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

Pixel Relationships

- SDTV: 720 x 480
- HDTV: 1920 x 1080

How do 2K and 4K compare?

- 2K: 4096 x 2160
- 4K: Pixels are 1/4 the size
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

Sony was first with 4K

2005 SRX-R110

Now in our third generation

2009 SRX-R320

Sony makes the 4K SXRD chip

1.55 inch 4K Silicon X-tal Reflective Display chip

SXRD Operation

Black State

White State

Both paths face same polarity

Reflected path is 90° from incoming
Optical Block & Light Path

FlyEye 1
FlyEye 2
P / S Converter
Condenser Lens 1
Condenser Lens 2
Triming Filter R
Triming Filter B
Triming Filter G
Pre-PBS G
Pre-PBS R
Pre-PBS B
"T" shape Prizm
Main PBS G Post PBS G
Main PBS R
Post PBS R
Main PBS B
Post PBS B
Cross Dichro prizm
Collimator Lens
Red SXRD
Blue SXRD
Green SXRD

SXRD Device Structure

1st Generation SXRD Panel

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 Backplane Process: .35μm Mos

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

2nd Generation SXRD Panel

Chip size : 47.0mm x 25.1mm
Image area : 1.35” diagonal
Pixel counts: 4096 x 2160, 8.85 Mil.
Response times : Tr + Tf < 5msec
Aspect ratio 1.85
Pixel pitch : 850nm
Pixel gap : 350nm
Contrast ratio : over 4000:1

Thank You