

New instruments to come



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Dear reader,

We are very excited here at CAMAG about several new developments for thin-layer chromatography that will be released in the very near future.

In this CAMAG flash we present the first: Our new DigiStore 2 Documentation System. The target for this development project was to fulfill the needs of a typical customer who does not want to think about aperture, exposure time, white adjust, zoom, etc. With Digi-Store 2 this has been accomplished. Now all you need to do is position the plate, turn on the appropriate illumination and press the capture button. In less than one second you will have a perfect image but possibly more importantly, each time you produce an identical plate, the image will be identical as well.

Read more about DigiStore 2 in the main topic and have a look at www.camag.com/digistore2 for further details.

News & Events

- InCom 2005 29–31 March 2005 Duesseldorf/GERMANY Venue: Heinrich-Heine-Universität, Düsseldorf. CAMAG product presentation and lectures. www.iccam2005.org.sg/pre-congress_workshop.html
- ILMAC 2005 24–27 May 2005 Basel/SWITZERLAND Venue: Messe Basel, hall 1.1/booth E52. Presentation of new products DigiStore 2 and ADC 2. www.ilmac.ch
- Planar Chromatography Symposium 29–31 May 2005, Siófok, Hungary. Presentation of new products DigiStore 2 and ADC 2.
- New CAMAG TLC Catalog including CD. www.camag.com/cat2005
- Links to new CAMAG products: Automatic Developing Chamber ADC 2 www.camag.com/adc2 DigiStore 2 Documentation with 12bit CCD Camera. www.camag.com/digistore2

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Flash

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New Documentation System with high resolution 12bit CCD Camera

The new CCD camera combines the spatial resolution of about to 0.1 mm² with an exceptional color fidelity, a linear 12bit digitalization (4095 levels per color channel) and a low noise electronics circuitry. The high dynamic range available with this camera makes it possible to detect e.g. impurities at ppm range – an important feature for TLC documentation since it makes an important difference if digitalization allows linear steps of 0.025% (this camera) or non-linear steps of approx. 0.1% resolution only (8bit consumer camera). Another important feature is the exceptional reproducibility of the image, which can only be achieved with a highly linear CCD permitting extremely good control of exposure times.

The following important features also need mentioning:

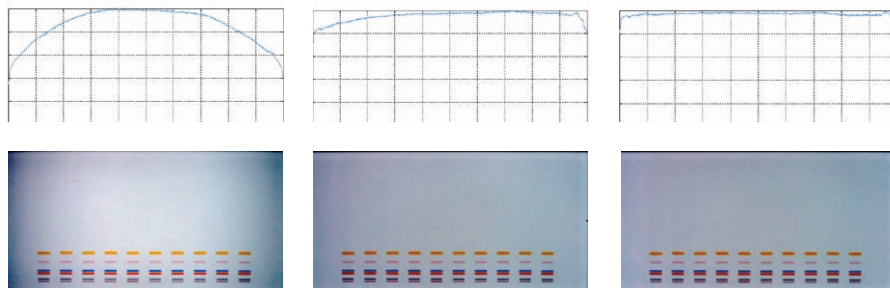
- The highly linear 12bit CCD camera is connected via a FireWire (IEEE1394a) cable to the PC and achieves image transfer rates of less than a second
- Automatic optimization of exposure time in steps of 230 µs up to 20 s.
- The camera is controlled by winCATS
- Even the basic version of winCATS supports useful routines for documentation of thin-layer chromatograms, e.g. functions for optimization of exposure time and correction of illumination.

- To ensure the desired high reproducibility of images, the system operates with fixed capture parameters such as focal length, focus, and aperture. As result, each image is sharp and highly reproducible from plate to plate.

With this documentation system you have the option to make image corrections made necessary by variations in light arriving at the CCD surface. We refer to this as flatfield correction and for each light type, winCATS supports 3 modes: No Correction – Standard Correction – Individual Correction (Option: 027:6372)

Non-homogeneity of illumination at the edges of a typical image amounts to 15–20% (the darkest »white« pixels have about 85% of the maximum »white« pixels, see left chromatogram). Such unavoidable non-homogeneities are caused by the illumination unit, the camera lens, and the CCD detector. With the help of the flatfield correction, which is a winCATS standard feature, this non-homogeneity can be reduced to about 5% (middle chromatogram). For further correction (right chromatogram) an individual measurement of the given documentation system, including lens setting and light type, is necessary. For this the winCATS Option (027.6372) and a regular qualification on site are required.

Below an example for white light, from left: No Correction – Standard Correction – Individual Correction (Option: 027:6372)



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