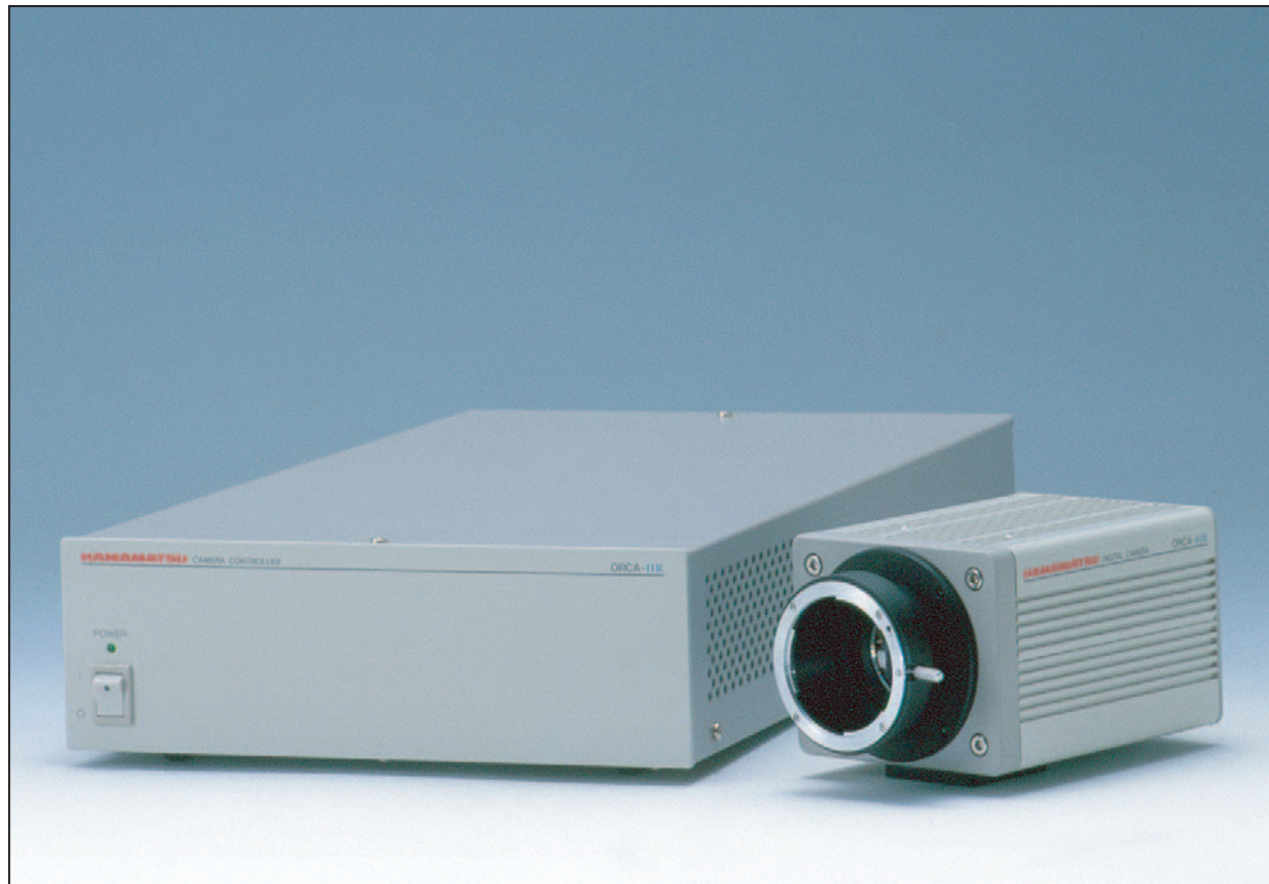


High Resolution Digital Camera ORCA-HR C4742-95-12HR



The ORCA-HR is a high resolution digital camera using a large format interline CCD chip with no mechanical shutter. In addition to a high resolution of 10 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 the camera an ideal choice for demanding scientific and industrial applications.

FEATURES

- High resolution of 10 million pixels
- Large format interline CCD chip with no mechanical shutter
- Vertical overflow drain structure
- Anti-blooming function
- Low dark noise with peltier cooling
- Binning (2×2 , 4×4) function to improve sensitivity
- Shortest exposure time : 330 μ s capture fast events
- Lens coupling : F-mount, ENG (optional)
- Full remote control from PC via RS-232C

SPECIFICATIONS

Imaging device		Large format Interline CCD (HR-1000)	
Effective no. of pixels		4000 (H) × 2624 (V)	
Cell size		5.9µm × 5.9µm (square format)	
Effective area		23.6mm × 15.5mm	
Pixel clock rate		20.0M Hz/pixel	
Frame rate (No. of pixels)	Interlace scan	1.7 frame/sec (4000 (H) × 2624 (V))	
	Binning scan	2 × 2	3.4 frame/sec (2000 (H) × 1312 (V))
		4 × 4	6.4 frame/sec (1000 (H) × 656 (V))
	Outline scan	8.9 frame/sec (664 (H) × 422 (V))	
Readout noise		13 electrons r.m.s. typ.	
Full well capacity		13,300 electrons	
Dynamic range ^①		1000 : 1	
Cooling method		Peltier cooling, Air radiation system	
Cooling temperature		+5°C to +7°C	
Dark current		0.5 electron/pixel/sec typ.	
A/D converter		12 bit	
Output signal (digital output)		TIA/EIA-644(LVDS) parallel output 12 bit	
Exposure time		330 µs to 10s	
External control		RS-232C (full remote for all camera functions)	
Sub array ^②		yes	
External trigger		Level or Edge trigger (available only at binning mode)	
Contrast enhancement		Analog gain (10 times max.) and Offset functions	
Lens mount		F-mount	
Line voltage		100V/117V/220V/240V AC, 50/60Hz	
Power consumption		Approx. 90VA	
Ambient storage temperature		-10°C to +50°C	
Ambient operating temperature		0°C to +40°C	
Ambient storage/operating humidity		70% max. (no condensation)	

① Calculated from the ratio of the full well capacity and average readout noise

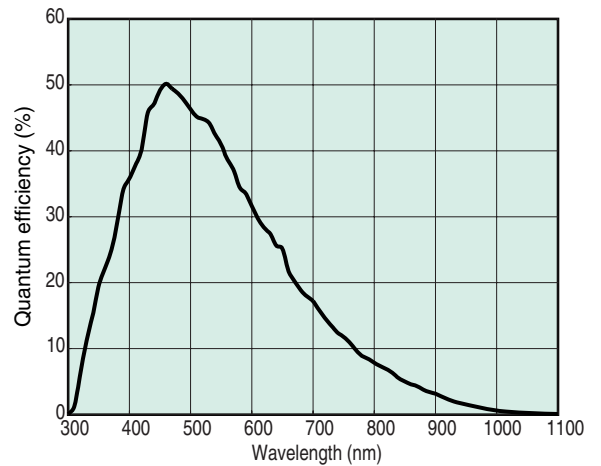
② The sub-array setting is available only with binning mode.

	Horizontal width	Horizontal offset	Vertical width	Vertical offset
2 × 2 binning	8 × n	8 × n	8 × n	8 × n
4 × 4 binning	8 × n	8 × n	8 × n	8 × n
n	0 ≤ n ≤ 500	0 ≤ n ≤ 499	0 ≤ n ≤ 328	0 ≤ n ≤ 327

Software development kit

- Platform ----- Windows95 / 98 / NT
- Language ----- Visual C++
- Frame grabber board ----- Coreco PC-DIG
- Functions ----- Image data capture
ORCA-HR camera control

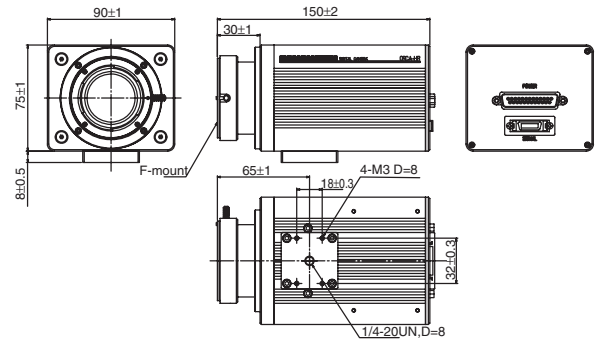
Spectral response characteristics



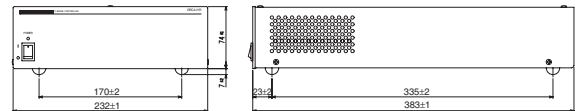
★ This is typical, not guaranteed

DIMENSIONAL OUTLINE (Unit : mm)

Camera head (approx. 1.2kg)



Control unit (approx. 5.9kg)



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