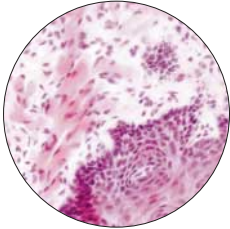


Penguin 150CL & 600CL

1.5 & 5.8 Million Pixel Digital Camera Systems

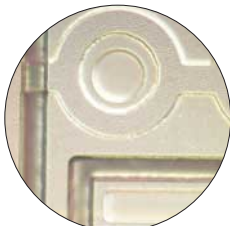
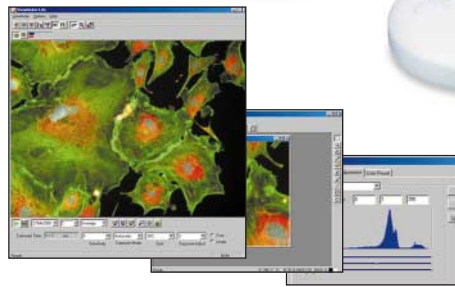
with COOLED CCD

Windows® & Mac® OS



Brightfield


 DAPI, wu
Fluorescence

 DAPI, wig
Fluorescence

 Integrated Circuit Wafer
Nomarski


15fps Color Viewfinder (640x480 pixels), Studio and Level Adjustment

1.5 Million Pixels - Penguin 150CL (0 Defect CCD)
5.8 Million Pixels¹⁾ - Penguin 600CL (0 Defect CCD)
Excellent Sensitivity, 0.01lux
High Signal-to-Noise Ratio: 62dB
COOLED CCD for reduced noise
Up to 15fps Color Viewfinder (640x480)
24/48 bit RGB True Color Imaging
High Sensitivity Fluorescence
Long Integration Exposure Up to 64min
Live Specimen Capture @ 1.5M Pixels

¹⁾ 5.8 million pixels is achieved by patented DiRactor™ technology.

Applications:

- High Sensitivity Fluorescence
- Darkfield Transmitted/Reflected
- Brightfield Transmitted/Reflected
- Polarized Light
- Phase Contrast
- DIC / Nomarski Transmitted/Reflected
- High Reflective Surface
- Industrial Low Light
- Confocal Microscopy

Penguin 150CL & Penguin 600CL - COOLED CCD Digital Camera Systems

The Penguin 150CL & Penguin 600CL are the most sophisticated Digital Camera Systems in Pixera's product range. Designed specifically for the most demanding imaging requirements, both systems feature a 4 stage peltier cooling device allowing for long exposure times, reducing the CCD operating temperature by 20°C compared with a non-cooled condition. Coupled with advanced frame averaging and integration functions, the system will enable you to capture fluorescence and darkfield images with reduced thermal noise. Unlike other digital camera systems which increase resolution using software interpolation, the Penguin 600CL allows for a true optical resolution of 5.8 million pixels using Pixera's proprietary DiRactor™, light-swinging opto-mechanical technology. The Penguin 150CL offers you up to 1.5 million pixels.

Either system will provide you with very high image capture quality, true color 24/48 bit RGB, excellent sensitivity and dynamic range. When you need the absolute highest image quality and resolution for archiving, digital zoom-in and publishing, the Penguin 600CL with a maximum of 5.8 Million Pixels and 48-bit RGB is your best choice.

A fast color viewfinder with up to 15 frames per second and focus indicator makes it quick and easy to focus. All of Penguin 600CL & Penguin 150CL pre-exposure default settings are adjustable via easy controls and indicators in the Viewfinder including unlimited saving of prior capture settings for future use. The included Hand Switch allow the user to remotely capture images without moving attention away from the microscope. There are also options that offer solutions for different needs.

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Camera System Features

- Resolutions:
Penguin 600CL: 2776x2074, 1392x1040, 640x480
Penguin 150CL: 1392x1040, 640x480
- Image Sensor: 1/2", 0 defect, 1.5M pixel Color CCD
- COOLED CCD for reduced dark current noise
- Sensitivity: 0.01lux
- S/N Ratio: 62dB
- Dynamic Range: 60dB
- Color Depth: 24 or 48 bit RGB
- Image Processing Speed*: 5-20sec
- Viewfinder**: 15 fps @ 640 x 480 pixels
- Long Integration Exposure, up to 64 min***
- Sensitivity: ISO 50/100/200/400
- Save & Preload Prior Image Capture Settings
- RGB Color Specific Enhancement
- Spot Detection (Variable size and location)
- Hand Switch (Included with Penguin 600CL)

COOLING System

- Type: 4 Stage Thermoelectric Peltier Device
- Cooling Temperature****: -20°C (±4°C)
(Without cooling fan)
- Time to reach: 2min (±30sec)

Penguin/Pro Application Suite

- Windows®:
- Pixera Viewfinder
 - Pixera Studio
 - TWAIN Viewfinder
- Mac® OS:
- Pixera Studio
 - Adobe® Photoshop® Plug-In

Options See separate datasheets for these items.

- Penguin/Pro-HS: Hand Switch (Remote Image Capture)
- Penguin/Pro-FS: Foot Switch (Hands Free Image Capture)
- Penguin/Pro-CS: Camera Switch
- Penguin/Pro-LC: L-Shaped Connector

Image Formats

- BMP, JPEG, TIFF, PICT, Flash Pix

System Requirements

- Windows® 95/98/Me/NT/2000/XP
- Mac® OS 9.0-9.2.x
- Interface: PCI slot for desktop PC
- CPU (Windows®): 300MHz or faster
- CPU (Mac® OS): Blue/White G3 or later
- RAM (Windows®): 128MB or more
- RAM (Mac® OS): 256MB or more
- HDD: 100MB of free space or more
- Monitor: 1024 x 768 pixels or more
- Color: 16 bits. 24bits or more recommended

* Including the processing time to display

** Maximum frame rate is system dependent

*** Maximum exposure time

**** 20°C below compared with a non-cooled condition