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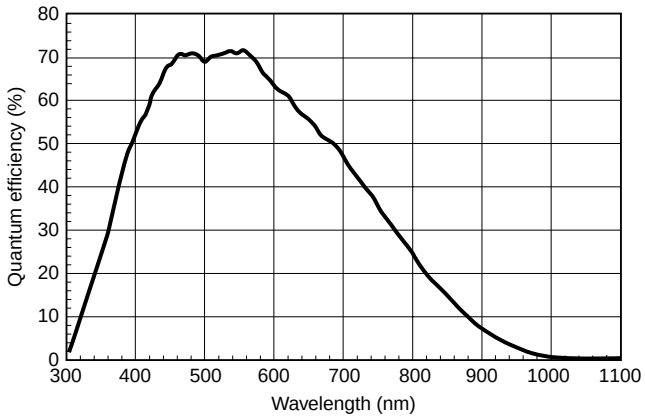
DATA SHEET

High Resolution Digital B/W CCD Camera

ORCA-ER



SPECTRAL RESPONSE CHARACTERISTIC



★ This is typical, not guaranteed

The ORCA-ER is a B/W CCD digital camera using an advanced progressive scan interline CCD chip with high sensitivity in VIS-NIR region offering substantially better noise characteristics at high frame rates. The Peltier cooled hermetic vacuum-sealed head can be cooled to -20˚C, reducing dark noise and minimizing thermal drift which makes this camera an ideal choice for demanding scientific and industrial applications.

RS422A digital output ensures compatibility with a large number of commercially available frame grabber boards. In addition, a standard C-mount lens coupling makes it easy to connect to optical microscopes and lenses. Fast electronic shuttering , fast readout and low noise integration all combine to make this camera a great choice for both high and low level imaging applications.

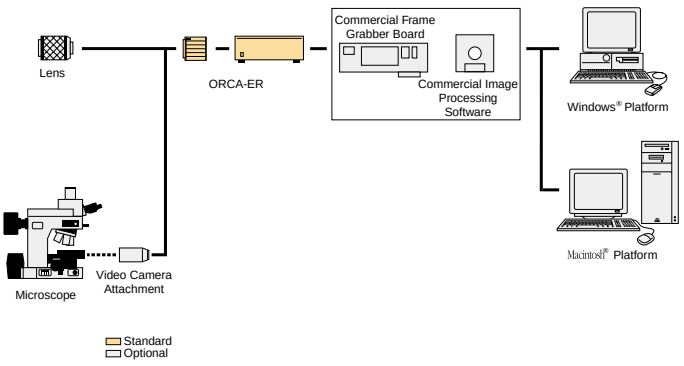
FEATURES

- **High sensitivity in VIS-NIR region**
- **Hermetic vacuum sealed head**
- **High resolution of 1.37 million pixels**
- **Exposure time up to 10 sec**
- **Low dark noise with peltier cooling for a dynamic range of 3 000 : 1**
- **Progressive scan interline CCD chip with no mechanical shutter**
- **Binning function for improved sensitivity**
- **Full remote control from PC**

APPLICATIONS

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

SYSTEM CONFIGURATION



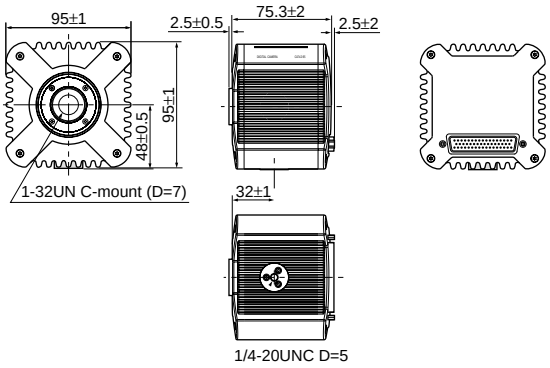
SPECIFICATIONS

Type number			C4742-95-12ER
Camera head type			Hermetic vacuum-sealed air-cooled head
Imaging device			ER-150 progressive scan interline CCD
Effective number of pixels			1344 (H) × 1024 (V)
Cell size			6.45 µm (H) × 6.45 µm (V)
Effective area			8.67 mm (H) × 6.60 mm (V)
Pixel clock rate			14.75 MHz/pixel
Frame rate	1 × 1		8.3 frame/s
	binning	2 × 2	16 frame/s
		4 × 4	28 frame/s
		8 × 8	45 frame/s
Readout noise (r.m.s.) typ.			6 electrons
Full well capacity typ.			18000 electrons
Dynamic range* typ.			3000 : 1
Cooling method			Forced air peltier cooling, with hermetic sealing
Cooling temperature			- 20 ˚C
Dark current			0.1 electrons/pixel/s
A/D converter			12 bit
Exposure time			10 µs to 10 s
Sub-array			yes
Contrast enhancement			Analog gain (10times max.) and offset function
External trigger			yes
Lens mount			C-mount
Interface / Output signal (digital output)			RS-422A / 12 bit parallel output
External control			RS-232C (full remote for all camera functions)
Line voltage			AC 100 V / AC 117 V / AC 220 V/ AC 240 V, 50/60 Hz
Power comsumption			approx. 70VA
Ambient storage temperature			- 10 ˚C to + 50 ˚C
Ambient operating temperature			0 ˚C to + 40 ˚C
Ambient storage/operating humidity			70 % max. (no condensation)

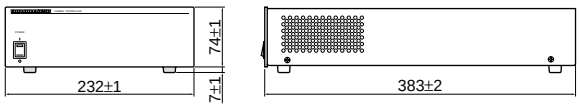
*Calculated from the ratio of the full well capacity and the readout noise

DIMENSIONAL OUTLINES (Unit: mm)

- **Camera head (approx. 1.3 kg)**



- **Camera controller (approx. 6.2 kg)**



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Homepage Address http://www.hamamatsu.com

HAMAMATSU PHOTONICS K.K., Systems Division
812 Joko-cho, Hamamatsu City, 431-3196, Japan, Telephone: (81)53-431-0124, Fax: (81)53-435-1574, E-mail:export@sys.hpk.co.jp

U.S.A. and Canada: Hamamatsu Photonic Systems: 360 Foothill Road, Bridgewater, N.J. 08807-0910, U.S.A., Telephone: (1)908-231-1116, Fax: (1)908-231-0852, E-mail: usa@hamamatsu.com
Germany: Hamamatsu Photonics Deutschland GmbH: Arzbergerstr. 10, D-82211 Herrsching am Ammersee, Germany, Telephone: (49)8152-375-0, Fax: (49)8152-2658, E-mail: info@hamamatsu.de
France: Hamamatsu Photonics France S.A.R.L.: 8, Rue du Saule Trapu, Parc du Moulin de Massy, 91882 Massy Cedex, France, Telephone: (33)1 69 53 71 00, Fax: (33)1 69 53 71 10, E-mail: infos@hamamatsu.fr
United Kingdom: Hamamatsu Photonics UK Limited: 2 Howard Court, 10 Tewin Road, Welwyn Garden City, Hertfordshire, AL7 1BW, U.K., Telephone: (44)1707-294888, Fax: (44)1707-325777, E-mail: info@hamamatsu.co.uk
North Europe: Hamamatsu Photonics Norden AB: Smidesvägen 12, SE-171-41 Solna, Sweden, Telephone: (46)8-509-031-00, Fax: (46)8-509-031-01, E-mail: info@hamamatsu.se
Italy: Hamamatsu Photonics Italia S.R.L.: Strada della Mois, 1/E 20020 Arese (Milano), Italy, Telephone: (39)02-935 81 733, Fax: (39)02-935 81 741, E-mail: info@hamamatsu.it

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