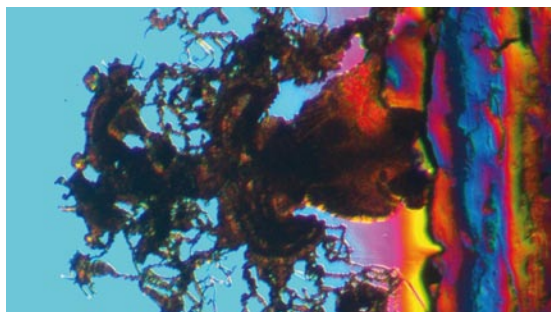
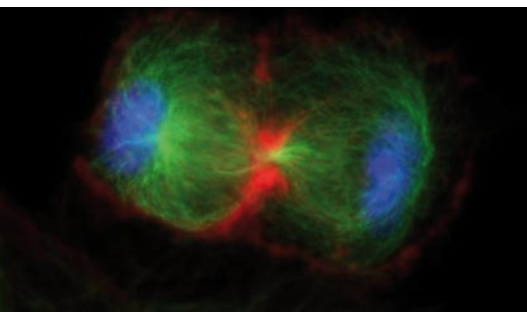




## ProgRes<sup>®</sup> CCD Research Cameras

### Discover highest image quality



#### Highest image quality

The high sensitivity of the color and monochrome ProgRes<sup>®</sup> CCD Research cameras warrants brilliant images, especially when working with low-light specimens. Expeditious and smooth operation is provided by sensitive CCD sensors with high frame rates and a broad dynamic range. Especially the cooled camera models are adapted to handle mainly low-noise long-time exposures.

#### ProgRes<sup>®</sup> CS / MS for highest sensitivity

Due to the very large pixel size of 8.3  $\mu\text{m}$  these USB 2.0 cameras are especially suitable for most sensitive applications, where also a very fast live image is required. Even moving objects can be recorded and fast processes can be followed up.

#### ProgRes<sup>®</sup> C14<sup>plus</sup> for true colors

For detailed image analysis and informative image documentation, the Microscanning technology provided in the

scanning ProgRes<sup>®</sup> CCD Research cameras allows for capturing overview images and details in high-resolution of up to 12.5 mega pixels. The ProgRes<sup>®</sup> C14<sup>plus</sup> offers genuine color reproduction in proper detail with up to 12.5 mega pixels. Its patented Color-Co-Site-Sampling records the color information exactly in three color channels for an absolutely real color image.

#### Benefits

- High frame rates
- Perfect color reproduction
- Highest image resolution
- High sensitivity and low noise
- Fit to any PC and microscope
- Free ProgRes<sup>®</sup> capture software for easy operation
- Safe investment
- Excellent price-performance ratio

# ProgRes® CCD Research Cameras

## Discover highest image quality

### Specifications

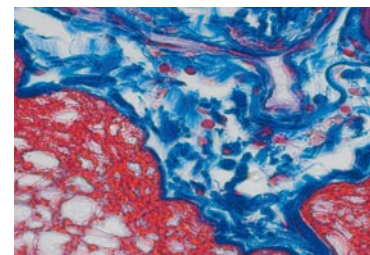
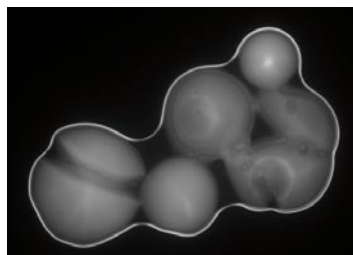
ProgRes® camera type	CS / MS USB	CF / MF   CF / MF USB	CF <sup>cool</sup> / MF <sup>cool</sup>	CF <sup>scan</sup> / MF <sup>scan</sup> / C14 <sup>plus</sup>
Image sensor	1/2" CCD progress. scan	2/3" CCD progress. scan	2/3" CCD progress. scan	2/3" CCD progress. scan
Color / Monochrome	Color / Monochrome	Color / Monochrome	Color / Monochrome	Color / Monochrome
Sensor resolution [max]	768 x 576 pixel [0.45 Mpix]	1360 x 1024 pixel [1.4 Mpix]	1360 x 1024 pixel [1.4 Mpix]	1360 x 1024 pixel [1.4 ... 12.5 Mpix]
Active sensor size [H x V]	7.07 mm x 6.05 mm	8.8 mm x 6.6 mm	8.8 mm x 6.6 mm	8.8 mm x 6.6 mm
Pixel size	8.3 µm <sup>2</sup>	6.45 µm <sup>2</sup>	6.45 µm <sup>2</sup>	6.45 µm <sup>2</sup>
A / D conversion	12 bit	14 bit   12 bit <sup>1)</sup>	14 bit	14 bit
Pixel clock	29.5 MHz	12 MHz   24.5 MHz	12 MHz   24.5 MHz	12 MHz   24.5 MHz
Dynamic range	68 dB	65 ... 67 dB	67 ... 69 dB	67 ... 69 dB
Exposure times	50 µs ... 80 s	94 µs ... 180 s   20 µs ... 180 s <sup>1)</sup>	94 µs ... 300 s	94 µs ... 300 s   600 s <sup>2)</sup>
Analog gain	1x ... 5x (SDK)	1x ... 8x   1x ... 14x <sup>1)</sup> (SDK)	1x ... 8x	1x ... 8x
Max. frame rate [image size]	50 fps [768 x 576 pixel]	13 fps [1360 x 1024 pixel] 51 fps [680 x 512 pixel] 15 fps [1360 x 1024 pixel] <sup>1)</sup> 26.5 fps [680 x 512 pixel] <sup>1)</sup>	13 fps [1360 x 1024 pixel] 51 fps [680 x 512 pixel]	13 fps [1360 x 1024 pixel] 51 fps [680 x 512 pixel]
Image resolution	Binning: no Microscan.: no True color: no	2x ... 10x   2x, 4x, 8x <sup>1)</sup> (SDK) no no	2x ... 10x (SDK) no no	2x ... 10x   3x, 5x <sup>2)</sup> (SDK) 4080 x 3072   2720 x 2048 yes <sup>2)</sup>
Cooling	no	no	yes	yes
Digital interface	USB 2.0	FireWire a   USB 2.0 <sup>1)</sup>	FireWire a	FireWire a
Optical connection	C-Mount (0.63x TV pref.)			
Trigger In / Out	yes			
Voltage supply	USB powered	FireWire   USB <sup>2)</sup> powered	FireWire powered	FireWire powered
Power consumption	approx. 2.2 W	approx. 5 W   2.5 W <sup>1)</sup>	approx. 8 W	approx. 8 W
Ambient conditions	Temperature: 0 °C ... +35 °C / Humidity: 5 % ... 80 %, non condensing			
Storage conditions	Temperature: -20 °C ... +70 °C			
Dimensions [L x W x H]	89 mm x 84 mm x 93 mm [USB]		145 mm x 93 mm x 123 mm [FireWire]	
Weight	approx. 700 g	approx. 700 g / 800 g	approx. 800 g	approx. 800 g
Application software	ProgRes® CapturePro for PC (TWAIN only for PC) / MAC support only for Firewire cameras			
SDK	ProgRes® SDK for PC for all cameras / MAC & Linux support only for Firewire cameras			
External camera driver	available at: <a href="http://www.jenoptik.com/progres">www.jenoptik.com/progres</a>			
Hardware requirements	PC: MS WIN XP/ Vista /WIN 7   Mac: OS X 10.4 or higher 3 GHz CPU, 1 GB RAM, 256 MB graphics, FireWire a or USB 2.0, Multicore recommended			

Specification only for <sup>1)</sup> CF / MF USB, <sup>2)</sup> C14<sup>plus</sup>.

### Fields of Application

Image analysis, documentation and archiving in micro- and macroscopy in the fields of:

- Fluorescence microscopy
- Phase contrast microscopy
- Macroscopy
- Material science, geology & mineralogy
- Life science, diagnostics
- Quality control
- Pathology & cell biology
- Forensics



It is our policy to constantly improve the design and specifications. Accordingly, the details represented herein cannot be regarded as final and binding.



JENOPTIK | Optical Systems  
Digital Imaging Business Unit  
JENOPTIK Optical Systems GmbH  
Goeschwitzer Strasse 25 | 07745 Jena | Germany  
Phone +49 3641 65-3083 | Fax -2144  
[progres.os@jenoptik.com](mailto:progres.os@jenoptik.com) | [www.jenoptik.com/progres](http://www.jenoptik.com/progres)

Office USA:  
JENOPTIK Optical Systems, Inc.  
1 Industrial Parkway | Easthampton, MA 01027 | USA  
Phone +1 413 527 0079 Ext. 300 | Fax +1 413 527 5132  
[progres.os@jenoptik.com](mailto:progres.os@jenoptik.com) | [www.jenoptik.com/progres](http://www.jenoptik.com/progres)