

XRD 1622 AO, AP

Flat Panel Detectors



Superior Image Quality High Dynamic Range

The Varex Imaging XRD 1622 Flat Panel X-ray Detectors are the part of the Varex Imaging family of 16-inch (41 cm) field of view amorphous silicon (a-Si) digital X-ray FPDs.

OVERVIEW

Two models of the Varex Imaging XRD 1622 digital Flat Panel X-ray Detectors (FPDs) are available: The Varex Imaging XRD 1622 AO provides over 74 dB of dynamic range and 1 frame per second (fps). The enhanced performance Varex Imaging XRD 1622 AP offers over 87 dB of dynamic range and frame rates up to 4 fps via multiple read-out modes. Both detectors support a broad range of energy levels from 20 kV - 16 MV and are available with several shielding and scintillator options.

Rapid system integration is accomplished via Gigabit Ethernet data communication, integrated trigger and X-ray synchronization circuitry, and a comprehensive software library for image acquisition and processing.

The wide energy range, variable frame rates and shielding options allow the Varex Imaging XRD 1622 to meet the component requirements of applications¹ such as industrial non destructive testing, radiation therapy for cancer treatment, as well as veterinary and life and physical science.

We have over 20 years of experience partnering with OEMs integrating FPDs into demanding X-ray applications and can customize our product to meet your specific requirements. Let our digital imaging expertise work for you.

FEATURES AND BENEFITS

- Radiation-hardened for harsh environments
- 200 μm pixel pitch
- Up to 65,536 gray levels
- X-ray energies from 20 kV - 16 MV
- Selectable gain settings
- Gigabit Ethernet interface

APPLICATIONS¹

- Radiography, Radiosurgery & Proton Therapy
- Industrial Non Destructive Testing & Evaluation
- Veterinary
- Life & Physical Science

Technical Specifications

SENSOR

Panel Single substrate amorphous silicon active TFT/diode array
 Scintillator CsI:Tl or various Gd₂O₂S:Tb (GOS) fluorescent screens
 Pixel Matrix 2048×2048 @ 200 μm pitch

ELECTRONICS

Amplifiers 16×128 channel custom low noise ASICs with 2 (AO) or 6 user selectable gain settings
 ADC 14 bit (AO), 16 bit (AP)

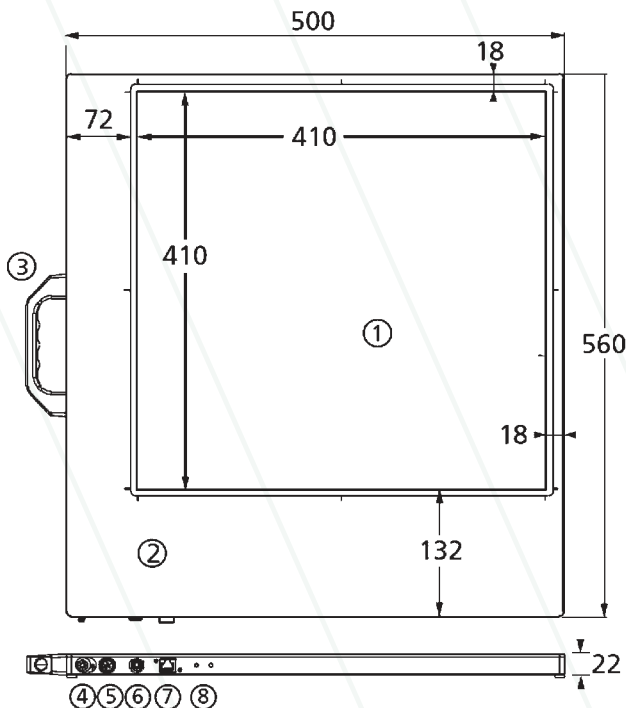
Read-out Mode	Matrix	Pixel (μm ²)	fps	
			AO	AP
Square	2048×2048	200×200	1	1
	1024×1024	400×400	n/a	4
Rectangular	2048×1024	200×400	n/a	2

MECHANICAL

Size 50.0 cm (w) × 56.0 cm (l) × 2.2 cm (h)
 Weight 8.8 kg
 Housing Aluminum
 Shielding Integrates with shielding cassette for high energy applications (optional)

MECHANICAL CHARACTERISTICS

(Dimensions in mm)



- ① Active sensor area
- ② Electronics area
- ③ Removable handle
- ④ Ground stud
- ⑤ Power connector
- ⑥ X-ray trigger connector
- ⑦ Ethernet connector (RJ45)
- ⑧ Diagnostic LEDs

COMMUNICATIONS

Data I/F Gigabit Ethernet Vision
 X-ray I/F Integrated X-ray trigger control
 Software Support for 32 and 64 bit Windows® OS

IMAGING PERFORMANCE

MTF 63% (1 cy/mm), 31% (2 cy/mm) with CsI
 Lag < 6% 1st frame
 Dynamic Range > 74 dB (AO), > 87 dB (AP)
 Energy 20 kV – 16 MV

ENVIRONMENTAL

Temperature 10–40°C (operating), -10–50°C (storage)
 Humidity 10–90%RH (non-condensing)
 Ingress IP-65 rated (total dust and low pressure water jets protection)
 Vibration IEC/EN 60068-2-6 (10-150 Hz, 0.5 g)
 Shock IEC/EN 60068-2-27 (11 ms, 2 g)

POWER

Supply 100 - 240 VAC, 50/60 Hz
 XRD-LPM Power Supply 40 W
 Dissipation 32 W

REGULATORY

Standards EN-61010-1, EN-61326-1
 Regulations CE, RoHS

¹ Unless otherwise specified, Varex Imaging 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.



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