VATECH Humanray

Digital X-ray Solution Provider

• Applications

- Digital radiography
- Computed tomography
- Low-dose fluoroscopy
- Angiography, DSA

• Key Features

- Large area: 24x30 cm
- High sensitivity
- Extremely low electrical noise
- No image lag
- High resolution: ~ 2.5 lp/mnm
- High-speed frame rate: ~ 30 frames/s
- 14-bit digital output

Xmaru 2430CF

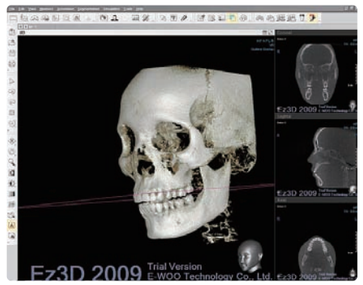
Industrial Inspection: 3Dimension Dynamic Imaging

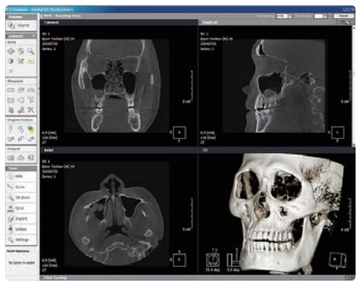
Medical System: R/F & Angiography

Dental System: CBCT

• Description

As a flat panel sensor, the Xmaru2430CF sensor is fully adaptable to the real-time imaging application of digital x-ray imaging systems with high resolution. The CMOS active pixel-type sensor has extremely low noise level and highly sensitive performance. A large-area flat panel sensor spanning ~24x30cm offers wide application in digital x-ray imaging. The 14-bits video out ensures wide dynamic range. The high physical and functional performance of Xmaru2430CF renders competitive image quality.





• Humanray Products

Model	Applications	Pixel Size	Resolution	Active Array
Xmaru 0808CF	I D	150μm	3.3 lp/mm	531X512mm
Xmaru 1215CF	I M D	200μm	2.5 lp/mm	608X720mm
Xmaru 2430CF	I M D	200μm	2.5 lp/mm	1214X1440mm
Xmaru 1501CF	I D	100μm	5.0 lp/mm	60X1504mm
Xmaru 1724SM	M	70μm	7.1 lp/mm	2442x3300mm
Ez Sensor	I D	35μm	14.2 lp/mm	744X1030mm

For Inquiries

Address
473-4 Bora-Dong, Giheung-Gu,
Yongin-Si, Gyeonggi-Do, Korea 446-904
www.humanray.com

Xmaru 2430CF

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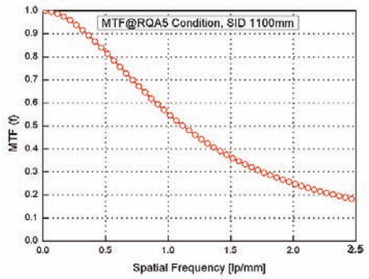
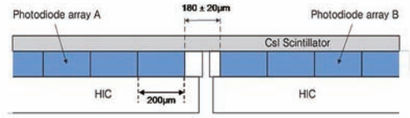
Xmaru2430CF is a large-area flat panel x-ray detector using the two-sided butted sensor technique. The high precision butting technique ensures zero image quality degradation for the tiling portion and makes no artifacts. Likewise, we guarantee the physical reliability of the sensor. Xmaru2430CF employs a CsI:Tl scintillator for x-ray-to-light converter. The column-structurized scintillator has high resolution performance due to much less light blurring vs. the general phosphor screen (GdOS:Tb, etc.).
This is the reason Xmaru2430CF has high resolution performance. Xmaru2430CF offers 40 channels. The analog channel can be MUXed to go dual ADC. This characteristic enables the lowest channel variation and high readout speed with stable signal. Xmaru2430CF makes images with the internal or external trigger. Readout speed can be controlled by the external trigger in external trigger mode.

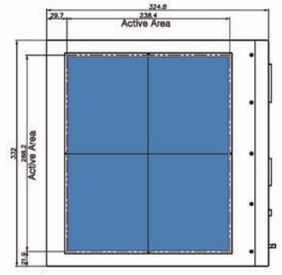
• Resolution



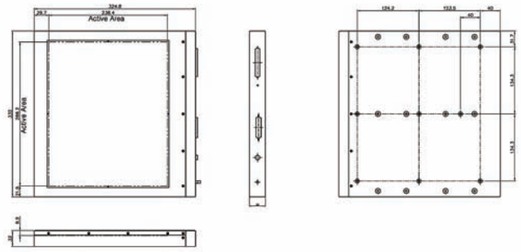
• Four-Chip, Tiled, Large-area (24x30 cm), Flat Panel Sensor

High precision butting technique ensure no artifacts due to tiled area. The dead zone between each chips is under 200μm which is under one pixel size.

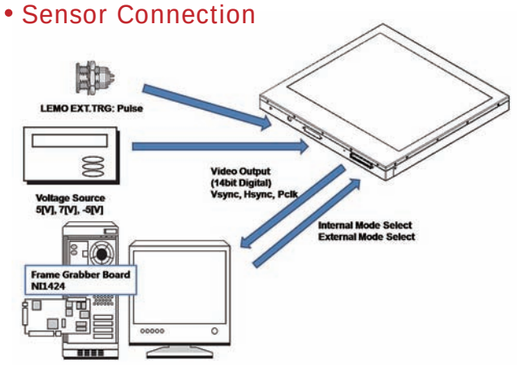




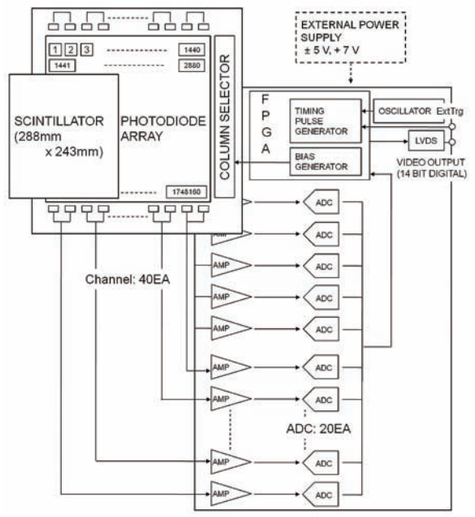
• Geometric Information



• Sensor Connection



• Block Diagram



• Specification

Sensor Type	CMOS photodiode array	-
X-ray Converter	CsI:Tl	-
Dimension (W X L X T)	324.8 x 332 x32	mm
Pixel Size	0.200	mm
Active Area	242.8 x288	mm
Number of Active Pixels	1214x1440	Pixels
Effective Area*1	238.4x288	mm
Number of Effective Pixels *1	1192x1440	pixels
A/D	14	bits
Frame Rate Internal	30	fps
Frame Rate External	~2B	fps
Resolution*2	2.5	lp/mm
Sensitivity*3	>2000	ADU/μGy*4
Dynamic Range	77	dB
Defect Line	Max.10	lines
Energy Range	40 - 120	kVp

*1: X-ray sensitive area *2: Spatial resolution @ over MTF 10%
*3: Measured @ 80kVp, 8 mm Al filter *4: μGy is the unit of X-ray exposure (1mR = 8.69 μGy)