INLINE | DETECT

Hardware and software system for real-time X-ray scanning imaging

Areas of application

Introscopes - inspection of luggage and cargo with separation of substances by material (organics, inorganics, metals, non-metals, composites), medicine - low dose fluorography, X-ray non-destructive testing.
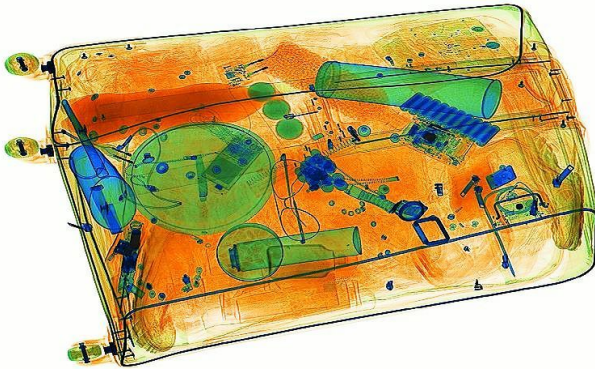
LSe-64-1.5 - Ionising radiation single-energy detector

64 pixels 1.5 mm pitch, single energy, scintillator - CsI:TI

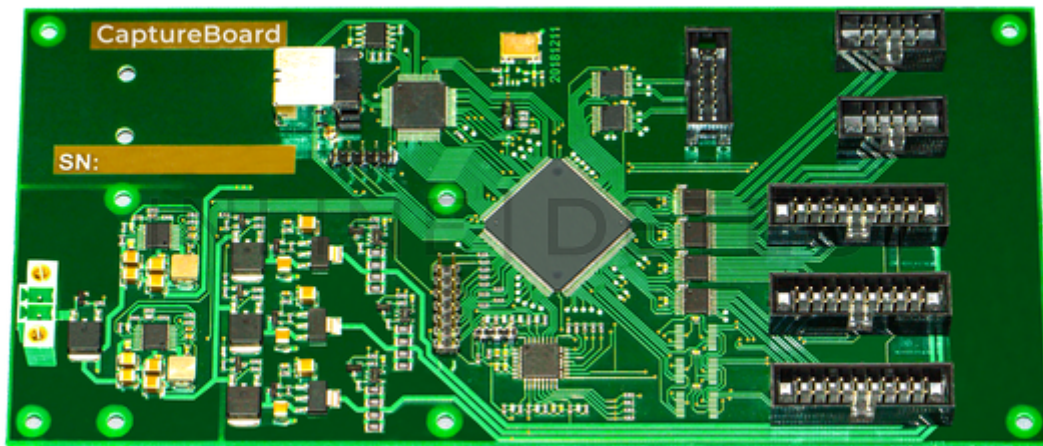# LDe-64-1.5 - Ionising radiation dual-energy detector
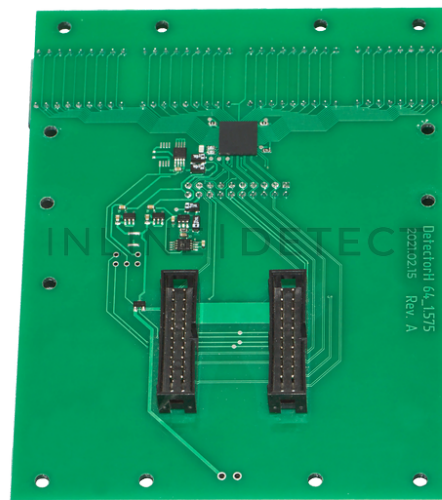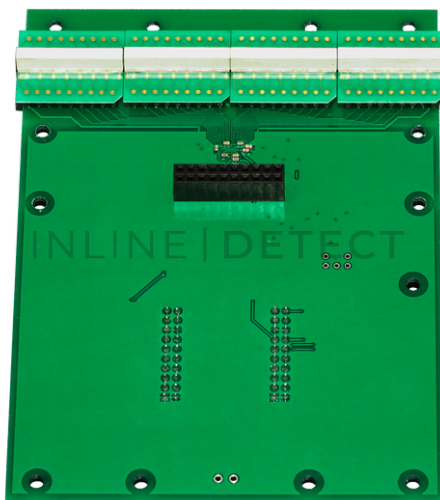
64 pixels (64 low energy + 64 high energy) 1.5 mm pitch, two energies scintillators: GOS - ceramics - high energy, CsI:TI - low energy

Modifications are available:
Pixel pitch: 0.2 mm, 0.8 mm, 1.5 mm, 2.5 mm.
Scintillators - to be specified on request.

CaptureBoard - digital imaging capture board

Combines the ionising radiation detectors (LSe-64-1.5 or LDe-64-1.5) and inputs the X-ray image to a computer via USB 2.0 in real time.

CaptureBoard can be grouped together with up to 4 boards to allow a greater number of pixels to be input simultaneously.

CaptureBoard has three channels each to which ionising radiation detectors (LSe-64-1.5 or LDe-64-1.5) are connected via a flat loop. Up to 16 LSe-64-1.5 detectors or 8 LDe-64-1.5 detectors can be connected to each loop.

One CaptureBoard can generate an image line of 16*64*3=3072 single-energy pixels (LSe-64-1.5) or 8*64*3=1536 dual-energy pixels (LDe-64-1.5). CaptureBoard readout speed is up to 1000 lines per second.
Data bit resolution 18 bit. Increase data reading speed by reducing the bit resolution to 16 bit.

Maximum possible line length: one energy (LSe-64-1.5) - 12288 pixels, two energy (LSe-64-1.5) - 6144 pixels.

Software

The software is developed using the cross-platform (windows, linux) Qt framework in C++.

Integration requires the use of a DLL.

Advantages

Superb image quality and fully digital data transmission channel - the digital graphic image is formed directly in the ionising radiation detector.

Ionizing radiation detectors operate on a specialized single-chip ASIC, protected from external interference. ASIC has a low noise level.

The development team is located in Russia.

Technical support directly from the development team.

Produced in Russia.

The InlineDetect solution can be modified to suit customer requirements: any scintillator, different pixel pitch, software modifications.