

VATECH Humanray

Digital X-ray Solution Provider

• Applications

- Digital radiography
- Dental panoramic imaging

• Key Features

- High sensitivity
- Extremely low electrical noise
- No image lag
- High resolution: ~ 5 lp/mm
- High-speed frame rate: ~ 300 fps
- 14-bit digital output

Industrial Inspection

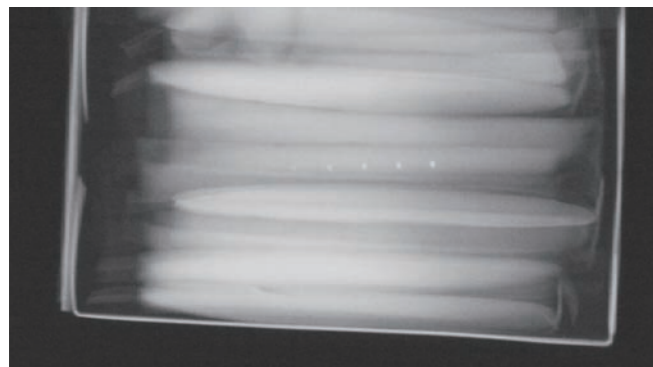
Scanning Inspection System:
food, drug, etc.

Dental System

Panoramic Image

• Description

As a flat panel sensor, the Xmaru1215CF 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. The 14-bit video out ensures wide dynamic range. The high physical and functional performance of Xmaru1215CF renders competitive image quality.



Xmaru 1501CF



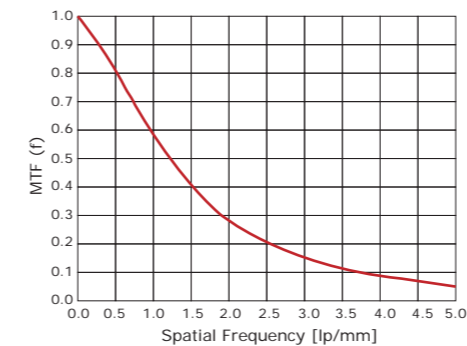
Xmaru 1501CF



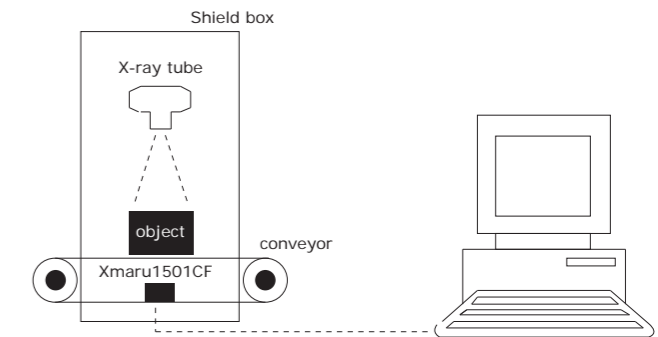
Xmaru1215CF employs a CsI:Tl scintillator for x-ray-to-light converter. The column-structured scintillator has high resolution performance, thanks to much less light blurring vs. the general phosphor screen (GdOS:Tb, etc.).

This is the reason Xmaru1215CF has high resolution performance. Xmaru1215CF offers 10 channels. The analog channel can be has MUXed to go dual ADC. This characteristic enables the lowest channel variation and high readout speed with stable signal. Xmaru1215CF makes images with the internal or external trigger. Readout speed can be controlled by the external trigger in external trigger mode.

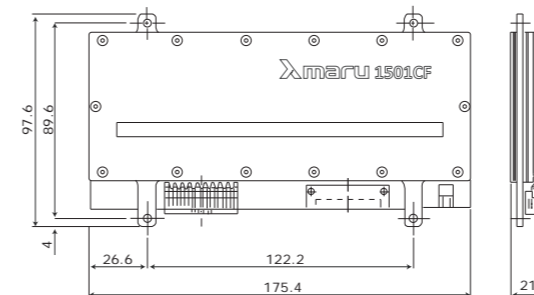
• Resolution



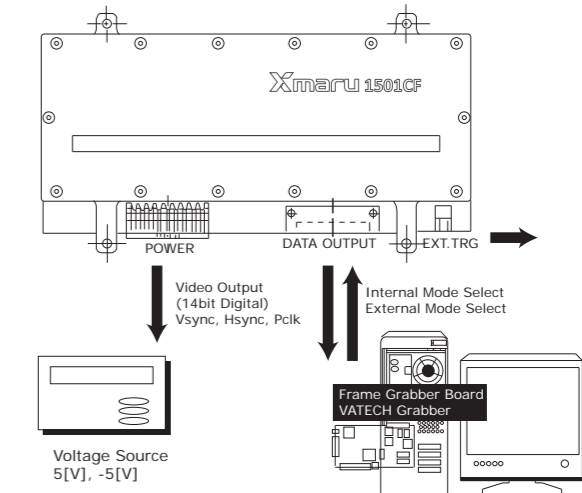
• NDT Application



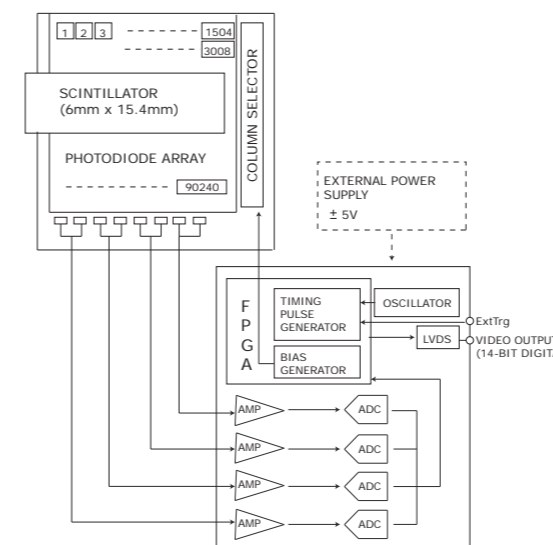
• Geometric Information



• Sensor Connection



• Block Diagram



• Specification

Parameter	Value	Unit
Sensor Type	CMOS photodiode array	-
X-ray Converter	CsI:Tl	-
Dimension (W x L x T)	175.4 x 86 x 21.6	mm
Pixel Size	0.100	mm
Cut-off Frequency	5	lp/mm
Active Area	6 x 150.4	mm
Number of Active Pixels	60 x 1504	pixels
Effective Area*1	6 x 150.4	mm
Number of Effective Pixels*1	60 x 1504	pixels
A/D	14	bits
Frame Rate Internal	300	fps
Frame Rate External	~ 280	fps
Resolution*2	4.5	lp/mm
Sensitivity*3	> 1800	ADU/μGy*4

*1: X-ray sensitive area
*2: Spatial resolution @ over MTF 5%
*3: Typical value, measured @ 80kVp, 8 mm Al filter
*4: μGy is the unit of X-ray exposure (1mR = 8.69 μGy)

• 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

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