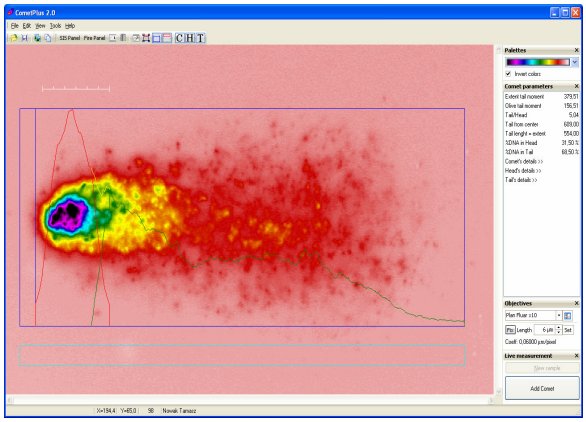
CometPlus

INTERACTIVE SOFTWARE ◀
ONE CLICK PER COMET ◀
REAL-TIME MEASUREMENT ◀
FIREWIRE XGA CAMERA ◀
40 COMET PARAMETERS ◀
NONLINEAR BACKGROUND CORRECTION ◀
FULLY INTEGRATED DATABASE ◀
GLP AND FDA COMPLIANT ◀



CometPlus – System is an analysis system for Single Cell Gel Electrophoresis (SCGE) or 'Comet Assay' as a simple and high sensitive fluorescent microscopic method to examine DNA damage and repair at individual cell level. This assay was originally developed to measure DNA strand breaks. Today there are various important application opportunities, ranging from clinical investigations and molecular epidemiology to biomonitoring and nutritional toxicology. This set with our **i.Cam-xM** camera is optimized for routine tests with great capacity and exact measurements. The modular software allows exchanging and adding hardware and software modules, e.g. new cameras, algorithms, tools or database engines. For even more system-performance we recommend our 12-bit **i.Cam-hqM** or 14-bit **SIS1-s285m** cameras.

Features

Interactive Software ▶	Optimized for quick and accurate job in clinical, laboratory and screening investigations and biomonitoring. CometPlus offers fast and exact measurements with live camera images as well as with stored images from external devices including network.
Real-time Measurement ▶	Every measured parameter, all statistical data and visualized intensity profiles on the screen are automatically refreshed after any change and are always visible to the user. Observe any changes of measured parameters and statistic data, i.e. by moving the ROI position, in real time.
One click per comet ▶	With only “one click per comet“ all measurements are calculated in real-time. Measurements are stored into database with image. ‘Stored-image-mode’ loads images automatically from a destination folder and leave several measurements on one image.
Recalculating Feature ▶	All sessions can be recalculated after any adjustments of the ROI dimension. The user saves time, because a new measurement will not be needed.
Background Correction ▶	Lots of different algorithms for background removing. From standard simple reference window for linear background to authoring adaptive algorithm to nonlinear background of the whole image.
Hands-free Measurement ▶	Fast work concept is consequently realized by ‘hands-free’ measurement. The user accepts the measurement by foot pedal. Therefore the hands of the user keep always contact with the microscope control. Of course it can also be measured by key or mouse command if preferred.
Project Planning ▶	Project directors define the projects, structures the experiments and assign them to users. Additional attributes describe slides into multi-hierarchical structure of the experiments. It is very easy to search or define queries to the database to review interesting slides and measurements.
Integrated Database ▶	Database archive includes all measurements, images for re-measuring, settings and audit. Database module support from MS Access to MS SQL (scalable and can also be integrated into existing structure). It is possible to optimize the database for other products like Oracle or MySQL.
GLP and FDA compliant ▶	All program functions are compliant to GLP and FDA 21 CFR Part 11. All system activity will be recorded in a database. 3 levels of user access enable to manage many projects simultaneously.
FireWire Camera ▶	Digital i.Cam-xM with 1024x768 square pixel with a size of 4.65 µm and 10-bit dynamic (other i.Cams are available). FireWire cameras with IEEE 1394 interface are connected with only one cable. They offer even better performance like more expensive analog cameras. Resolution is higher and signal is measured 4 times better than with 8-bit systems. For more sensitivity we offer 12 or 14-bit cameras, all fully integrated in the system, for best system performance.

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Specifications	
Program	modular, simple integration of new cameras, algorithms, etc.
Access	different levels and project management
User Interface	- interactive and customizable - simple and intuitive - with exchangeable interface theme
Display	Software supports single or dual head display modes.
Storing	data storing is activated by mouse button, keyboard or foot pedal
Analysis	- real-time (optimized) - post hoc (optimized)
Measurements	can be recalculated (e.g. after changing the ROI)
Parameters	40 with detailed parameters for comet, head and tail
Copy	- raw-imaging-data (intensities) - measured data
Background	- auto correction by one adjustable field - adaptive nonlinear correction for the whole image
Alarm	- saturation - tail length
Positioning	- with microscope stage (for live images) - window with mouse (for stored images)
Database	- hierarchical structure for advanced project management - protection and encryption
Engines	MS-Access, MSDE, MS-SQL, other on request
Storage	Data, conditions and/or images
Export	Record from slide for statistical research
Camera	Progressive scan $^1/_3$"; inter-line-transfer
Resolution	1024x768 square pixel with a size of 4.65 µm
Dynamics	10-bit, 1024 grayscales
Framerate	15 images/s
Integration Time	66µs – 40s
Sensitivity	Full Well Capacity 12,000e$^-$ Readout noise 10e$^-$ Quantum Efficiency 40% @ 500nm
Price	Ask for quotation

Camera i.Cam-xM

System requirements:

PC with (recommended):

- ☑ Processor 800 MHz (2 GHz)
- ☑ RAM 128 MB (512 MB)
- ☑ Graphic Card 1024x768 (> 1280x1024; 32 MB)
- ☑ Harddisk 40 GB (120 GB)
- ☑ CD-R/RW (DVD Recorder) for image and data backup
- ☑ Microsoft® Windows 2000, XP

Options:

- ► custom modules on request
- ► other firewire cameras:
  i.Cam-hq (1392x1040 pixel; 12-bit; 11Hz)
  i.Cam-hr (1628x1236 pixel; 8-bit; 15Hz)
- ► i.Cam-xC color cameras
- ► peltier-cooled version of all i.Cam cameras
- ► Scientific Imaging System SIS-s285m (1392x1040pixel; 14-bit; 4Hz; cooled)
- ► microscope with sub-assembly
- ► optics
- ► light sources
- ► image intensifier (gated from 3ns)

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