 4 major electronic retail stores. At the beginning, Yongle and Dazong were in talks for a possible merger. If established, it would have created a market dominated by Yongle, Suning and Gome. However, a consensus was never reached, rendering Yongle to lean towards Gome. This in turn may force Dazong to discontinue its cooperation with Suning.
- China’s retail market is now being dominated by Gome and Suning, along with 5 star, a retailer acquired by Best Buy.
Chain Stores have very strong bargaining power against TV makers in China market

• Since electronics chain stores continue merging one another, remaining companies have strong bargaining power against TV makers. There are many ways to get profit from TV makers. These “fees” have become one of the most important revenue for chain stores.
  
  • E.g. Gome indirect revenue share 15% of suppliers’ sales revenue in 2005.

• Recently the Government issued *Administrative Measures for Fair Transactions Between Retailers and Suppliers*. According to the regulation, retailers are not allowed to acquire these unfair charges.
TV Maker strategy update ~Korea Makers

• Samsung:
  – 2007 total TV shipment to reach 24m. LCD TV shipments: 11m and PDP TV: 3m.
  – Focus on 40” above LCD TV to 60% in 2007.
  – Formed the new Cannes PDP TV brand after SDI’s new PDP W2 production line began mass production. The name of Cannes represents the essence of “Color”. Meanwhile, Samsung is already developing its successor, dubbed “Lilly”.
  – Mosel II for high end LCD TV
  – Regional:
    • Cooperate with Discovery and National Geographic’s HD channels in Asia to improve FPD TV sales.
    • Put more market resource in BRIC after it becomes leader in US and EU market.
  – Product:
    • Support 802.11n in its PDP TV lineup and plans to release the models in 2H07.
    • White LED BLU mp in Jun 07 for all TV sizes.

• LG:
  – 2007 LCD TV and PDP TV shipments projected to hit 8m and 2.5m, or respectively reach 10% and 20% of global market share. In 2010, ratio is forecast to increase respectively to 15% and 25%.
  – Product:
    • To launch 32” PDP TV with standard definition quality.
    • FHD to be the focus in 2007. A total of 13 1080p LCD TV and PDP TV models will be launched.
  – Regional: Spend $25 million on TV campaign in US market.
  – Serve as the official sponsor of the 60th Cannes Film Festival.
  – Close down A1 PDP line to reduce loss.
TV Maker strategy update ~Japan Makers

• Sony
  – 10m LCD TV Shipment target for 2007.
  – Bravia brand no longer limited to LCD TVs now
  – OLED TV will start to hit the market at the end of 2007. Size will be 11”, 1,000 set/m.
  – 5x” will be an important product in the high selling season of 2007.
  – Taiwanese panels will be used substantially for 32” and below segment. Total TV panel purchase from TW makers will reach 4m.
  – Higher LCD TV capacity in Europe, due to Slovakia plant’s increased output to 5m/y.
  – Open eyeVio internet video platform.
  – Provide internet service for Bravia LCD TVs.

• Matsushita
  – Matsushita is collaborating with other plasma TV manufacturers in areas, such as sales campaigns (Hitachi) and so forth.
  – LCD TVs remain as the primary focus for sizes under 32” (despite Panasonic's launch of a 37” LCD TV in Taiwan Market).
  – Has not decided on sell JVC to Texas Pacific.
  – Expand the TV market share of emerging markets, especially in the BRIC segment. Six major cities of Vietnam are also a key focus. Russia will begin to mp PDP TVs in 2007.
  – Must acquire 25% of world wide market share in 37” and above FPD TV market.
  – 42” FHD PDP TV launched in 2007.
  – 5th PDP Market to mp in 2010 with 1 million/month capacity
TV Maker strategy update~ Japan Makers

• Toshiba
  – No change on SED TV (withdrew from SED panel development, but will still launch SED TV in 2009.) Doesn’t see SED TV as having the same position as LCD TVs.
  – But Canon announce delay of SED again and doesn’t give exact date.
  – OLED TV to enter mass production in 2009.
  – Promote HD DVD and Regza LCD TV from 26” to 57” together.
  – Launch Purezza LCD with OCB (Optically Compensated Bend) technology to reach the level of 2ms response time and 1M:1 contrast ratio.
  – Introduced LCD TVs with external HDD.

• Sharp
  – 9m LCD TV shipment in 2007. JP market: 3.2M and overseas market: 5.8m, including 2.9m in Europe
  – In contrast to the 55% in 2006, 30” and above LCD TV shipments to reach 80% in 2007. 40” and above will hit 40%.
  – Aquos TVs: 37” above FHD models will reach 90%.
  – US Market to gain 15% share in 2007, compared to 13~14% in 2006.
  – G8 capacity plan: Q107: 30k/m, Q307: 60K, Q308: 90k.
  – 32 and 37” panels will be purchased from CMO and AUO on a case by case basis.
  – Develop new Aquos models for web surfing.
  – Five major assembly plants located in Japan, China, Poland, Mexico, and Malaysia.
TV Maker strategy update ~Japan Makers

• Hitachi
  – Shipment Target:
    • In 2007, LCD TV: 0.8m and PDP TV: 1.4m.
    • In 2012, PDP TV: 20% share, 50” and above class accounting 30%.
  – MP PDP TV in Malaysia and Czech (5 worldwide manufacturing bases).
  – Cooperate with Matsushita on R&D, Production, Marketing and IP.
  – Develop both LCD and PDP TV in 40” sector. For 50” and above, focus on PDP TV.
  – Newly added TV functions:
    • Removable HDDs.
    • Improve movie picture performance
    • Promote IPTV

• JVC
  – Emphasize on LCD TV (Not D-ILA projection TV).
  – Change TV size to 42 and 47” from 40” and 46”.
  – Promote 120Hz frame rate LCD TV.

• Pioneer
  – Withdraw from PDP TV OEM market.
  – Delay expansion plans.

• Funai
  – 4m LCD TV shipment target in 2007
  – Withdraw from PDP TV.
  – Launch 42” FHD LCD TV in mid 2007.
  – Seek for more OEM orders.
  – Launch LCD TV/DVD combo from 15~37”.
  – Poland factory mp in the Summer of 2007.
  – Procure panel in cell and in-house modulization.
Summary

• Street price of mainstream 32, 37, 40, 42” LCD TVs slipped 33~54% for 2006. In order to compete with the 40”, 42” saw the largest decline.
   –32” slipped below $1,000.
   –42” and 40” prices from more than $1,000 difference to currently almost no gap.
   –37” slipped below $1,000 for the first time in N.A Market.
   –In Japan market, 42” have a large drop as JVC and Sharp new products released. Sony currently dominates 40” class.
   –Virtually no price gap is seen between 40/42” class in China market. Amid Chinese Lunar New Year in Q1, 32~42” slipped by 13~17%, higher than the 9~14% in the North American market.

• For Monitors
   –Price gap between 15, 17, 19w within $5, price gap between 19” and 19w expands further.
   –In 1Q07, 22” and 20” prices continue to decline. Some 22” models are lower than the 20” class.

• Estimated retail price in 4Q07: 32”: $830, 37”: $1,175, 40/42”: $1,300~1,400.

• Industry trend
   –TV makers must choose between PDP TV and LCD TV at the moment. Many give up PDP TV manufacturing.
   –Following LG, Samsung has also unveiled a Dual blue ray disc player.
   –Japan’s two major TV makers have announced their OLED mp plans.
   –China retail chain stores still in a consolidation process. Retailing becoming more and more powerful in China market.

• Recent actions from makers:
   –Tier 1 FPD TV target for 2007 set to grow more than 50%.
   –FHD is key development focus for 2007.
   –Makers hold high hopes for BRIC, a key focus in 2007~2008.
   –Makers continue to expand their relevant worldwide TV assembly lines. Excluding Eastern Europe and China, Russia, Brazil and South East Asia are the next key assembly locations.