STEINDORFF®

NYMCS-VM2000N

HD Digital Video Microscope

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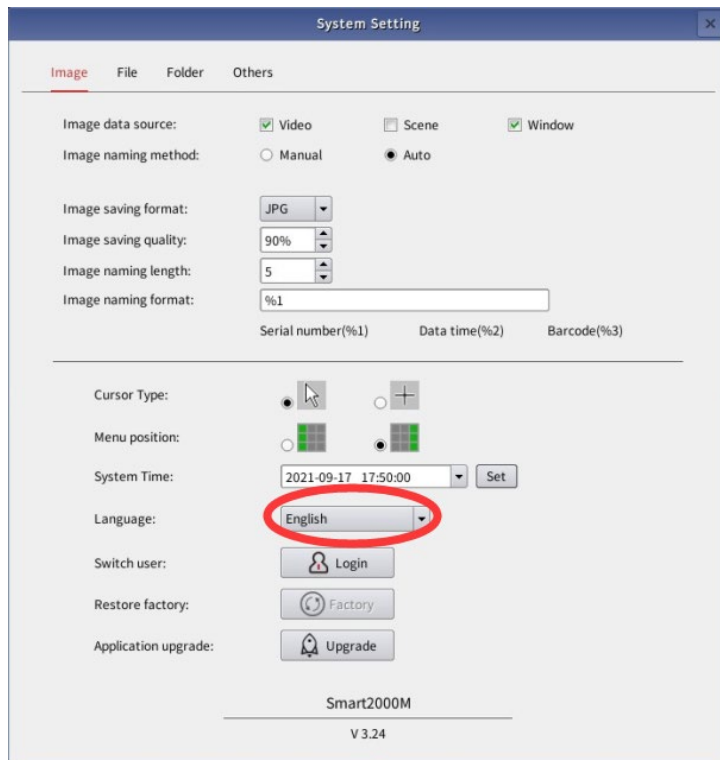# Chapter 1 Function Description

1.1 Main interface

1.2 Language and location

（1）Click the System setting icon in the Assist Tools bar, Users can set the language to be English.

（2） Menu bar position----Choosing the menu's position on the screen(on the left or right of the screen)

（3） Menu bar hide icon----click this icon, the menu bar will be hidden in the corner of the screen, and click the icon again to display the menu bar.

1.3 Admin login

Click the System setting icon in the Assist Tools bar, click the drop-down button and choose the Amin, then click login. Every time starts the microscope, user must finish the Admin login first. Or user can't do the calibration. We have done the calibration in advance before shipping the microscopes to customers.
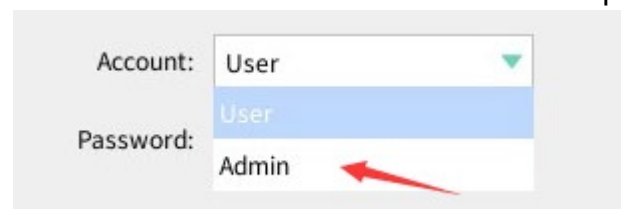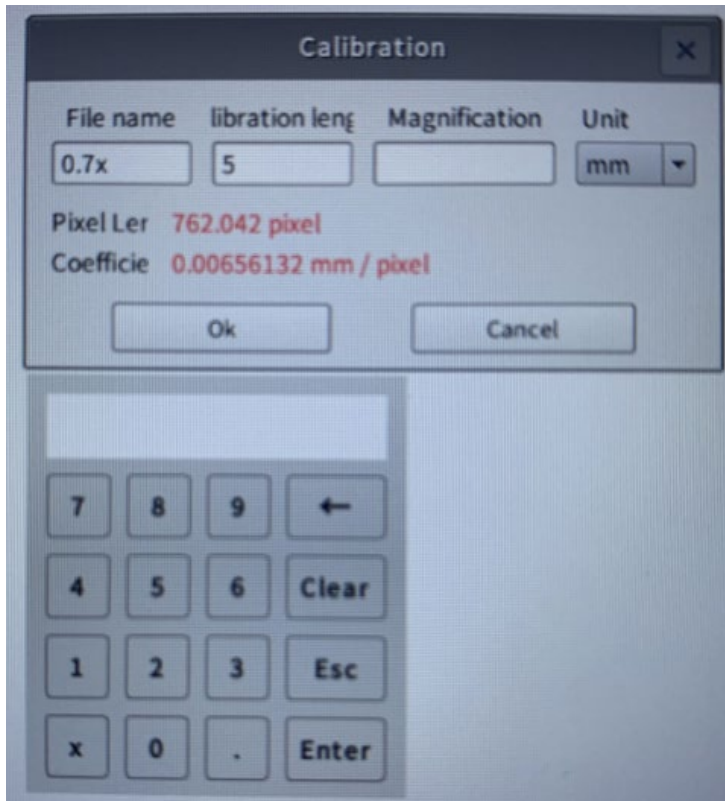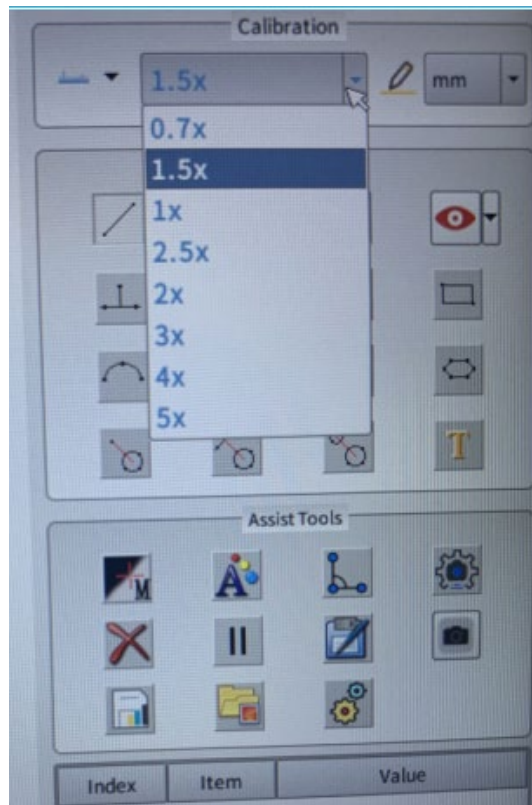

1.4 Calibration
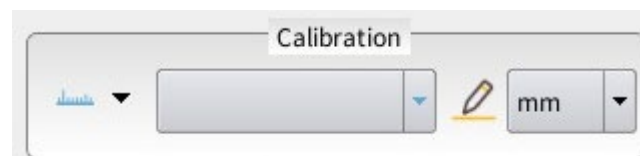
1.4.1 New Calibration

The user can select the "calibration method" as needed, click the drop-down button, select "line calibration" or "circle calibration" to enter the creation calibration state, for example, select the three-point circle calibration method and place the circular calibration plate under the lens. After the image is adjusted clearly, select three points on the outer edge of the circle to draw a circle, check how well the circle is drawn and the circle of the calibration board, if you are not satisfied, you can redraw the circle until you are satisfied. Then enter the magnification of the current lens and the actual size of the calibration circle in the dialog box. At this time, the current calibration information will appear in the menu "Calibration" dialog box. After calibration, if the lens is a zoom lens, you can switch to another magnification to continue the calibration. Repeat the operation on the software to perform another magnification calibration. Repeat the above calibration in sequence to complete the calibration between different magnifications of the lens.

1.4.2 Switch magnification

After the calibration is completed, if the magnification is switched during the measurement process, the software should also switch to the corresponding magnification calibration, as shown in the figure below:

1.4.3 Change calibration

Click the change calibration icon, the management calibration dialog box will pop up, and you can delete/clear the corresponding magnification calibration, as shown in the figure below:

1.5 Measurement function
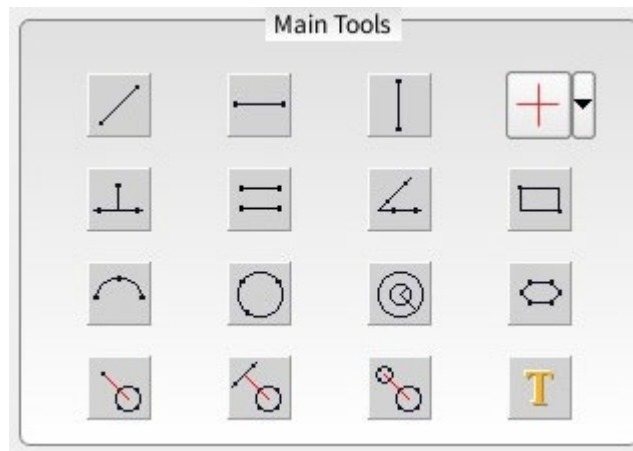
1.5.1 Measuring tool description

（1） Two-point line----Take two points to draw a line segment.

（2） Horizontal line----Take two horizontal points to draw a line segment.

（3） Vertical line----Take two vertical points to draw a line segment.

（4） Cross line display/hide ---- Click the drop-down icon to choose cross line/tick mark display or hide.

（5） Parallel line-first draw a line through two points, and then continue to find a point on the other line, the second line will be drawn automatically, and the system will automatically measure the distance between the two lines.

（6） Point to line-point a point on the line and then draw a line by picking two points. Measure the distance from the first point to this line.

（7） Angle-----Draw a line through two points first, and then draw another line through two points, and the system will automatically calculate the angle between the two lines.

（8） Rectangle----Two points can be selected, and the system will draw a rectangular box based on these two points.

（9） Radian----A circular arc can be drawn through three points.

（10） Circle----You can draw a circle by taking a circle from three points.

（11） Concentric circles ---- You can draw the first circle by taking a circle from three points and then drag the mouse to select a point on the edge of the second circle to draw the second circle.

（12） Polygon ---- You can click and fetch points according to the position of the polygon, and the system will automatically connect the points. When selecting the last point, you can press the right mouse button, and the system will automatically connect the last point after the first point to form a closed graph. Note that the polygon can only pick up to 10 points.

（13） Point to circle----Select a point first, and then draw a circle

through three points. The system will automatically measure the distance from the first point to the center of the circle.

（14） Line to circle----First draw a line through two points, then find a circle and draw a circle by taking three points, and measure the distance from the center of the line to the center of the circle.

（15） Center distance ---- draw two circles by taking a circle from three points. The system will automatically measure the distance between the two circle centers.

（16） Text annotation ---- can mark the text information at the specified position on the screen.

1.6 Auxiliary tools
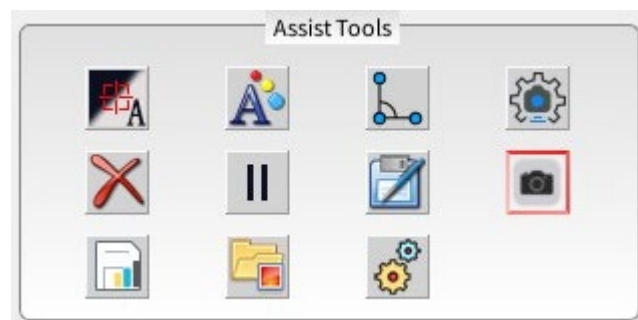
1.6.1 Edge detect

Draw the selected point on the screen, if you choose to take the point manually (M), then the point taken is where the mouse click is. If you choose automatic smart (A) point selection, the system will automatically find the edge according to the 20 pixels around the mouse point after the mouse click. This approach can reduce human errors in point selection. However, there cannot be more than 2 edges around the selected point, otherwise the selection may be wrong.

1.6.2 Graphic setting

After clicking, a dialog box will appear on the screen. The user can set the line width and color of the drawn image, the font size of the label after measurement, the color, whether the label is closed, and the length.
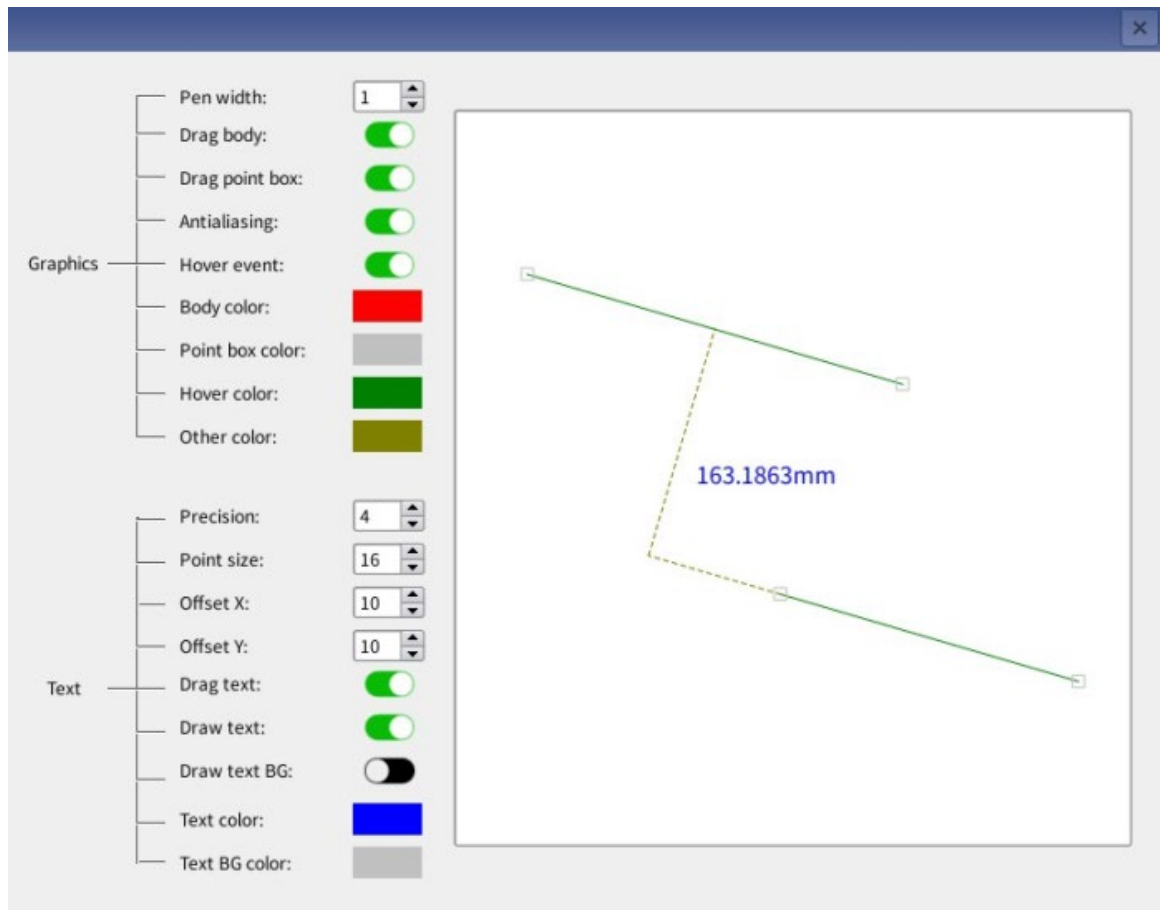
（1）Line segment ---- The width, color, and movement switch of the line segment can be set.

（2）Fitting line----The width and color of the fitting line can be set.

（3）Label ---- You can set the font size, color, and whether the label is closed, length, etc.

（4）Crosshair----Set the on or off of the crosshair and the style of the crosshair.

（5）Show magnified window ---- set the display magnified window on or off, the icon green indicates on, and the magnified image window of the mouse capture position will be displayed at the corner of the screen.

（6）Cursor type----Set the type of cursor: cross cursor or lens.

1.6.3 Output Setting

User can get more measuring data he wants by this setting.
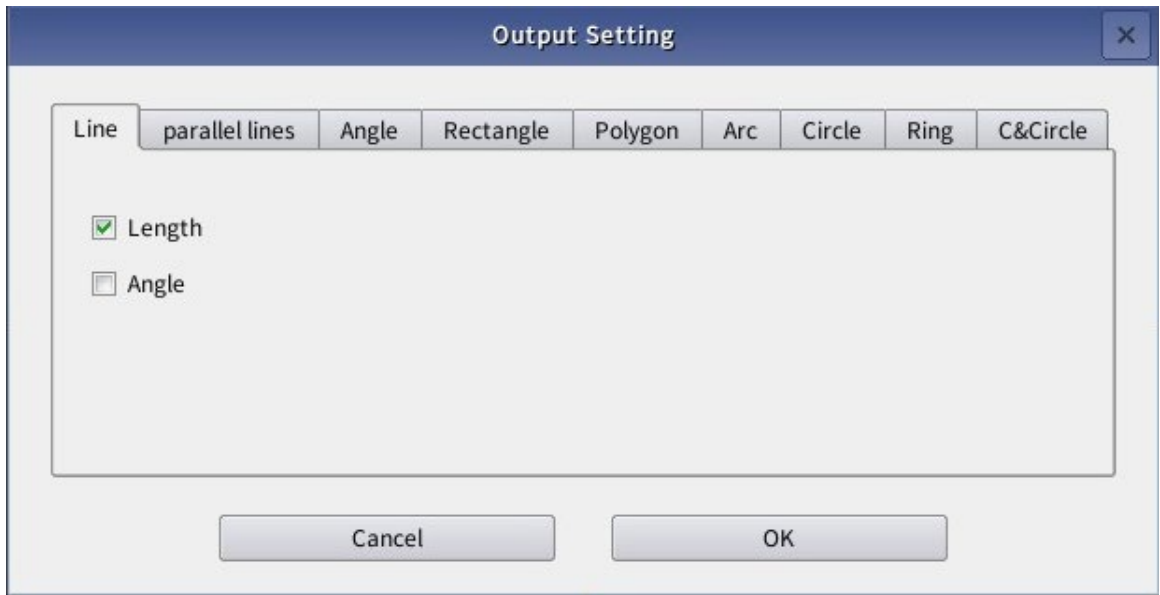
1.6.4 Sensor settings

（1）Brightness gain

Drag the mouse to change the brightness gain position bar.

（2）Contrast

Drag the position bar with the mouse to change the image contrast.（3）

R/G/B Gain

Drag the brightness gain position bar with the mouse to change the image R/G/B ratio.

（4）SE edge enhancement mode

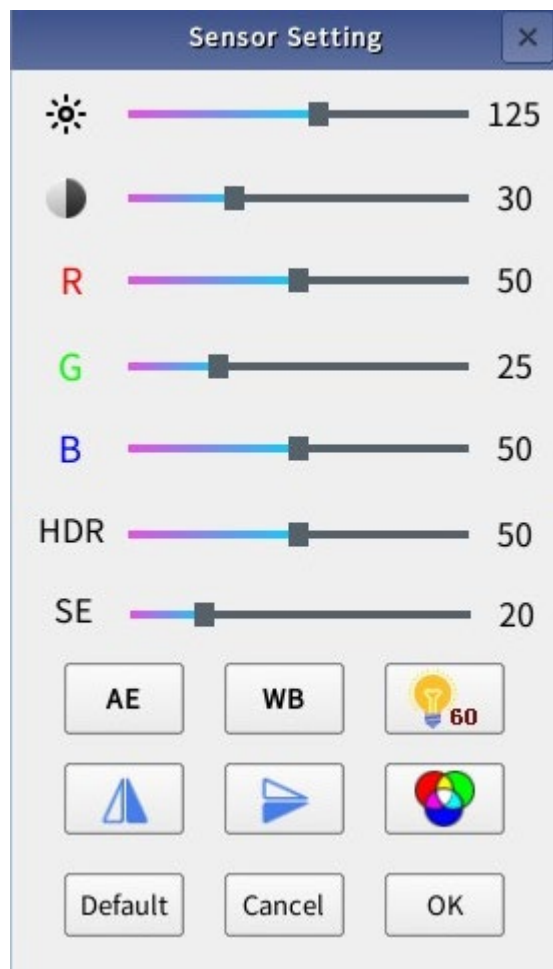Drag the position bar with the mouse to reduce or increase the sharpening of the edges to enhance the edge effect of the image.

（5）HDR suppression mode

Drag the position bar with the mouse to reduce or increase the control of light.

（6）AE automatic exposure

Click the AE icon, and the camera will automatically adjust the exposure value in real time according to the changes in environmental brightness to make it meet the optimal brightness value setting.

（7）WB automatic white balance

Put a piece of white paper at the bottom of the lens, the focus is clear, after auto exposure, click the WB icon, the camera will automatically adjust the white balance, and stop automatically when it reaches a suitable value.

（8）Electrical frequency

Click the electrical frequency icon to change the electrical frequency parameters.

（9）Horizontal mirroring

Click the horizontal mirror icon to mirror the image horizontally.

（10）Vertical mirror

Click the vertical mirror icon to flip the image vertically.
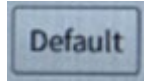
（11）Color to gray

Click the color to gray icon to convert the color image to black and white.

（12）Default

Click the default icon to restore the camera parameters to factory settings.

1.6.5 Delete

Click the delete icon to clear all the images drawn on the current screen, but the information in the measurement data column on the right will not be cleared.

1.6.6 Freeze

If the machine is unstable during drawing, you can choose to freeze the current button to freeze the current screen. Press the button again to release the freeze condition

1.6.7 Export

Export the previously measured data to USB flash disk.

1.6.8 Capture

Click this icon to save the image and data on the current screen as a picture. The format is BMP or JPEG.

1.6.9 Save Graphics

Save all the previously measured data. The saving format can be opened and browsed in Excel on the computer.

1.6.10 Folder

Click the folder icon to save the picture preview. The pictures saved before can be replayed and previewed.

1.6.11 System Setting

The settings includes cursor type, menu position, language setting, admin login, restore factory setting, software upgrage.

1.7 Data display bar

The data display column displays all the data currently measured. Select a data and right-click to delete the data.