X-Elit
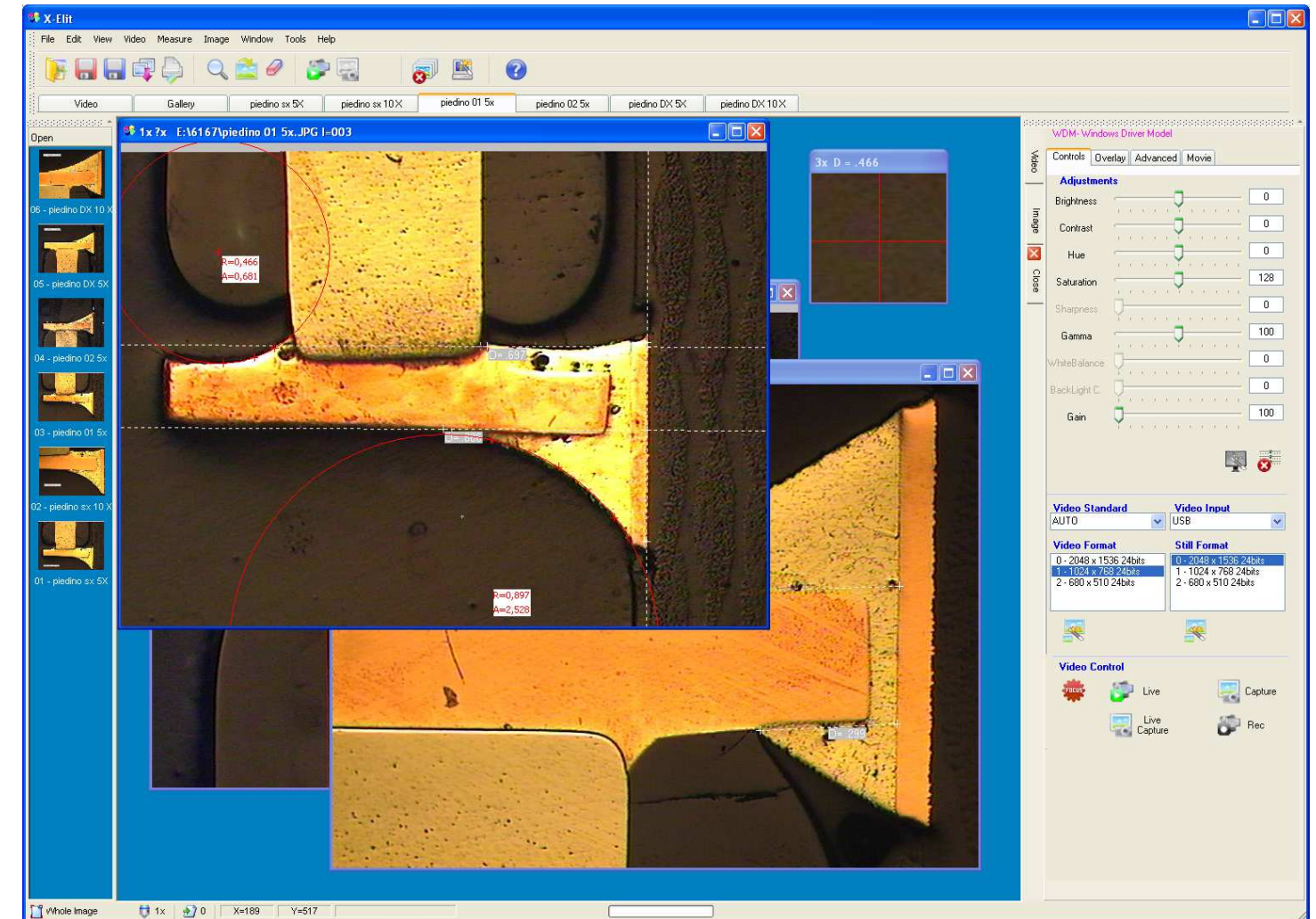**Interactive measurement software on live and still images in multidocument environment.**

Image acquisition in multidocument environment with resolution up to 32.000x32.000 pixels, 32-bit color, with digital or analog videocameras.

Wide range of digital videocameras with control interfaces dedicated to the acquisition of single or sequential images.

Image acquisition with WDM-compatible (Windows Driver Model) videocameras with all the features offered by DirectX10 and 9 technology: measurements on live image (overlay) and/or transparency effects between live image and previously acquired images for quantitative and qualitative visual comparing.

Static and dynamic visual comparing on full or split screen (vertically or horizontally) with transparency control from the mouse. Interval display in transparency between the live image and acquired images.

Acquisition with TWAIN videocameras.

Control and acquisition from digital photocameras with dedicated interfaces.

Custom toolbars.

Importing and exporting of images in different graphic formats.

Interactive measurement functions: linear distance, distance from a line, distances from a line, distances on a line, angle and its complementary, angle on a vertex, angles from a vertex, radius and area of circle by 3 points, from the center and by N points, length of a curve, perimeter and area of a figure, Feret diameters, section profile.

Editor on measurement functions for text color, format, background color, line thickness and style with 8 stored customizations.

Measurement subdivisions by object classes.

Single and multiple counters.

Image histogram of color components.

Insertion of marker, text, scale bar and graticules.

Up to 20 calibration memories for as many objectives. Autocalibration when the zoom factor changes.

Manual and automatic export of measurements to MS Excel (not included) also for classes of objects.

Complete filter set for image processing.

Set of convolution filters with 3x3 to 9x9 kernels with very powerful filters for image enhancement.

Single or multiple filter use mode. The settings for multiple filter use can be saved and retrieved.

Composition of panoramic images with automatic and manual reconstruction from a set of single images.

Multifocus for creating a perfectly in-focus image from a series of only partially in-focus images .

Automatic alignment of images acquired with stereo microscopes.

Interactive correction of image alignment.

Three-dimensional reconstruction (surface 3D) from a set of partially in-focus images.

Display of a surface 3D model from: multifocus image, color and vectorial scale. Controls for rotation, autorotation, traslation and zoom from mouse and keyboard.

Saving and loading of 3D models in standard DirectX and saving of the image in graphic formats.

Macro generator and editor.

Reports customizable with MS Word (not included).

English and Italian guide online.

SW/HW Requirements
Operating System (x86- x64): Windows 7. Vista, XP
VGA: 512 MByte RAM - DirectX9 compatible
Minimum Resolution: 1280x900 pixels, 32-bit color
CPU: Pentium IV 3.0 GHz
System RAM memory: 1 Gbyte DVD R/RW Reader
Hard Disk Space: 500MByte

The manufacturer reserves the right to make technical changes without prior notice.

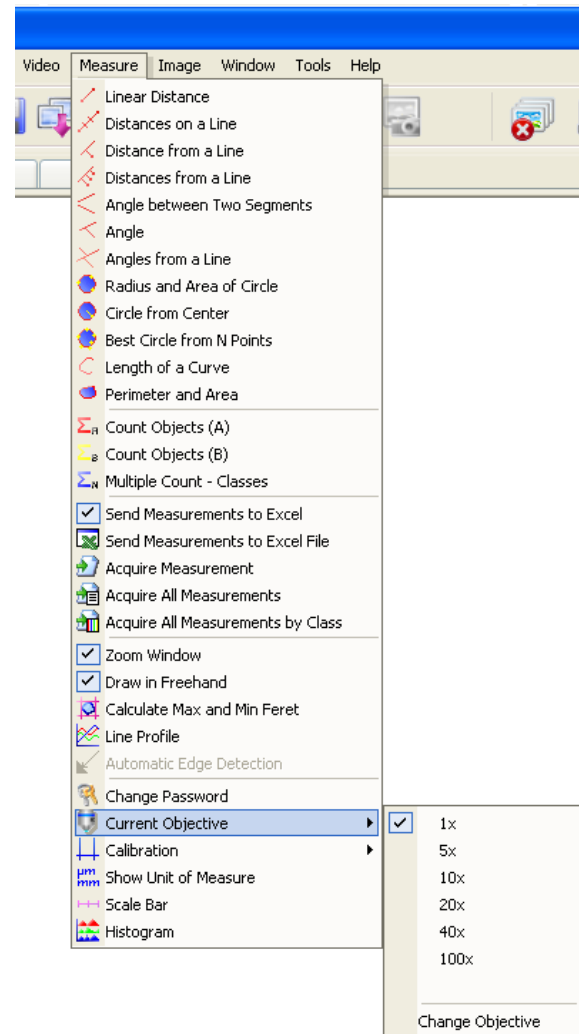# INTERACTIVE MEASUREMENT SOFTWARE ON LIVE AND STILL IMAGES IN MULTIDOCUMENT ENVIRONMENT

FEATURES

- **LARGE SET OF INTERACTIVE MEASUREMENT FUNCTIONS**
- **MEASUREMENTS ON STILL AND LIVE IMAGES**
- **AUTOCALIBRATION**
- **MACRO GENERATOR**
- **DYNAMIC VIEWER**
- **EXPORTS RESULTS TO MS EXCEL**
- **EXPORTS REPORTS TO MS WORD**
- **ANNOTATIONS AND MARKERS**
- **METRIC SCALE**
- **MULTIDOCUMENT ENVIRONMENT**

- **MULTIFOCUS**
- **SET OF CONVOLUTION FILTERS UP TO 9X9 KERNEL SIZE**
- **THREE-DIMENSIONAL SURFACE RECONSTRUCTION**
- **3D MODEL VIEWER**
- **MULTIPLE IMAGE FILTERS**
- **MULTIPLE COUNTERS**
- **TIME-LAPSE CAPTURING**
- **DIRECTX CAMERA INTERFACE**
- **FOCUS INDICATOR ON LIVE IMAGE**

X-Elit
Interactive measurements
Alexasoft

X-Elit
Interactive measurements
Alexasoft

X-ELIT

Interactive measurement software on live and still images in multidocument environment.
X-Elit is a powerful software package can be supplied with one or more TP-Series digital camera with resolution up to 14 Mega Pixel and 32-bit color.
Image acquisition uses WDM (Windows Driver Model) DirectX technology: measurements on still and live images (overlay).

Multidocument Environment

The work environment is in multidocument mode. This means that it is possible to work with several images (even resized ones) at the same time.
All the menu functions are also available through the toolbars which are entirely customizable.

Interactive Measurement Functions

The software has several measurement functions such as: linear distance, distance from a line, distances from a line, distances on a line, angle and its complementary, angle on a vertex, angles from a vertex, radius and area of circle by 3 points, from the center and by N points, length of a curve, perimeter and area of a figure, Feret diameters, section profile, with the possibility of inserting markers and text for comments directly into the image.
Furthermore, an automatic metric scale (which can be inserted into the images) is available.The system can be calibrated according to every magnification factor with corresponding memorization (max. 20 objectives). The calibration is automatic on images with different resolution or zoom magnification.
Three types of manual counters (one is a multiple counter with 20 channels) are available.
Macro generator and editor.
Manual and automatic export of measurements to Excel and for classes of objects.
Reports customizable with MS Word (not included).

Filters for Image Processing

The software has a complete filter set for image processing.
Set of convolution filters with 3x3 to 9x9 kernels with very powerful filters for image enhancement.
Single or multiple filter use mode. The settings for multiple filter use can be saved and retrieved.
Composition of panoramic images with automatic and manual reconstruction from a set of single images.
FFT filter for optimization of images from SEM.

3D Reconstruction

Automatic alignment of images acquired with stereo microscopes.
Interactive correction of image alignment.
Three-dimensional reconstruction (surface 3D) from a set of partially in-focus images.
Display of a surface 3D model from: multifocus image, pseudo-color and vectorial scale.

3D Model Viewer

Controls for rotation, autorotation, traslation and zoom from mouse and keyboard.
Saving and loading of 3D models in standard DirectX and saving of the image in graphic formats.

Z-Driver (optional)

Driver control (optional) for Z axis stage movement for multifocus image making and 3D reconstruction with calibration memories, focus memories for each objective, Z axis objective anti collision and focusing control by PC mouse.

Image Capture

The live and still image format from the digital camera, the controls for brightness, contrast, saturation, hue, etc. can be defined by the user.
As well as on acquired images, all interactive measurement functions can be used on a live image without having to acquire the image first.
The calibration is automatic even when changing the resolution of the images.
There is also dynamic zoom function with auto-calibration of measurement functions.
The live image size can be user-programmable.
A still image previously acquired can be superimposed in overlay onto the live image. The degree of transparency can be defined by the user.
User-defined square and circular graticules in overlay are also available.
The "Multifocus" function blends together into one single focused image a series of images with only limited focus.

TP-SERIES DIGITAL CAMERAS

X-Elit can use one or more of the following cameras:

CCD CHIP

Model	TP1400CCD 1.4 MPixels	TP3100CCCD 3.1 MPixels	TP5100 5.1 MPixels
Image Sensor	1/2" Sony CCD (Diagonal 8.0mm)	1/1.8" Sony CCD (Diagonal 8.9mm)	1/1.8" Sony CCD (Diagonal 9.0mm)
Scan Mode	Progressive	Interlaced	Interlaced
G Sensitivity	400mV with 1/30s Accumulation	455mV with 1/30s Accumulation	260mV with 1/30s Accumulation
Speed (Depends on the PC)	12fps @1360 x 1024	6fps @2048 x 1536, 41fps @640 x 480	4fps @2592 x 1944, 35fps @560 x 420
Dynamic Range	70dB	70 dB	70dB
SN Ratio	62dB	62dB	62dB
Wave Length(nm)	400-650nm (IR-Cut added)	400-650nm (IR-Cut added)	400-650nm (IR-Cut added)
White Balance	One Push ROI WB/Manual Temp.Tint Adj	One Push ROI WB/Manual Temp.Tint Adj	One Push ROI WB/Manual Temp.Tint Adj
Auto-exposure	Automatic / Manual	Automatic / Manual	Automatic / Manual
Image Output	USB2.0	USB2.0 High-speed	USB2.0 High-speed
Programmable Control	Image size, brightness, gain, contrast, gamma, saturation, exposure time	Image size, brightness, gain, contrast, gamma, saturation, exposure time	Image size, brightness, gain, contrast, gamma, saturation, exposure time
Working Temperature	-10℃ ~ 60℃	-10℃ ~ 60℃	-10℃ ~ 60℃
USB Cable	USB cable, length 2.5m	USB cable, length 2.5m	USB cable, length 2.5m

CMOS CHIP

Model	TP3100CMOS 3.1 MPixels	TP5100CMOS 5.1 MPixels	TP8000CMOS 8.0 MPixels
Image Sensor	1/2" Aptinia CMOS (Diagonal 8.2mm)	1/2.5" Aptinia CMOS (Diagonal 7.1mm)	1/2.5" Aptinia CMOS (Diagonal 6.8mm)
Scan Mode	Progressive	Progressive	Progressive
Responsivity (@550nm)	1.0V/lux-sec	0.53V/lux-sec	0.3V/lux-sec
Speed (Depends on the PC)	8fps @2048 x 1536, 22fps @1024 x 768, 43fps @680 x 510	5fps @2592 x 1944, 18fps @1280 x 960, 60fps @640 x 480	1.9fps @3264 x 2448, 8fps @1600 x 1200, 27fps @800x600
Dynamic Range	61dB	66.5 dB	65.2dB
SN Ratio	43dB	40dB	34dB
Wave Length(nm)	400-650nm (IR-Cut added)	400-650nm (IR-Cut added)	400-650nm (IR-Cut added)
White Balance	One Push ROI WB/Manual Temp.Tint Adj	One Push ROI WB/Manual Temp.Tint Adj	One Push ROI WB/Manual Temp.Tint Adj
Auto-exposure	Automatic / Manual	Automatic / Manual	Automatic / Manual
Image Output	USB2.0	USB2.0	USB2.0
Programmable Control	Image size, brightness, gain, contrast, gamma, saturation, exposure time	Image size, brightness, gain, contrast, gamma, saturation, exposure time	Image size, brightness, gain, contrast, gamma, saturation, exposure time
Working Temperature	-10℃ ~ 60℃	-10℃ ~ 60℃	-10℃ ~ 60℃
USB Cable	USB cable, length 2.5m	USB cable, length 2.5m	USB cable, length 2.5m