Sony Digital Cinema™ 4K

Sony Digital Cinema 4K

Seeing Life in 4K through SXRD Technology

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What are we talking about with 4K?

- 4K can be many formats
  - 4096 x 2160 is the imager size @ 1.89 aspect ratio
  - 3996 x 2160 is what's projected for flat presentation
  - 4096 x 1714 is what's projected for scope presentation
  - 3840 x 2160 is what's projected for HD

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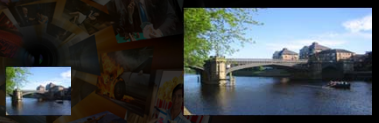
Pixel Relationships



SDTV
720 x 480

HDTV
1920 x 1080

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Pixel Relationships

2K
2048 x 1080

4K
4096 x 2160

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How do 2K and 4K compare?

2K

4K:
Pixels are
1/4 the size

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The clear leader in 4K

- Over 8,500 4K systems deployed worldwide
- Commitments for an additional 4,000 more
- #1 market share in the US

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Sony was first with 4K

2005
SRX-R110

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Now in our third generation

2009
SRX-R320

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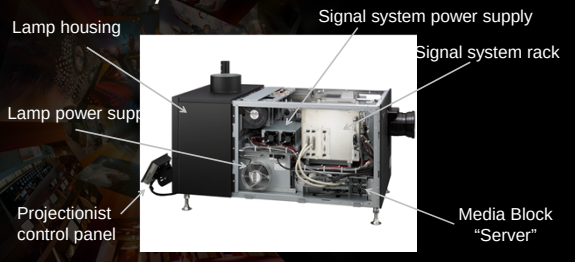
SRX R320 Layout



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Sony makes the 4K SXRD chip

SXRD™

1.55 inch 4K Silicon X-tal Reflective Display chip

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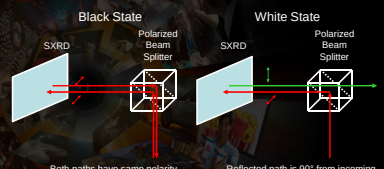
SXRD Operation



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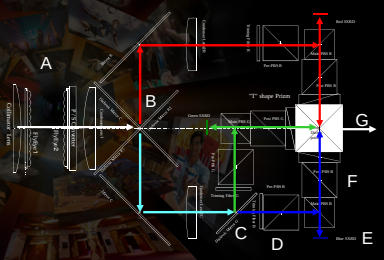
Optical Block & Light Path



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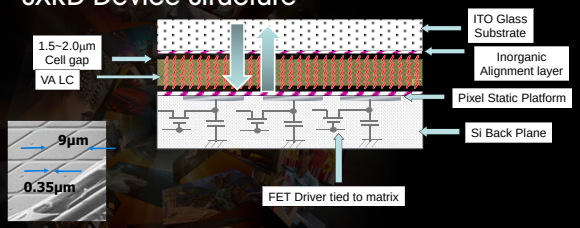
SXRD Device Structure



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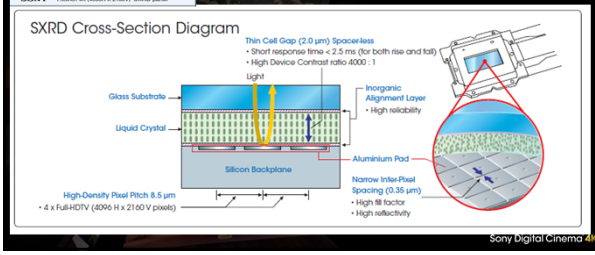
SXRD Cross-Section Diagram



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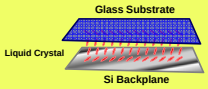
1st Generation SXRD Panel

LCOS
(Liquid Crystal On Silicon)



Panel Contrast >3000:1
Typically WXGA/SXGA Reso.
10-20msec response

SXRD

0.78 inches @1920H×1080V
Device contrast ratio: > 3000:1
Response time : Tr + Tf < 5msec
Crystal Material: Vertical Alignment
Alignment Layer: Inorganic Thin Film
Si Back Plane Process: .35μm Mos

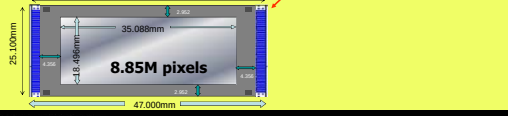
Key improvements
Liquid crystal material technology
LC cell assembly process
Si wafer process & circuit design

Privileged and confidential

2nd Generation SXRD Panel

Chip size : 47.0mm x 25.1mm
Image area : 1.55" diagonal
Pixel counts: 4096×2160, 8.85 Mil.
Response time : Tr + Tf < 5msec
Aspect ratio 1.85
Pixel pitch : 850nm
Pixel gap : 350nm
Contrast ratio : over 4000:1

8" wafer



Privileged and confidential

Thank You

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