

Hamamatsu Camera Product Highlights

Part number

C4742-96-12G04

Type

High Resolution Camera



The ORCA-285 is a high resolution digital camera using a progressive scan interline CCD chip with no mechanical shutter. In addition to a high resolution of 1.37 million pixels, a wide dynamic range of 12 bit digital output and high sensitivity offers a wide application range down to low light level imaging. Peltier cooling drastically reduces dark noise and minimizes thermal drift, which makes camera an ideal choice for demanding scientific and industrial application.

A high performance serial bus IEEE 1394 is used as a computer interface. Furthermore, a standard C-mount lens coupling makes it easy to connect to optics such as optical microscopes.

Key Specifications

Part number	C4742-96-12G04
Name of product	ORCA-285 IEEE 1394 -Based Digital Camera
Spectral response min	320 nm
Spectral response max	950 nm

Features

- Color slider enhances this camera to high resolution color camera
- High resolution of 1.37 million pixels
- Progressive scan interline CCD chip with no mechanical shutter
- Approx. 10 μ s electronic shutter to capture fast events
- Binning (2 x 2. 4 x 4. 8 x 8) function to improve sensitivity and achieve a frame rate up to 41 Hz
- Low dark noise with peltier cooling for a dynamic range of more than 60dB
- Compatible with IIDC 1394-based digital camera specification
- Full remote control from PC via IEEE 1394 bus

Applications

- Routine Fluorescence Microscopy
- Green Fluorescent Protein applications
- DNA and Ploidy analysis
- Red and Near infrared fluorescent applications
- Fluorescence In Situ Hybridization studies
- Motility and Motion analysis
- Combined DIC/Phase and Fluorescence
- Histology. Pathology and Cytology
- Metallurgical microscopy
- Failure analysis
- Semiconductor inspection
- X-ray scintillator readout

Imaging device	ICX-285 Progressive scan interline CCD
Shutter	Electronic
Horizontal number of pixels	1344
Vertical number of pixels	1024
Cell size - horizontal	6.45 μm
Cell size - vertical	6.45 μm
Effective Horizontal Size	8.67 mm
Effective Vertical Size	6.6 mm
Pixel clock rate Scan Mode 1	14.75 MHz
Frame Rate Scan Mode 1	41 with binning fps
Read noise Scan Mode 1	8 e ⁻ r.m.s.
Full well capacity Scan Mode 1	1.8E+04 electrons
Dynamic Range Scan Mode 1	2250:1
A/D converter Scan Mode 1	12 bits
Output type	RS644 (LVDS)
Cooling Method	Peltier cooling. air radiation system
Cooling Temperature	5 °C
Output type	IEEE 1394
Exposure time min	0.01 ms
Exposure time max	10 secs
External control	IIDC 1394
Sub-array	Yes
Binning	Yes
External trigger	Yes
Contrast Enhancement	Analog, Offset
Lens mount	C-Mount
Line voltage	100/117/220/240 50/60
Power consumption	70 VA

