Beyond Borders: How Technology Demands Differ in the Chinese Set-Top Box Market

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Global Digital Media Explosion

Television

~ 48 million hours of new Programming/year

Movies

~ 18 billion DVDs/year

Music

~ 803 million albums/year

Photos

~ 3.2 billion digital photos/year

~ 80 billion analog prints/year

Imaging

~ 500 billion photocopies/year

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Digital Entertainment Performance Demands

Zoran HD Set-Top Box Designs

Japan HD Set-top Boxes

Sixteen Sony TV's and related STB's (Gen9)

Sony DST-BX300 BS-Digital STB

World's Smallest, Lightest, and Lowest Cost BS-Digital Satellite STB

Funai BS/CS Digital + Terrestrial ISDB STB (Gen9)

US HD Set-top Boxes

Motorola DCP601 Home Entertainment System

Sylvania (Funai) Lowest Cost ATSC Terrestrial STB ($349)

RCA ATSC Terrestrial Receivers (ATSC11 & ATSC 21)

"Best of The Year -- All Star" Award from , E-GEAR!

Samsung Range of Terrestrial HD STB's and DIRECTV/NTSC/ATSC STB's

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Zoran SD Set-Top Box Designs

Satellite Set-top Boxes

TCL FTA DVB-S STB

Cable Set-Top Boxes

DVN China Cable STB

TopTV China Cable STB

Terrestrial Set-top Boxes

MICO STB220 FTA DVB-T STB

Set-Top Box WW Markets

- **Japan STBs are most complex**
  - Quality of video, audio, graphics important
  - Additional features e.g. PVR/DVR, DVD Recording
- **US/Europe STBs are complex**
  - Quality of video, audio, graphics important
  - Additional features e.g. PVR/DVR, Home Networking etc.
- **China/India STBs are not as complex, yet**
  - Price is very important
  - Simple user interface/local language important
  - Additional features not important as yet

Set-Top Box Markets in China

- Pay Cable Set-Top Box (DVB-C)
- Pay & FTA Satellite (DVB-S)
- FTA Terrestrial (DVB-T) being standardized
- iDTV solution ready for China
  - Separation of DTV/STB & card
  - Similar to DCR TV in USA
- Analog to Digital Transition has begun!
- 2008 Beijing Olympics is an important driver!

Technical & Business Challenges

- More than 100 cable operators catering to 100M+ subscribers
- Many CA supported
  - ChinaCrypt, CTI, BNTF, DVN, Irdeto, NDS, Conax...
- Majority need MPEG-II SD video and audio
- Need for MPEG-II HD is not big yet
- Deployment model in every city is different
- Target price of STB ~ RMB 400
- Domestic market is huge
- Export business is big

Zoran in China since 1998

- Several set-top box design wins in China domestic and export markets
- One in three DVD players shipping worldwide – since 1998
- Offices in Shenzhen & Shanghai - local technical support

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