OVERVIEW

Varex Imaging XRD 1620 FPDs provide a dynamic range over 84 dB and frame rates up to 7.5 frames per second. XRD 1620 xN CS supports a broad range of energy levels from 20 kV - 16 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 Varex Imaging XRD 1620 xN CS to meet the component requirements of industrial non-destructive testing, as well as life and physical science applications.

FEATURES AND BENEFITS

• 200 µm pixel pitch
• 65,536 grey levels (16-bit ADC)
• High sensitivity
• Suitable for a wide range of X-ray energies
• Selectable gain setting

APPLICATIONS

• Non-destructive testing
• 3D Cone Beam CT
• Metrology
• Scientific applications
TECHNICAL SPECIFICATIONS

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

ELECTRONICS
Amplifiers ................................. Low noise ASICs with user selectable gains
ADC ........................................... 16-bit
Read-out Mode ............................ Matrix Pixel (µm²) fps
........................................ 2048 × 2048 200 × 200 3.75
........................................ 1024 × 1024 400 × 400 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

MECHANICAL CHARACTERISTICS
(Dimensions in mm)

IMAGE PROCESSING
Type .................................. Real Time offset, gain, defective pixel corrections on frame grabber

IMAGE PERFORMANCE
Dynamic Range ......................... > 84 dB
Radiation Energy ........................ 40 kV – 16 MV (XRD 1620 AN CS)
........................................ 20 kV – 16 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 61010-1
Regulations ................................. 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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