Product Description

The PaxScan® 2020X (version 3) is a real-time digital X-ray imaging device commonly referred to as a flat panel detector (FPD). The main system components are the 20 x 20cm 194μm-pixel amorphous silicon FPD and Command Processor CP2LC. Excellent low-dose performance is achieved by combining Varex Imaging’s proprietary readout electronics with a custom Cesium Iodide scintillator. A Windows® based application program and a communications command (DLL) library has also been developed to assist OEM customers tasked with developing their own system interface. This imager is intended for incorporation into a complete X-ray system by a qualified equipment manufacturer.

Technical Specifications

- **Receptor Type**: Amorphous Silicon
- **Conversion Screen**: Integral columnar CsI:Tl
- **Pixel Area - Total**: 199 mm (h) x 199 mm (v) (7.8 x 7.8 in.)
- **Pixel Matrix - Total**: 1,024 (h) x 1,024 (v)
- **Effective**: 1,004 (h) x 1,004 (v)
- **Pixel Pitch**: 194 μm
- **Limiting Resolution**: 2.58 lp/mm @ 30 fps (1 x 1)
- **1.29 lp/mm @ 60 fps (2 x 2)

Image Quality (RQAS) (typical)

- **MTF (1x1)**
  - 1.0 lp/mm: 55%
  - 2.0 lp/mm: 25%
  - 2.58 lp/mm (Nyquist Frequency): 16%
- **DQE (1x1, Quantum-limited)**
  - 0 lp/mm: 77%
  - 1.0 lp/mm: 60%
  - 2.0 lp/mm: 37%
- **Quantum Limited Dose (2x2)**: 1.5 nGy/frame
- **Energy Range**: 40 - 150 kVp
- **Fill Factor**: 68%
- **Lag**: < 5% (first frame)
- **Scan Method**: Parallel
- **Data Output**: Fiber optic
- **A/D Conversion**: 16-bit
- **Cooling**: Passive
- **Radiation Tolerance**: 2000 Gy (active area)
- **Dynamic Range**: 94 dB std modes
- **108 dB DGS modes

Power Requirements

- **Input voltage range**: 21V - 33V (measured at the input of the imager)
- **Nominal Power Consumption**: 17 W
- **Peak Power Consumption** (initialization): 21 W

Mechanical

- **Weight**: 3.2 kg
- **Housing Material**: Aluminum
- **Sensor Protection**: Carbon fiber and aluminum
- **Mounting Provisions**: Blind, threaded mounting holes on the back.

Image Acquisition Modes

- **Normal Fluoro**: 512 (h) x 512 (v) (2x2 binned)
- **Full Resolution**: 1,024 (h) x 1,024 (v)

Environmental

- **Temperature Limit**: 15 - 59°C (as reported by imager internal sensor)
- **Relative Humidity (non-condensing)**: 10% - 80%
- **Atmospheric Pressure**: 70 kPa - 106 kPa
- **Shock Tolerance**: 20G (any direction no power applied)

Regulatory

- **U.S.**: ANSI/AAMI ES60601-1:2005
- **Canada**: CAN/CSA C22.2 No. 60601-1:08
- **EU**: IEC/EN 60601-1:2005

Note: Power drop across supply cables is not included

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