OVERVIEW
Varex Imaging XRD 1642 AP offers over 87 dB of dynamic range and frame rates up to 100 fps via multiple read-out modes. A broad range of energy levels from 20 kV to 15 MV is supported 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.

Wide energy range, variable frame rates and multiple shielding options allow the Varex Imaging XRD 1642 AP meet imaging requirements for various applications such as industrial non-destructive testing, radiation therapy, as well as life and physical science.

FEATURES AND BENEFITS
• Radiation-hardened for harsh environments
• 400 μm pixel pitch
• Up to 65,536 gray levels (16-bit ADC)
• X-ray energies from 20 kV to 15 MV
• Selectable gain settings
• Gigabit Ethernet interface

APPLICATIONS
• Radiotherapy, Radiosurgery & Proton Therapy
• Industrial Non Destructive Testing and Evaluation
• 3D Cone Beam CT
### SENSOR
- Panel: Single substrate amorphous silicon active TFT-diode array
- Scintillator: Direct deposition CsI:Tl or various Gd$_2$O$_2$S:Tb (GOS) fluorescent screens
- Pixel Matrix: 1024 x 1024 @ 400 μm pitch

### ELECTRONICS
- Amplifiers: 8 x 128 channel custom low noise ASICs with 6 user selectable gain settings
- ADC: Read-out Mode, Matrix, Pixel (μm$^2$), fps
  - Square: 1024 x 1024, 400 x 400, 15 fps
  - Rectangular: 1024 x 512, 400 x 800, 30 fps
  - Sectional: 1024 x 256, 400 x 400, 50 fps

### MECHANICAL
- Size: 500 mm (w) x 560 mm (l) x 22 mm (h)
- Weight: 7.5 kg
- Housing: Aluminum
- Shielding: Integrates with shielding cassette for high energy applications (optional)

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

### IMAGING PERFORMANCE
- Lag: <8% 1st frame
- Radiation Energy: 20 kV – 15 MV
- DQE: 67% (0 cy/mm), 53% (0.5 cy/mm), 36% (1 cy/mm) for RQA5 with CsI
- MTF: 63% (0.5 cy/mm), 31% (1 cy/mm) for RQA5 with CsI

### 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-EPS Power Supply: 215 W
- Dissipation: 24 W

### REGULATORY
- Standards: UL-60601-1, IEC/EN-60601-1, IEC/EN-60950-1
- Regulations: CE, RoHS

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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.