Overview

The PerkinElmer XRD 1620 xN CS Flat Panel X-ray Detectors (FPDs) are a member of the PerkinElmer family of 16-inch (41 cm) field of view amorphous silicon (a-Si) digital X-ray FPDs. The XRD 1620 FPDs provide a dynamic range over 84 dB and frame rates up to 7.5 frames per second. The PerkinElmer XRD 1620 xN CS supports a broad range of energy levels from 20 kV – 15 MV and is available with several scintillator options. Rapid system integration is accomplished via a customized parallel interface, integrated trigger and X-ray synchronization circuitry. A comprehensive software library for image acquisition and processing is also provided.

The wide energy range, variable frame rates and scintillator options allow the PerkinElmer XRD 1620 xN CS to meet the component requirements of industrial non-destructive testing, as well as life and physical science applications.

We have over 20 years of experience partnering with customers to develop products in a wide range of X-ray applications. Let our digital imaging experience work for you.
XRD 1620 xN CS

Sensor
- Panel: Single substrate amorphous silicon active TFT/diode array
- Scintillator: Direct deposition CsI:Tl or various Gd₂O₂S:Tb
- Pixel Matrix: 2048 × 2048 @ 200 µm pixel pitch
- Total Area: 409.6 × 409.6 mm²

Electronics
- Charge Amplifier: Low noise ASICs with user selectable gains
- ADC: 16 bit
- Read-out Mode:
  - Matrix: 2048 × 2048
  - Pixel (µm²): 200 × 200, 400 × 400
  - fps: 3.75, 7.5

Mechanical
- Size: 672 mm × 599 mm × 44 mm
- Weight: 21 kg
- Housing: Aluminum with Aluminum (XRD 1620 AN CS) or carbon-fiber (XRD 1620 CN CS) entrance window

Communication I/F
- Data I/F: Customized parallel Interface
- X-ray I/F: Integrated Trigger control
- Software: Support for 32 bit and 64 bit Windows OS

Image Performance
- Dynamic Range: > 84 dB
- Radiation Energy:
  - 40 kV – 15 MV (XRD 1620 AN CS)
  - 20 kV – 15 MV (XRD 1620 CN CS)
- Lag: < 8% 1st frame

Environmental
- Temperature: 10 – 35 °C (operating), -10 – 50 °C (storage)
- Humidity: 10 – 90 % RH (non-condensing)
- Vibration: IEC/EN 60068-2-6 (10 – 150 Hz, 0.5 g)
- Shock: IEC/EN 60068-2-27 (11 ms, 2 g)

Power
- Supply: XRD EPS Power Supply 215 W
- Dissipation: 50 W

Regulatory
- Standards: IEC/EN-60950-1
- Regulations: RoHS

1: Unless otherwise specified, PerkinElmer Flat Panel X-ray Detectors are components intended to be integrated into products by X-ray system manufacturers. System manufacturers are responsible for qualifying and validating their products for their intended uses and meeting all applicable regulatory requirements. Contents in this document are subject to change without notice.