

SCOPEVIEW™ SOFTWARE

CALIBRATION AND MEASURING An Introduction


To accurately measure using the ScopeView™ software, USB2.0 microscope eyepiece camera and your microscope, you must calibrate the software. These are basic instructions to introduce you to calibration and measuring.

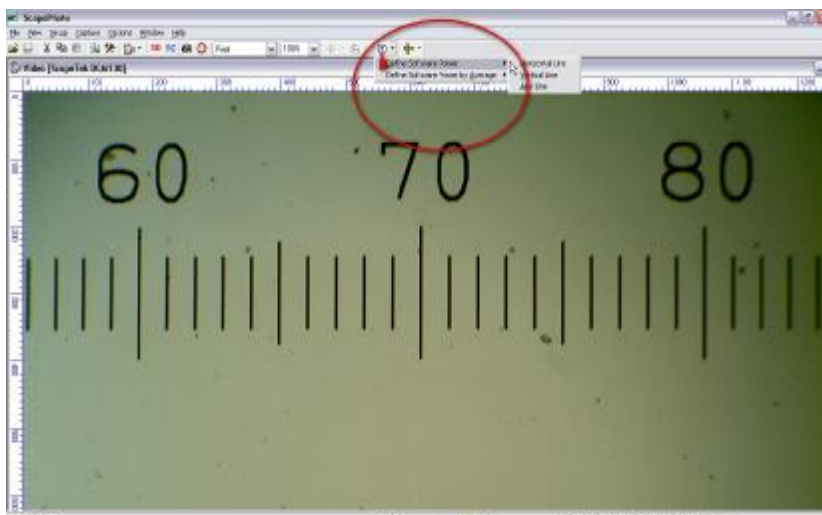
CALIBRATION

Firstly, ensure you have a known length to calibrate against (e.g. a micrometer). Place this under the microscope so it is visible in the live video window. Focus if necessary.

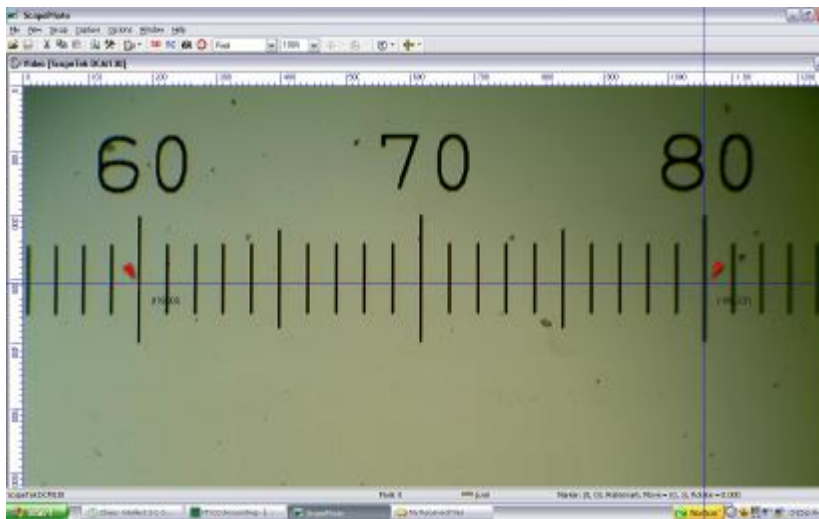
1. Ensure the live video window is set at 100%.



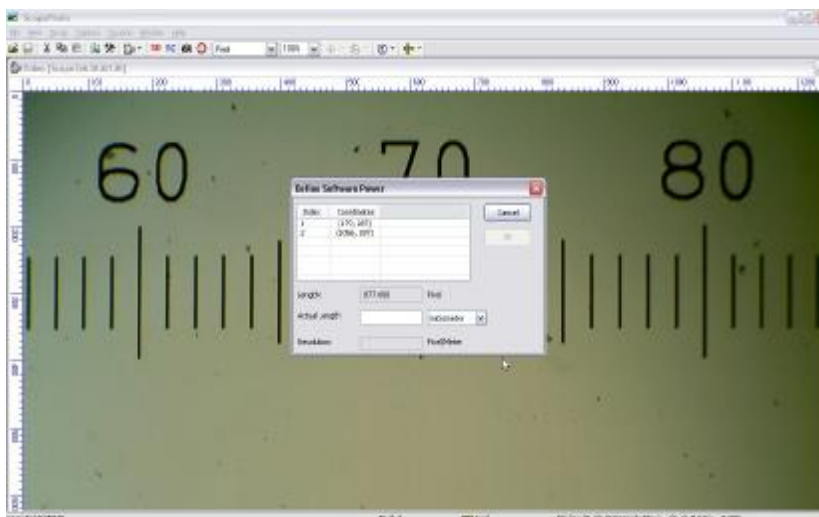
2. Select "Define Software Power" icon.  You then have the choice to select "Horizontal line"; "Vertical line" or "Any line". For calibration purposes (with micrometer) "Horizontal line" is recommended.



3. A crossline will appear on the live image. Select a point you wish to start measuring from; click left mouse button and then drag to the point where you wish to finish measuring. TIP: try to measure from one clear point to another and as much of the image as possible.

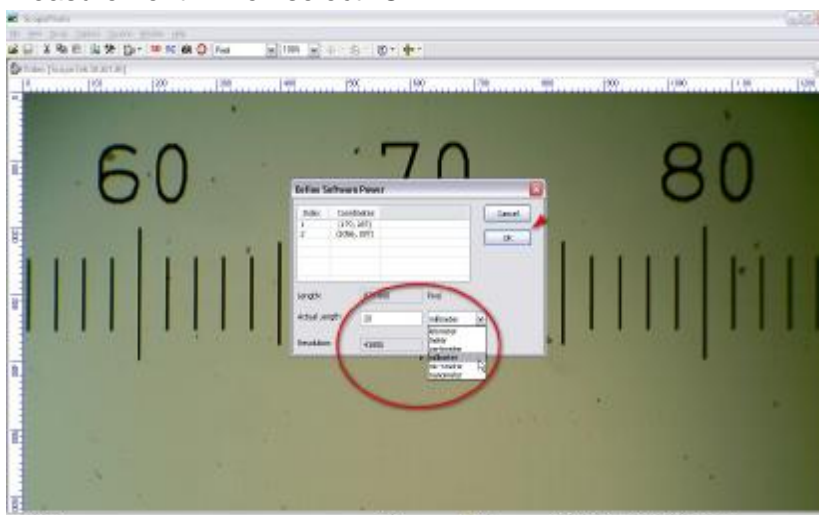


4. When you click the left mouse button at the second point the following window will appear:

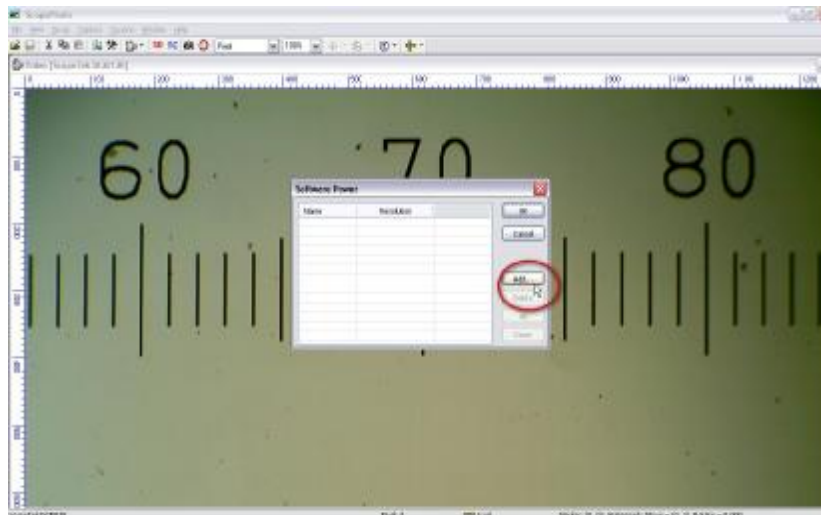


5. Index 1 and 2 and co-ordinates denote the location on the image where the measurement was made based on the horizontal and vertical rulers surrounding the image.

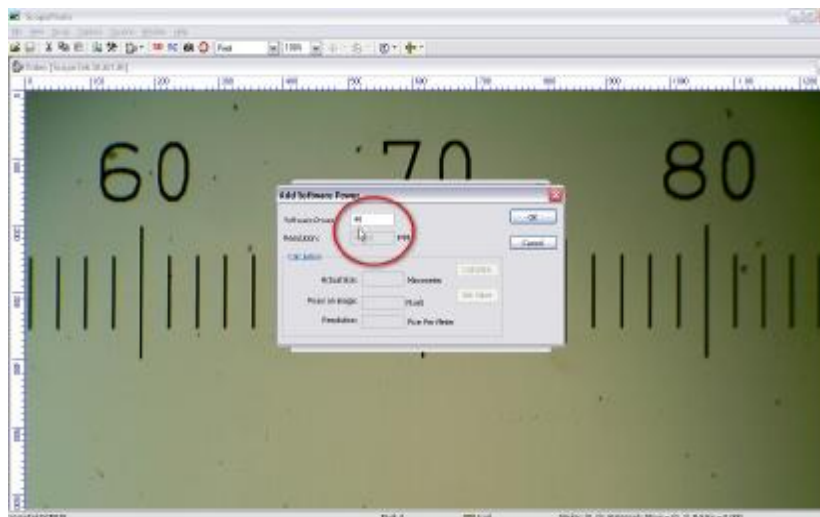
Under "Actual Length" enter the length that was measured and select the unit of measurement. Then select "OK".



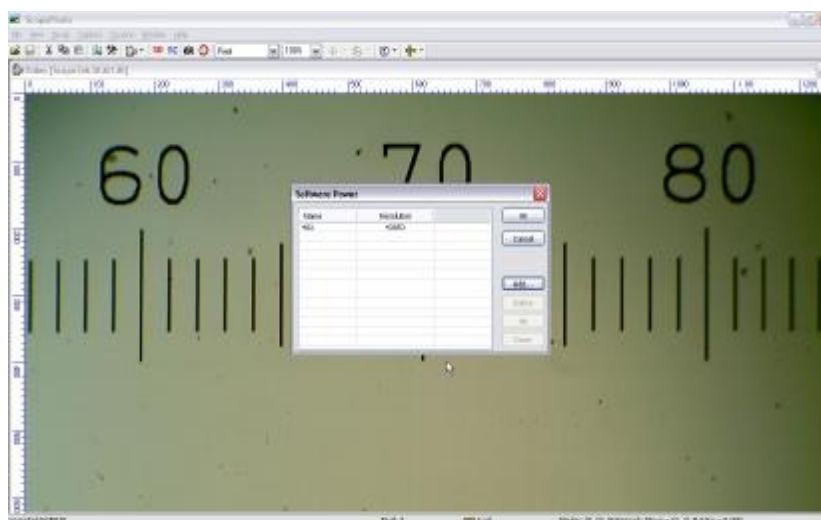
6. The following window will appear. Select “Add”.



7. Enter the total magnification (i.e. objective x eyepiece power) then click “OK”.



The calibrated “software power” will now be entered in the software for future measurements. Click “OK”.



Repeat steps 1-7 to calibrate other magnifications on your microscope. All the calibrations will be entered into the system for future measurements.



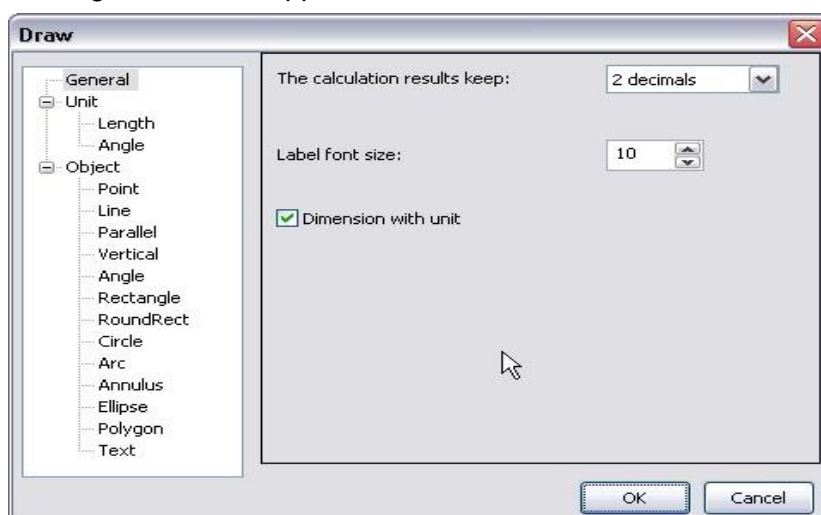
If other microscopes are being used with the software, they will also have to be calibrated.

MEASURING

Before starting to measure ensure “DRAW” preferences are set correctly so desired Measurement unit, colours, size, etc. are shown on screen. To do this, go to “Options” and select “Draw”.



The following window will appear:



The screenshot shows the 'Draw' dialog box in AutoCAD. The 'Layer' list on the left shows '0' selected. The 'Layer List' table on the right shows the '0' layer is selected. The 'Add' button is highlighted. The background shows a drawing of a road with lane markings and the numbers '60' and '80'.

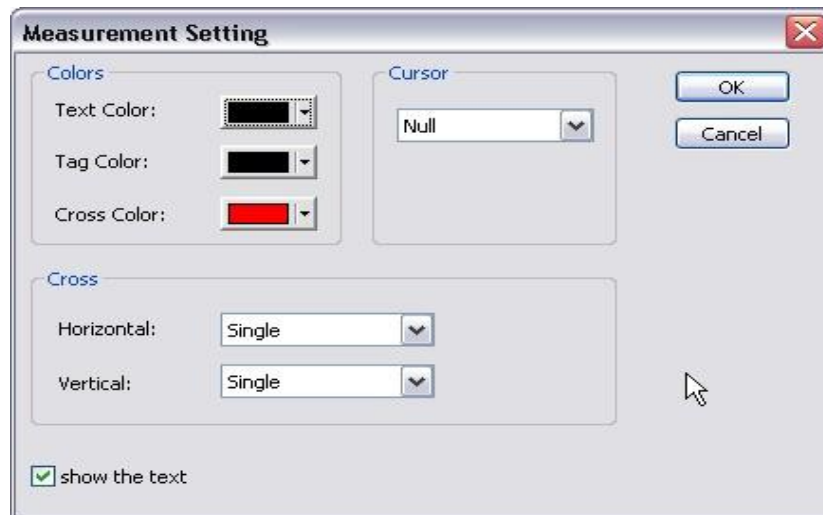
Quick measurements can be made on the live image. Click the “Caliper icon and select the type of measurement required (length or angle).



[illegible]

Index	Unit	1st Point	2nd Point	3rd Point	Length/Angle
1	millimeter	(4.06, 13.14)	(24.08, 13.73)		20.03
2	millimeter	(4.06, 13.09)	(24.17, 15.37)		20.24
3	millimeter	(4.06, 11.08)	(14.09, 15.42)		10.93
4	millimeter	(5.11, 8.16)	(15.78, 9.40)		10.74
5	millimeter	(3.19, 8.16)	(5.56, 9.08)		2.54
6	millimeter	(3.97, 12.09)	(24.04, 15.28)		20.32
7	millimeter	(3.97, 11.17)	(17.70, 17.24)		18.01
8	millimeter	(3.97, 11.17)	(15.32, 8.21)		11.74

Select "Measurement Setting" to adjust colours, cursor and crossline settings.



Measuring on a captured image

Measuring on a captured image has two advantages. Measurements can be saved on the image (useful for reporting/archiving) and can be exported to Excel (image and measurement data), useful for further analysis.

A measurement made on a captured image is stored on a "layer" over the "raw" image.

Once you have captured the image, select "Layer" from the menu and select "New". This menu also allows layers to be removed, hidden etc. as well as settings adjusted through the "Property" selection.



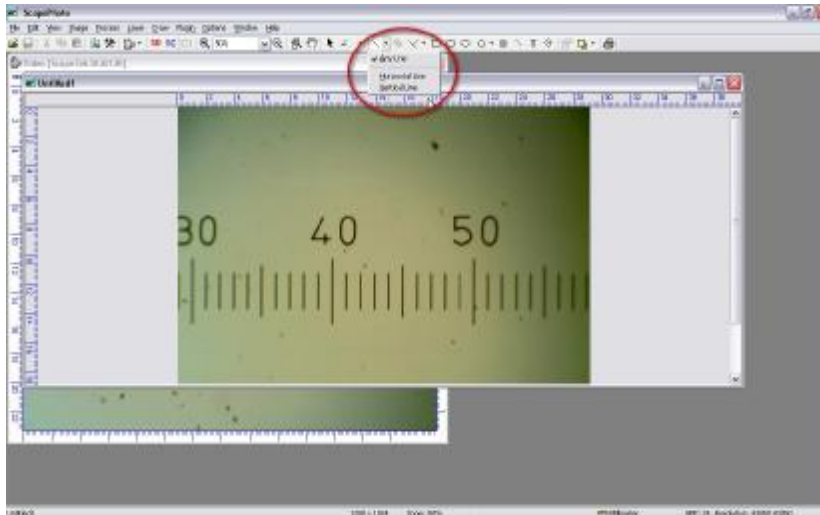
Enter a name for this new layer.



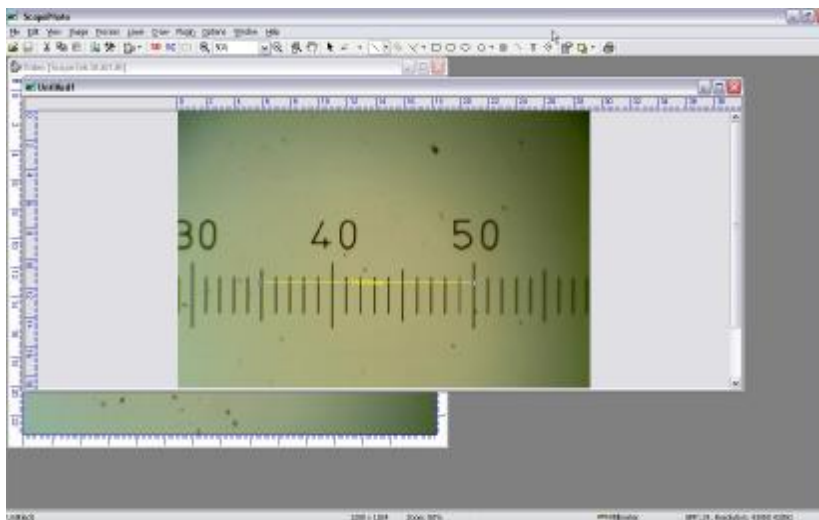
Inserting a layer on a raw image will activate the "Draw" menu and icons



Select the measurement type required.

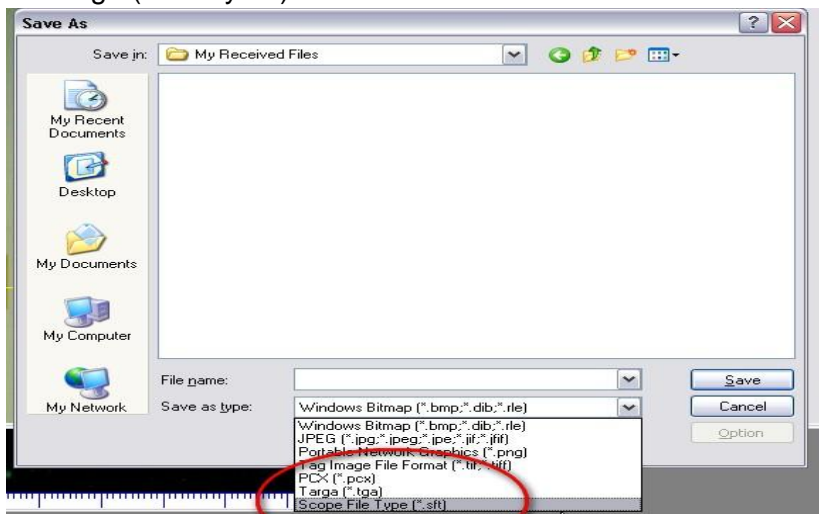


Select parameters to be measured. The measurement will be visible on the image.



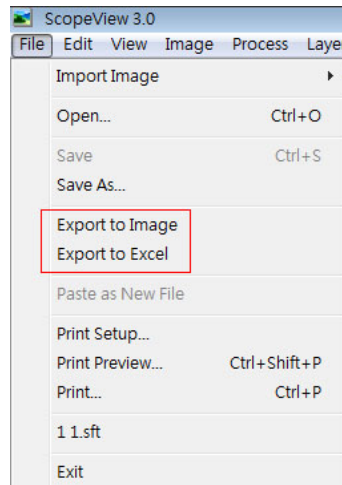
Further measurements can be made on the same layer or new layers can be inserted for different measurements. Multiple layers can be useful if a number of measurements need to be made on the image. Layers can be made visible or hidden as required.

To save image (with layers) select "Save As" from the "File" menu.



For raw image and layers to be save as one file it must be saved as a ScopeView file type (.sft). This will allow the image to be opened in ScopeView at a future date and for layers to be manipulated or added to, if necessary. Saving as any other file type at this stage WILL NOT save layers.

To print image select “Print” from “File” menu.



The saved image can also be exported to Excel. The image as well as data will be exported to allow insertion in spreadsheets etc. as required.

If you select “Export to Image” a new image file will appear on the screen. Use the “Save As” function and you can save the file (complete with layers) as another file type (e.g. .bmp, .jpg etc.) to allow easy insertion in other programs (reports etc.).