

Argus- Ceph / Pan CCD-TDI Scanning X-Ray Detector



Key Features

- MEMS fabrication for high resolution and large FOV
- Flexible and robust modular form factor
- High dynamic range
- Low sensor readout noise
- Ethernet interface for ease of integration
- 16 bit ADC
- Anti-blooming
- Custom scintillator options

Typical Applications

- Dental Panoramic
- Dental Cephalometric
- Mammography
- Veterinary
- Scientific
- Pharmaceutical Inspection

Overview

Argus is a scanning X-ray detector platform for dental panoramic, cephalometry, mammography and general radiography applications.

Argus scanning X-ray detectors include high resolution scintillator technology and standard Ethernet connectivity, allowing images to be ported directly to a computer for processing. Argus utilizes our radiation hard sensor fabrication process to ensure longevity and image quality that is immune to X-ray radiation degradation over time. This means you will be able to acquire the same high quality images over and over, and get consistent results over the lifetime of your modality.

Argus also uses the latest advancements in MEMS technology to maintain the typical gap between individual image sensors in assembly close to default pixel size. This also benefits our detectors in terms of planarity, so that the same high image quality is maintained throughout the whole field of view of the detector.

Specifications	Argus-Ceph	Argus-Pan
Pixel Size	54 ¹ μm effective	54 ¹ μm effective
Active Area	221 x 6.9 mm	151x6.9 mm.
Resolution	4080 x 128 8 lp/mm typ.	2790 x 128 8 lp/mm typ.
Dynamic Range	80 ² dB	80 ² dB
MTF:	0.2 @ 5 lp/mm	0.4 @ 2 lp/mm
All Argus Models		
ADC	16-bit (65,536 levels)	
Line Rate	2 kHz	
Charge Transport	4 phase	
Image Memory	46 MB	
Data Interface	GigaBit Ethernet	
Communication	Web GUI / API	

¹ Pixel size options available by on-chip binning: 54, 81, 108, 135, 162 μm

² Analog gain up to 6x is available by camera hardware

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Argus-Ceph and **Argus-Pan** are designed for cephalometric and panoramic extra-oral dental X-ray applications.

Argus Image

Measured contrast 10% at 15 lp/mm*

* Notes: 18 lp/mm nyquist limit with 27 μ m pixel, high resolution scintillator, area mode, FFC on 35keV



About TDI

Time Delay & Integration (TDI) is based on line scan technology and provides dramatically increased responsivity compared to other scanning methods. TDI line scan delivers an unmatched combination of sensitivity and speed by accumulating multiple exposures of the same (moving) object, effectively increasing the integration time available to collect incident quanta. The object motion must be synchronized with the exposures to ensure a crisp image.

Modular Design

Argus platform is modular and easily customizable to your system's specific needs. The mechanical and electrical interface of the camera is designed such that no customization is required in the majority of applications. The Ethernet interface is a low cost widely available interface that reduces overall system cost, and simplifies the detector integration into your X-ray modality. The Field of view of the detector can also be adjusted for your specific X-ray imaging needs. Field of view of 44 cm in length and even higher is possible. The choice of X-ray scintillator material is also customizable.

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