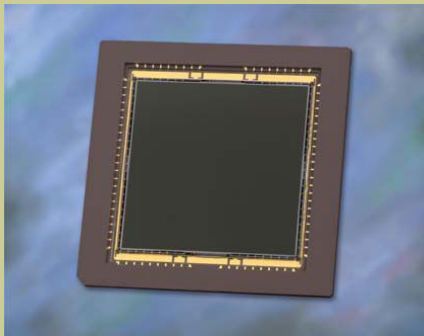


## X-ray Full Frame high resolution CCD cameras

PSL has supplied X-ray full frame high resolution CCD cameras for the last 10 years to end users and OEMs. A selection of high responsivity CCDs, combined with low noise characteristics, enables optimum photonic collection with best possible signal to noise ratio. Special read whilst expose mode allows 100% shutterless duty cycle and high sensitivity operation in low light level conditions.



## Applications:

- Microdiffraction
- X-ray imaging
- X-ray micro CT
- Laue imaging
- Protein crystallography at up to 50 keV
- Gisaxs
- Powder Diffraction
- Non Destructive Testing
- Phase Contrast Imaging
- Small animal imaging
- Small Angle X-ray Scattering

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*Information /  
products and  
services*



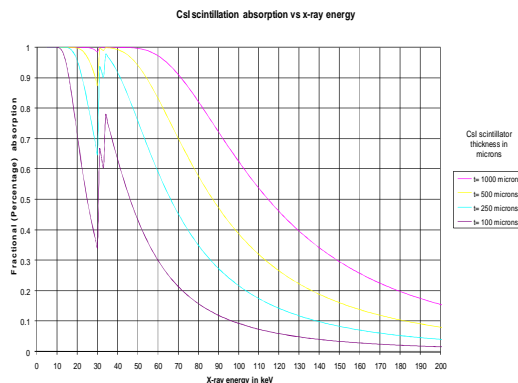
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Scientific detector  
systems

## X-ray Full Frame HR cameras

Photonic Science Ltd selects premium grade CCD sensors and fibre optic bundles :

- Small pixel size less < 75 microns pixel size at the detector input
- Large area CCD
- High resolution megapixel resolution
- Very high sensitivity
- 1 and 8 MHz scanning frequencies
- Very low readout noise < 10 electrons
- Very low dark noise allowing extended exposures for sub microfocus sources
- Large dynamic range with 16-bit digitisation
- Medium to large area sensor with taper input varying 25 mm up to 165 mm diagonal
- GdOS polycrystalline or structured CsI scintillators
- USB 2.0 digital interface
- Low profile electronics



## X-ray 4 megapixel Full Frame CCD camera

- 2084 (h) x 2084 (v) CCD array
- Semi transparent electrodes allowing high quantum efficiency and very high sensitivity
- Input pixel size: available from 24 x 24 - 48 x 48 - 75 x 75 microns
- Input size : available from 50 x 50 mm - 100 x 100 mm, 165 mm full diameter respectively
- 0.4 fps at full resolution @ 2 MHz
- Readout noise : 7-9 electrons @ 2 MHz with interpolation noise reduction
- Full well capacity : 150,000 electrons in binning 1x1, 1,000,000 electrons in binning 2x2
- 16-bit dynamic range
- GdOS:Tb scintillator for operation from 5-55 keV with minimum feature recognition of 10lp/mm : typically 15 microns for the smallest input size up to 100 microns for the largest input size.
- CsI:Tl structured scintillator for operation from 30-100 keV
- USB 2.0 interface
- Synchronisation / control : via TTL pulse

## X-ray Full Frame 9 megapixel CCD camera

- 3056 (h) x 3056 (v) CCD array
- Input pixel size: available from 4 x 4 - 12 x 12 24 x 24 and 40.5 x 40.5 microns
- 12.2 x 12.2 mm - 37.6 x 37.6 mm - 75.2 x 75.2 mm and 135 mm full diameter respectively
- 0.5 fps at full resolution @ 8 MHz
- Readout noise : 6-8 electrons @ 8 MHz with interpolation noise reduction
- Full well capacity : 100,000 electrons in binning 1x1 - 200,000 electrons in binning 2x2
- 16-bit extended dynamic range
- GdOS:Tb scintillator for operation from 5-55 keV with minimum feature recognition of 10lp/mm : typically 12 microns for the smallest input size up to 75 microns for the largest input size.
- CsI:Tl structured scintillator for operation from 30-100 keV
- USB 2.0 interface
- Synchronisation / control : via TTL pulse

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