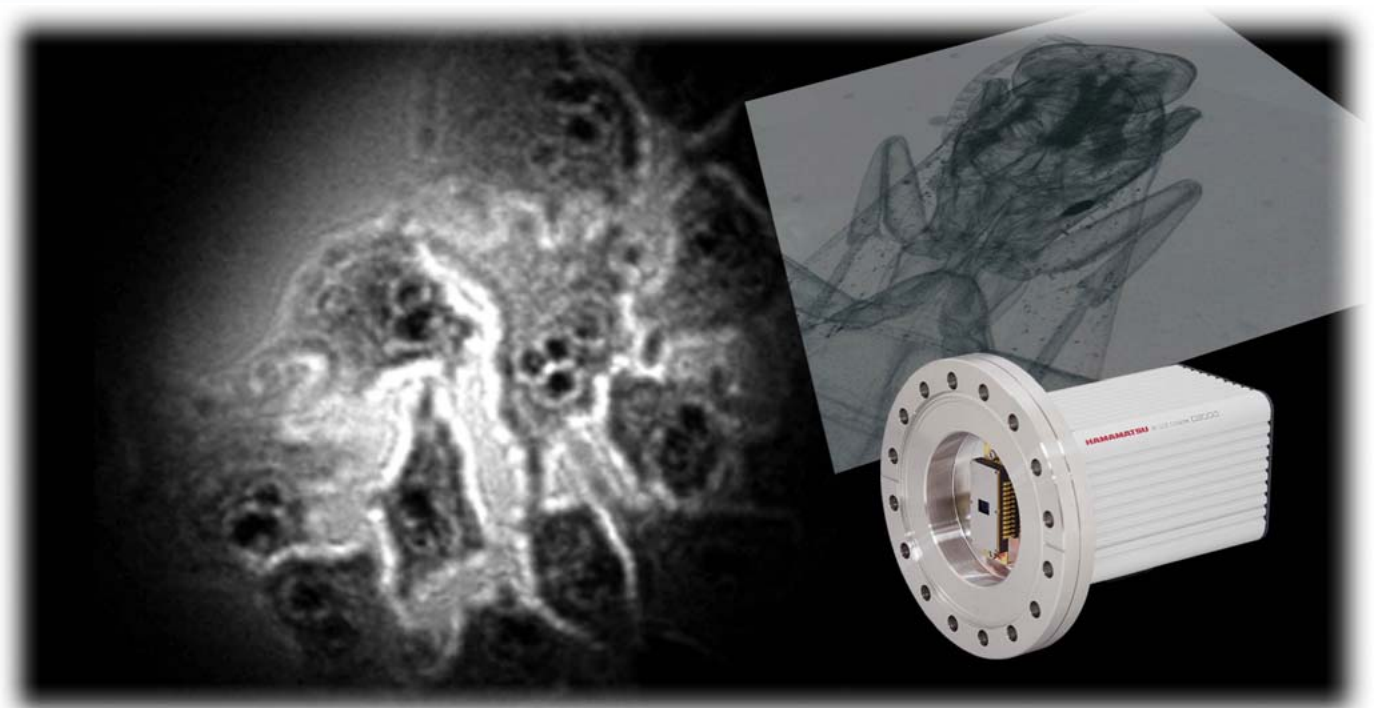


X-ray direct CCD camera C8000-30D

Production by order



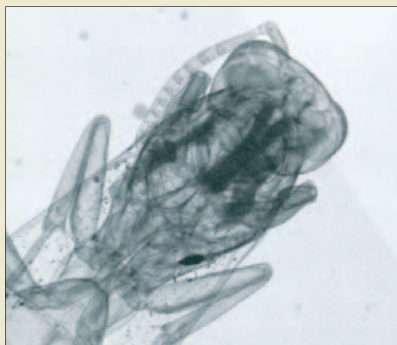
The X-ray direct CCD camera is the structure which is irradiated EUV and soft X-ray photons into CCD directly without using scintillator. Many electrons are generated in the CCD by irradiating high energy photons, so high sensitive detection is realized. The energy range of 20 eV to 10 keV is covered by back illuminated CCD.

X-ray has high energy, so it can easily damage the CCD, causing a drop in sensitivity and dark current increase according to the total incident light energy.

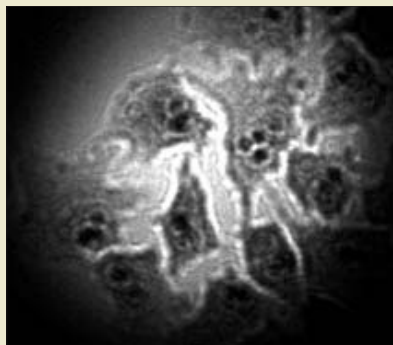
When using in the X-ray, take steps not to irradiate excessive X-ray light. In addition, extended exposure causes a drop in sensitivity, even if the intensity is not excessive. When not shot, take care to protect the CCD from X-ray.

APPLICATIONS

- X-ray microscope
- X-ray spectroscopy
- Micro-CT
- EUV lithography
- X-ray energy analysis

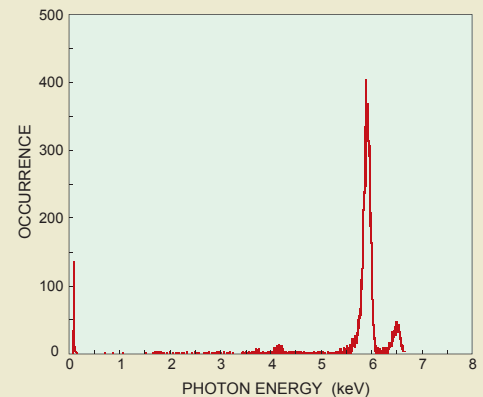


▲ X-ray transmission of a bee captured directly with CCD. Resolution and dynamic range are significantly improved over a conventional X-ray imaging method.



▲ Human HeLa cells
 $\lambda=15 \text{ \AA}$ (826.6 eV), Pinhole: 1 μm ,
pre-pinhole: 100 μm

Photo courtesy of Prof. Ito, Department of Nuclear Engineering, School of Engineering, Tokai University, Japan



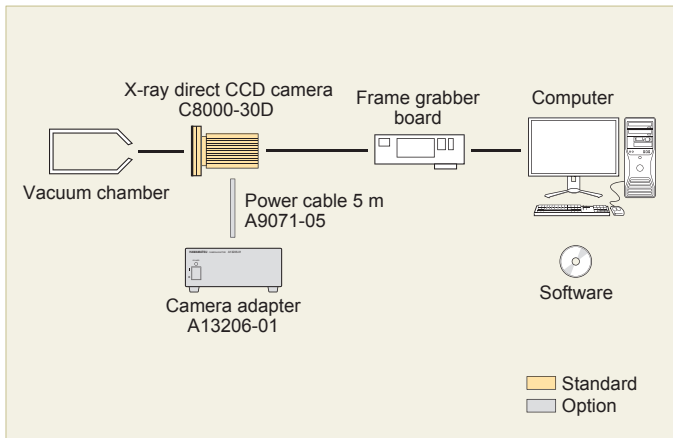
▲ Fe-55 Single Pixel Event (3% extraction)

SPECIFICATIONS

Type number	C8000-30D
Pixel number	640 (H) × 480 (V)
Pixel size	14 μm × 14 μm
CCD effective area	8.96 mm × 6.72 mm
Energy range	20 eV to 10 keV (Vacuum chamber type / without AR coating)
Frame rate	31.4 frames/s
Readout noise (typ.)	100 electrons
Cooling temperature	+ 5 °C (Ambient temperature : + 20 °C)
Full well capacity	30 000 electrons
A/D converter	12 bit
Interface	Camera Link

Please consult with HAMAMATSU for other camera selection.

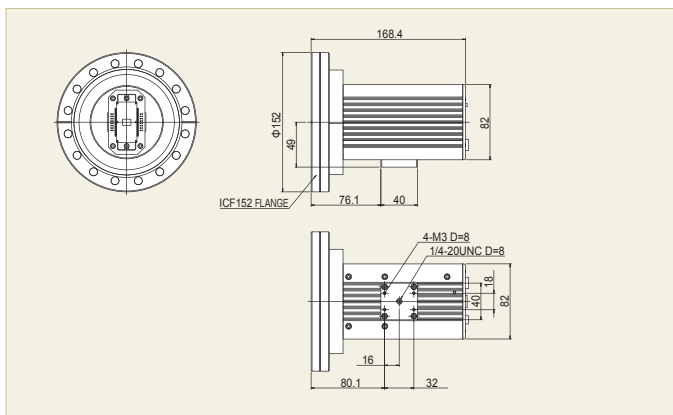
SYSTEM CONFIGURATION



OPTIONS

- Camera adapter : A13206-01
- Power cable 5 m : A9071-05

DIMENSIONAL OUTLINES (Unit : mm)



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Cat. No. SCAS0013E07
JAN/2016 HPK
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