

XRD Detector Series

Digital X-ray Flat Panel Detectors



Overview

The XRD series detectors provide imaging up to 100 frames per second (fps) and up to 16-bit contrast resolution. Applications benefiting from our technology include industrial non-destructive testing (NDT), X-ray systems for oncology treatment (radiation therapy / radiosurgery), veterinary, cone-beam CT (CBCT) imaging and other applications using X-ray based film.

Detector Size

- 08: 8" x 8" (20 cm x 20 cm)
- 16: 16" x 16" (41 cm x 41 cm)

Interface:

- 0: Standard Cu
- 1: Fiber Optic
- 2: Gb-Ethernet

Scintillator:

- 3: CsI (Direct Deposition)
- 13: DRZ High
- 14: DRZ Plus
- 15: DRZ Standard
- 19: PI200 & Cu Filter
- 22: DRZ Plus & Cu Filter

Other customized options potentially available

Resolution:

- 2: 200 μm pixel size
- 4: 400 μm pixel size

Entrance Window:

- A: Standard 8" & 16"
- C: Low Energy Application 8" & 16"

Electronics:

- N: 16 bit ADC & 6 Gain Settings
- O: 14 bit ADC & 2 Gain Settings
- P: 16 bit ADC & 6 Gain Settings

Version:

- ES: Enhanced Speed (if applicable)
- IND: Industrial Version 8"
- HS: High Sensitivity (for low dose)
- Other custom indicators possible

XRD 1621 AN15 ES

PerkinElmer Digital X-ray Flat Panel Detectors and accessories are designed as components to be integrated into a complete X-ray system by imaging systems manufacturers. Manufacturers are responsible for qualifying, validating, certifying their intended use in their specific applications and meeting all applicable regulatory requirements established by country and local government authorities.

Contents in this document are subject to change without notice.

Basic Specifications and Potential Applications

Detector Series: XRD 0822 xO

	Pixel Size (µm)	Matrix	Frame Rate (fps)
	200 (1x1)	1024 x 1024	15
	400 (2x2)	512 x 512	30
A/D Conversion		Energy Range	
14 bit / 78 dB		20 keV – 15 MeV	

Model	Scintillator Type	Application
XRD 0822 xO3	CsI	Low Dose NDT ¹
XRD 0822 xO14	DRZ Plus	Veterinary
XRD 0822 xO15	DRZ Standard	Film Replacement
XRD 0822 xO3 IND	CsI	High Dose NDT ²
XRD 0822 xO14 IND	DRZ Plus	General Image Intensifier Replacement

Detector Series: XRD 0822 xP

	Pixel Size (µm)	Matrix	Frame Rate (fps)
	200 (1x1)	1024 x 1024	25
	400 (2x2)	512 x 512	50
	200 x 400 (1x2)	1024 x 512	50
200 x 400 (1x4)	1024 x 256	100	
A/D Conversion		Energy Range	
16 bit / 88 dB		20 keV – 15 MeV	

Model	Scintillator Type	Application
XRD 0822 xP3	CsI	X-ray Components in Radiation Oncology, Low Dose NDT ¹
XRD 0822 xP13	DRZ High	Low Dose NDT ¹
XRD 0822 xP14	DRZ Plus	CBCT Imaging
XRD 0822 xP15	DRZ Standard	High Resolution, Low Dose NDT ¹
XRD 0822 xP3 IND	CsI	High Speed Inspection, High Dose NDT ²
XRD 0822 xP13 IND	DRZ High	High Dose NDT ²
XRD 0822 xP14 IND	DRZ Plus	CBCT Imaging

Detector Series: XRD 1640 xN ES

	Pixel Size (µm)	Matrix	Frame Rate (fps)
	400	1024 x 1024	15
	A/D Conversion		Energy Range
16 bit / 87 dB		20 keV – 15 MeV	

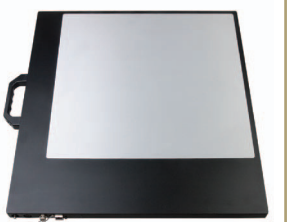
Model	Scintillator Type	Application
XRD 1640 xN3 ES	CsI	NDT ^{1,2}
XRD 1640 xN3 ES HS	CsI	Any High Sensitivity, Low Dose Application
XRD 1640 xN13 ES	DRZ High	NDT ^{1,2}
XRD 1640 xN14 ES	DRZ Plus	CBCT Imaging
XRD 1640 xN19 ES	DRZ PI200 & Cu Filter	X-ray Components in Radiation Oncology
XRD 1640 xN22 ES	DRZ Plus & Cu Filter	Industrial MeV Imaging

Detector Series: XRD 1622 xO

	Pixel Size (µm)	Matrix	Frame Rate (fps)
	200 (1x1)	2048 x 2048	1
	A/D Conversion		Energy Range
14 bit / 74 dB		20 keV – 15 MeV	

Model	Scintillator Type	Application
XRD 1622 xO3	CsI	NDT ^{1,2} Veterinary
XRD 1622 xO14	DRZ Plus	Security
XRD 1622 xO15	DRZ Standard	General Film Replacement

Detector Series: XRD 1622 xP

	Pixel Size (µm)	Matrix	Frame Rate (fps)
	200 (1x1)	2048 x 2048	1
	400 (2x2)	1024 x 1024	4
	200 x 400 (1x2)	2048 x 1024	2
A/D Conversion		Energy Range	
16 bit / 87 dB		20 keV – 15 MeV	

Model	Scintillator Type	Application
XRD 1622 xP3	CsI	NDT ^{1,2}
XRD 1622 xP13	DRZ High	NDT ^{1,2}
XRD 1622 xP14	DRZ Plus	CBCT Imaging
XRD 1622 xP19	DRZ PI200 & Cu Filter	X-ray Components in Radiation Oncology
XRD 1622 xP22	DRZ Plus & Cu Filter	Industrial MeV Imaging

Detector Series: XRD 1621 xN ES

	Pixel Size (µm)	Matrix	Frame Rate (fps)
	200 (1x1)	2048 x 2048	15
	400 (2x2)	1024 x 1024	30
A/D Conversion		Energy Range	
16 bit / 87 dB		20 keV – 15 MeV	

Model	Scintillator Type	Application
XRD 1621 xN3 ES	CsI	High Frame Rate NDT ^{1,2}
XRD 1621 xN3 ES HS	CsI	Any High Sensitivity & Frame Rate Low Dose Application
XRD 1621 xN14 ES	DRZ Plus	High Frame Rate CBCT Imaging & NDT ^{1,2}
XRD 1621 xN19 ES	DRZ PI200 & Cu Filter	X-ray Components in Radiation Oncology
XRD 1621 xN22 ES	DRZ Plus & Cu Filter	Industrial MeV Imaging

¹ Low Dose NDT: e.g. Composite Inspection, PCB Inspection, Crystallography, Microfocus Applications

² High Dose NDT: e.g. Automatic Defect Recognition (ADR), Casting, Weld Inspection, 24x7 High Energy Applications

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