

1615HS

CMOS X-ray Detector



The 1615HS is a dynamic X-ray detector designed for dental, pre-clinical and clinical applications, with a pixel pitch of 100 μm and a choice of high-efficiency CsI or Gadox scintillator. It is ideal for CBCT or fluoroscopy.

Innovative sensor design enables a frame rate of up to 83 fps and higher speeds in region of interest modes. The flexible region of interest function allows a region to be configured to optimise the frame rate.

This detector employs a state-of-the-art CMOS sensor with 14-bit digital outputs and two gain modes offering a high dynamic range and a high sensitivity mode with extremely low read noise, which is ideal for low dose, real-time imaging. The sensor can be provided with a permanently bonded to a fibre optic plate (FOP) to enhance image quality and make the device more radiation tolerant.

For developers, an SDK is available with DLLs for 64-bit Windows and Linux. 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 and 5GigE communications.

Key Features

Fast, low noise imaging with minimal image lag

CMOS sensor bonded to optional fibre optic plate (FOP)

High Sensitivity and High Dynamic Range modes

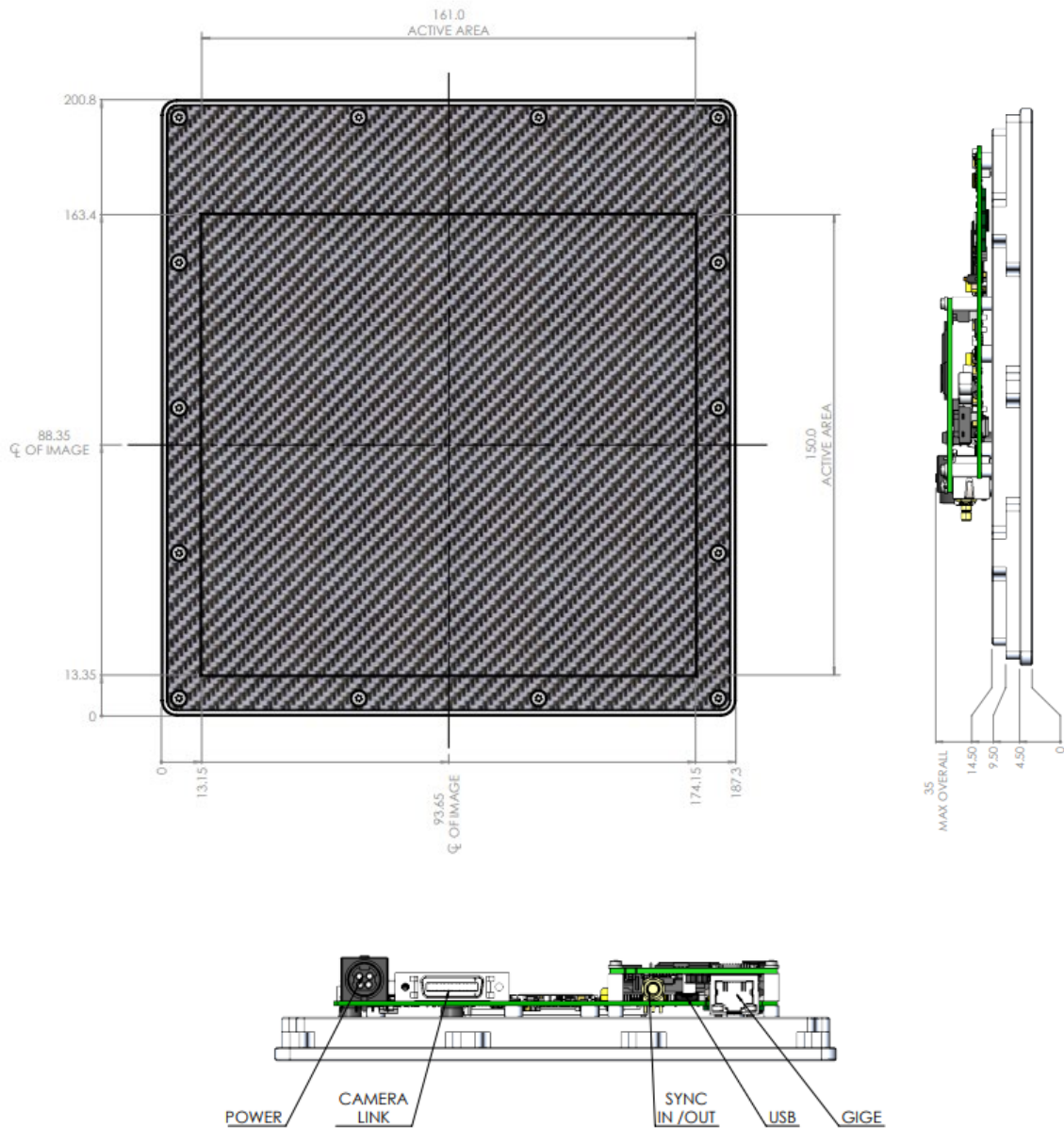
High speed, flexible region of interest for panoramic imaging

Choice of high resolution / high sensitivity CsI scintillator

Windows and Linux SDK available for rapid design-in

Technical Specifications

SENSOR	
Pixel Size	100 μ m
Sensitive Area	161.0 \times 150.0 mm ²
Pixel Matrix	1610 \times 1500
MAX FRAME RATE	
Frame Rate Full Resolution	83 fps
Frame Rate Panoramic ROI 160 X 8 mm ³	300 fps
IMAGE PERFORMANCE	
Dynamic Range - High Sensitivity Mode	70
Dynamic Range - High Dynamic Range Mode	74
Bit Depth	14-bit
Max Energy	120 kV
SCINTILLATOR, WINDOW & FOP OPTIONS	
Scintillator	High Efficiency CsI
	High Resolution CsI
	Various Gadox Screens
X-ray Window Material	Carbon Fibre
FOP (optional)	Up to 2 mm
MECHANICAL	
Weight	1.25 kg
Dimensions	200.8 \times 187.3 \times 35.0 mm ³
COMMUNICATIONS	
GigE	5 GigE
Trigger Mode	Continuous, SW, External Trigger
Software Support	64-bit Windows® and Linux
POWER	
Power Supply	24 V
Max Dissipation	10 W
TEMPERATURE RANGE	
Operating Range	+5 °C to +40 °C
Storage Range	-20 °C to +55 °C



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.

Contents in this document are subject to change without notice. ©2021 Spectrum Logic Limited. All Rights reserved.

SPECTRUM LOGIC Limited

Highgate Business Centre, 33 Greenwood Place, London NW5 1LB, UK