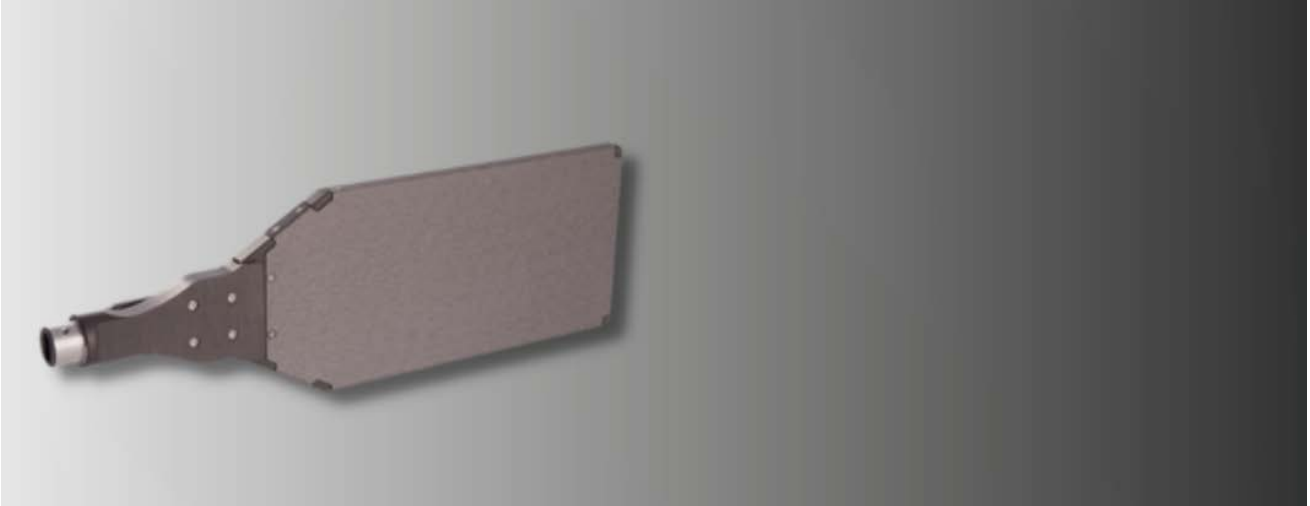


# 1510HS

## CMOS X-ray Detector



The 1510HS is a dynamic X-ray detector designed for industrial NDT applications, with a pixel pitch of 100  $\mu\text{m}$  and a Gadox scintillator. It is ideal for portable applications and weld inspection. The USB 3 interface handles data output, control and power supply. A handle can be attached for manual operation. Automatic exposure control (AED) allows the detector to be used with a portable source without synchronisation.

This detector employs a state-of-the-art CMOS sensor with 14-bit digital outputs and two gain modes offering a high dynamic range mode or a high sensitivity mode ideal for low dose, real-time imaging. The sensor is permanently bonded to a rad hard fibre optic plate (FOP) to enhance image quality and make the device more radiation tolerant. Innovative sensor design enables a frame rate of up to 66 fps and higher speeds in region of interest modes.

For developers, a windows-based SDK is available with DLLs for Windows x64. These include C++ and .NET wrappers for easy integration with customised software. Library functions include dark subtraction, gain correction and defect correction. Example code is provided, including a simple Graphical User Interface. The SDK supports Camera Link, 5 GigE and USB 3.0 communications.

### Key Features

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**Fast, low noise imaging with minimal image lag**

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**CMOS sensor bonded to fibre optic plate (FOP)**

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**High Sensitivity and High Dynamic Range modes**

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**High speed, flexible region of interest**

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**Choice of high resolution / high sensitivity CsI scintillator**

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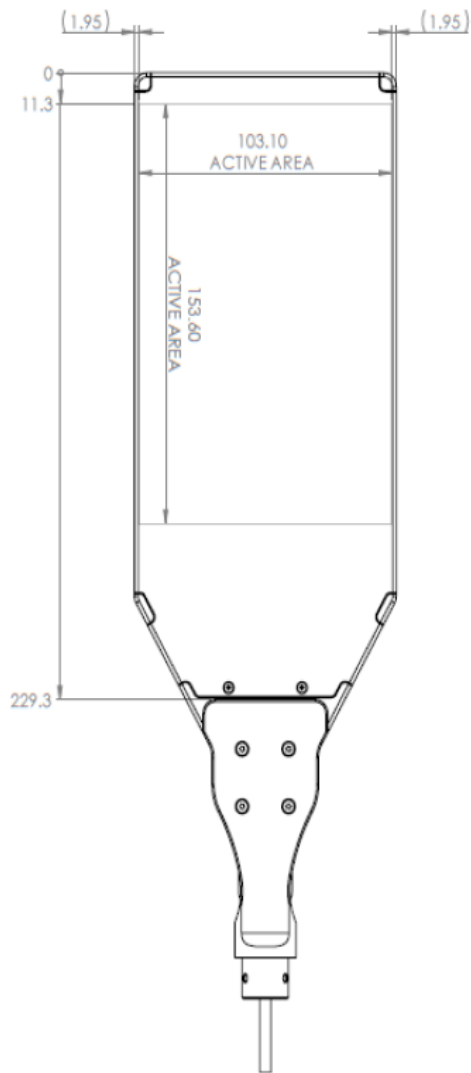
**Spectrum Logic provides a Windows SDK for rapid design-in**

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## Technical Specifications

<b>SENSOR</b>	
Pixel Size	100 $\mu$ m
Sensitive Area	103.1 $\times$ 153.6 mm <sup>2</sup>
Pixel Matrix	1031 $\times$ 1536
<b>MAX FRAME RATE</b>	
Frame Rate Full Resolution	66 fps
<b>IMAGE PERFORMANCE</b>	
Dynamic Range - High Sensitivity Mode	72
Dynamic Range - High Dynamic Range Mode	76
Bit Depth	14-bit
Max Energy	120 kV
<b>SCINTILLATOR, WINDOW &amp; FOP OPTIONS</b>	
Scintillator	High Efficiency CsI
	High Resolution CsI
	Various Gadox Screens
X-ray Window Material	Carbon Fibre
FOP	1.8 mm Rad Hard
<b>MECHANICAL</b>	
Weight (3 mm FOP)	0.8 kg
Dimensions	229.3 $\times$ 107.0 $\times$ 9.6 mm <sup>3</sup>
<b>COMMUNICATIONS</b>	
USB	High Speed USB 3.0
Trigger Mode	Continuous, SW, Auto Trigger
Software Support	64-bit Windows® OS from Windows 10
<b>POWER</b>	
Power Supply	5 V USB
Max Dissipation	5 W
<b>TEMPERATURE RANGE</b>	
Operating Range	+5 °C to +40 °C
Storage Range	-20 °C to +55 °C

# SpectrumLogic



Unless otherwise specified, Spectrum Logic 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.

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