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Find the *Hamamatsu C4742-95-12NRB* at our website: *Click HERE*

ORCA-100 (Model C4742-95)
Cooled Digital Camera



The ORCA series of cameras are high resolution digitals camera using a progressive scan interline CCD chip with no mechanical shutter. In addition to a high resolution of 1.3 million pixels and 10 or 12 bit digital output, they offer a wide dynamic range and high sensitivity.

Based on the special Sony ICX-061 chip, ORCA cameras are suitable for a wide range of applications. This CCD chip provides exceptional sensitivity in the UV and blue to green spectrum and electronic shuttering from 80 microseconds to 10 seconds integration. Peltier cooling* drastically reduces dark noise and minimizes thermal drift, making these cameras an ideal choice for demanding scientific and industrial applications. A unique feature provides on the fly contrast enhancement of any image. RS422A digital output insures compatibility with a large variety of commercially available frame grabber boards. Furthermore, a standard C-mount lens coupling makes it easy to connect to optical microscopes and standard macro lenses.

*Peltier Cooling cools the CCD element to 15 degrees less than the ambient temperature. At 10 seconds integration, this is less than one count of dark noise.

Features

- High Resolution of 1.3 million pixels
- Unique Analog Gain and Offset for Contrast Enhancement
- Full remote control from PC
- Progressive Scan Interline CCD chip with no mechanical shutter
- Low readout noise 10-15 electronics r.m.s. (typ.)
- Full Resolution readout at 9 frames/sec
- Binning (2x2 up to 8x8) function increases sensitivity up to 64X and frame rates up to 60 frames/sec
- Peltier Cooling lowers dark noise for a dynamic range of more than 60 dB

Applications

- Fluorescent antibody techniques
- DNA cytometry
- Brightfield, DIC, Phase Contrast and Dark-field images
- Particle tracking
- Calcium Imaging
- Multi-mode Imaging
- Green Fluorescent Protein

ORCA Camera Options and Part Numbers

ORCA 100 Series

- **Primary Features**
  - 14.7 MHz readout rate with 10 electrons read noise
  - UV versions have no microlenses, MAX QE is less than 10%
  - Cooled to 5 degrees C, thermal noise only 1 electron/pixel/second
  - Interline transfer and Hyper HAD technology

- **Types by Part Number**
  - C4742-95-10NR ORCA 100, 1.3MB Digital, 10 Bit
  - C4742-95-10NRB ORCA 100, 1.3MB Digital, 10 BIT, 8x8 Binning
  - C4742-95-12NR ORCA 100, 1.3MB Digital, 12 BIT
  - C4742-95-12NRB ORCA 100, 1.3MB Digital, 12 BIT, 8X8 Binning
  - C4742-95-10NRU ORCA 100, 1.3MB Digital, 10 BIT, UV Version
  - C4742-95-12NRU ORCA 100, 1.3MB Digital, 12 BIT, UV Version
  - C4742-95-10NRC ORCA 100, 1.3MB Digital, 10 BIT, 8X8 Binning , UV
  - C4742-95-12NRC ORCA 100, 1.3MB Digital, 12 BIT, 8X8 Binning , UV

ORCA II Series

- **Primary Features of ORCA II**
  - 1) Fast Scan mode offers 10 MHz readout rate with 10 electrons read noise
  - 2) High Precision mode offers 1.25 MHz readout rate with 3-5 electrons read noise
  - 3) Waterless cooling to -40C or better reduces thermal noise to 0.001 electrons/pixel/second
  - 4) Interline transfer and Hyper HAD technology
  - 5) High Dynamic Range Mode offers 10,000:1 Dynamic Range

- **Types of ORCA II by Part Number**
  - C4742-98-22NR ORCA II, 1.3MB Digital, 12 BIT Fast Scan/12 Bit High Precision
  - C4742-98-24NR ORCA II, 1.3MB Digital, 12 BIT Fast Scan/14 Bit High Precision

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