

# High Resolution X-Ray Imaging System



## CRYCAM - D

The CRYCAM - D is a high-resolution imaging system designed for detection of low energy ionizing radiation as X-rays, electrons and UV. It consist of a high-resolution CCD digital camera and a thin YAG:Ce or LuAG:Ce single crystal scintillating screen. It is used in X-ray micro-radiography applications for 2-D or 3-D imaging.



### Features

- **High radiation hardness of the imaging system**
- **High spatial resolution down to 1 micron**
- **X-rays, electron and UV detection with the same system**
- **Software includes powerful image processing**
- **Complete system solution and supply**

### Specification

CCD size: 11 Mpix, 4008 x 2672 pixels

Pixel size: 9 x 9  $\mu$ m

Field of view: 24 mm x 36 mm

Binning: 1x1 to 16x16

Reading: One or two ADC gateways

Antiblooming: SW controlled

Exposure time range: 0.8 s to 30 min

Frames accumulation: 1x to 99x

Dynamic range: up to 4000

Image acquisition: Quick preview mode/ acquire mode

Features: Background subtracting, Flat field correction

Cooling: Peltier with SW precise regulation and temperature set point

Temperatures: -30°C below the cooling watter, max. -20°C

Data interface: 100 Mbit/s Ethernet (100BASE-T)

CCD signal processing: Correlated double sampling (CDS) + 16 bit

A/D converter

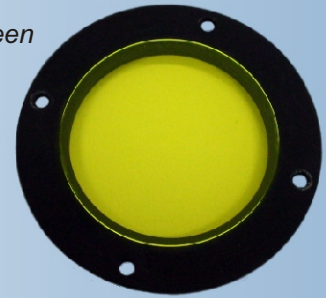


Power And Control Unit

## Basic Components

- Boxed camera head
- Optical tube with focus adjusting
- Objective (replaceable)
- Scintillator screen
- Scintillator holder (allows to change the screen)
- Anti-reflection coatings
- Power and control unit
- Peltier control unit
- Software (image acquisition and process)
- Motorized focus for imaging system for 1 micron resolution

YAG:Ce Imaging Screen



## Options

### Camera system

- Camera head equipped with camera objective
- Imaging area: 36 x 24 mm
- Optical tube with focus adjusting
- Reflecting optics (to avoid direct exposing of camera to X-ray radiation)
- Scintillator: Single crystal screen, anti-reflection coatings
- Resolution: 10 micrometers

### Microvision system

- Camera head equipped with magnification objective
- Imaging area: 3 x 2 mm (depending on used optics)
- Scintillator: Single crystal screen, anti-reflection coatings
- Optical tube with focus adjusting
- Resolution: Down to 1 micrometer

## Customizable Options

- Optional scintillator screen thickness according the desired energy range and resolution
- Different screen materials
- Optional optics
- Optional coatings (reflection, light tight)

## Applications

**Biological and medical objects**

**Composites inspection and development**

**Electronics - integrated circuits inspections**

**X-ray, UV, synchrotron beam  
inspection and measurements**

**Highly detailed X-ray ND inspections**

**Light-weight materials with pores**

**We are able to design and supply complete imaging system customized to your application.**