



MoticEasyScan Pro 6N

Instruction Manual



Complete reading of this manual before operation is required.



If the equipment is used in a manner not specified by the manufacturer, the protection provided by the equipment may be impaired.

Note

Changes or modifications not expressly approved by the party responsible for compliance could void your authority to operate the equipment.

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1. DEVICE SAFETY INSTRUCTIONS


1.1 General Safety Tip

Before using the device, make sure to follow the instructions given in the Manual. For installation instructions, please consult Chapter 2 and 3 of this Manual.

1.2 Safety Sign

The following signs are shown on the system. Every user must make sure to understand the definition of the safety signs to always operate the device the most secure way.

Labels	Meaning
	Main switch (ON).
○	Main switch (OFF)
~	AC
	Caution: Pinching Hand
	No Use
	Warranty void if seal broken
	Warning: Please do not enter during equipment operation.
	Representing uncertainty of the general danger. Follow the descriptions on the back of signs or follow manufacturer's instructions.
	Biological hazard Note: The device itself does not produce biohazard. The biohazard is mainly derived from the specimens/ slide used on the device.
	In vitro diagnostic products

 <p>安装前请务必先打开前盖板取出机体内的EVA垫块!!! 详见说明书 Please make sure the EVA foam is taken out before starting any operation!!! Detail please check the manual.</p>	<p>Please make sure the EVA foam is taken out before starting any operation!! Detail please checks the manual.</p>
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For damaged, missing or unreadable labels, please contact Motic Group Corporation for replacement before continue operation.

1.3 Device Safety and EMC

- MoticEasyScan Digital Slide Scanning System is designed, manufactured and inspected in accordance with the IEC 61010-1:2010/EN 61010-1:2010 and GB4793.1-2007 safety standards for electrical measurement, control, adjustment and laboratory device.
- Electromagnetic is compatible to the standard of GB 18268.1-2010/IEC 61326-1-2005/IEC 61326-2-6:2005 and EN 55011.
- USB 3.0 port shall only be connected to certified computer according to IEC/ANSI/UL 60950-1 & 62368-1.
- Waste treatment disposal is implemented based on WEEE-Regulation 2002/96/EC.

Summary list:

Project	Standard
Safety Regulations	IEC 61010-1:2010/EN 61010-1:2010 & GB4793.1-2007
EMC	GB 18268.1-2010/IEC 61326-1-2005/IEC 61326-2-6:2005 & EN 55011
Device Scrap Disposal	WEEE 2002/96/EC

1.4 Warranty Description

MoticEasyScan Digital Slide Scanning System and its components are only allowed to be operated within techniques and processes described in this operation manual. Please noted: USB 3.0 port in MoticEasyScan shall only be connected to certified computer according to IEC/ANSI/UL 60950-1 & 62368-1.

The manufacturer does not take any responsibility for damage caused by usage not complying with the instruction in the Manual.

Please note the following warranty for MoticEasyScan Digital Slide Scanning System:

- Manufacturer warranty for material and product quality starts at the time of delivery.
- In case of malfunction, please inform the manufacturer immediately.
- If being notified of such a defect, the manufacture is obligated to repair the device or deliver an intact replacement.
- Manufacturer does not assume warranty for those defects caused by natural wearing (especially the wear & tear parts and consumables) or improper use.
- Operation of the equipment out of the functions described in this manual, negligence or replacing equipment components will invalidate all warranty rights.

2. GENERAL DESCRIPTION

2.1 Product Application Range

MoticEasyScan Digital Slide Scanning System is a professional scanning device, with high-precision motion control system and high-resolution digital imaging system which can scan 1 or 1 to 6 pieces of glass slide in the tray at the time. Rapid high quality digital slide scanning can be achieved with Motic digital slide scanning software Easyscanner. It is applicable for scanning, digital storage, transferring and browsing of histopathology slide, cytology and biology slides etc.

2.1.1 Intend use

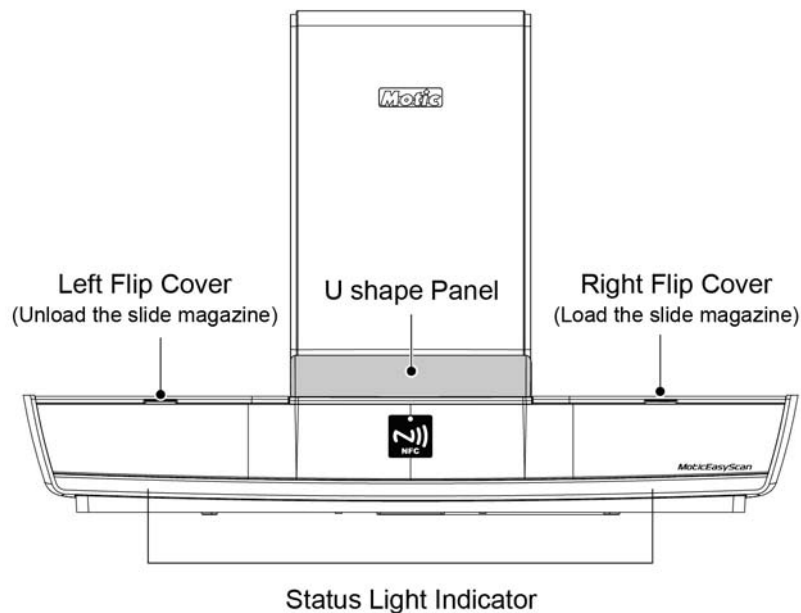
MoticEasyScan Pro 6N is applicable for image scanning, browsing, storage and transmission of pathological slides.

2.2 System Overview

2.2.1 System Diagram

This product consists of device main unit, slide tray, computer and scanning software.

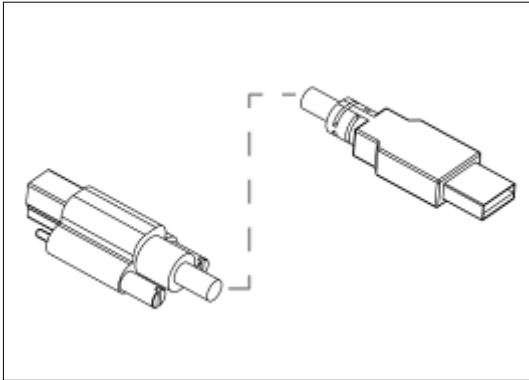
- * If the equipment is used in manner not specified by the manufacturer, the protection provided by the equipment may be impaired.



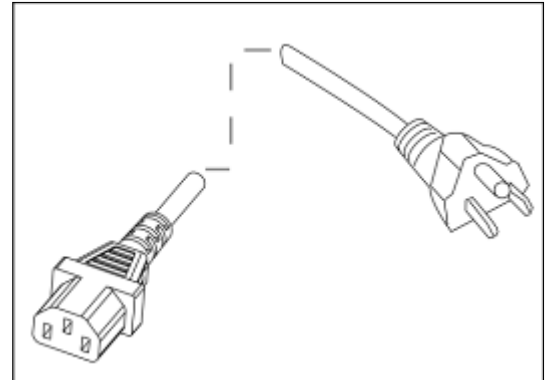
(Fig. 1)

2.2.2 System Installation

Before installation, please be familiar with following parts.



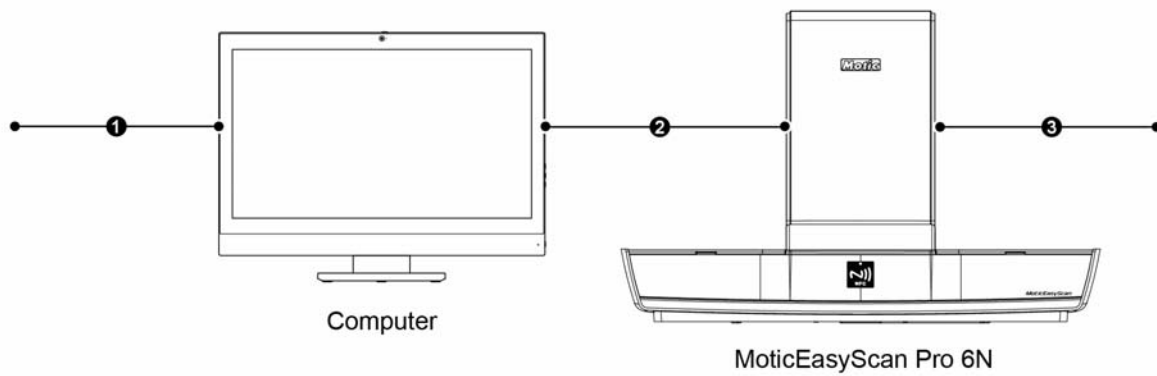
USB 3.0 cable



Power Supply Cable

(Fig. 2)

2.2.3 System Connection Diagram



1. Computer Power Supply Cable
2. USB 3.0 Cable (Connect Computer and Scanner)
3. Scanner Power Supply Cable

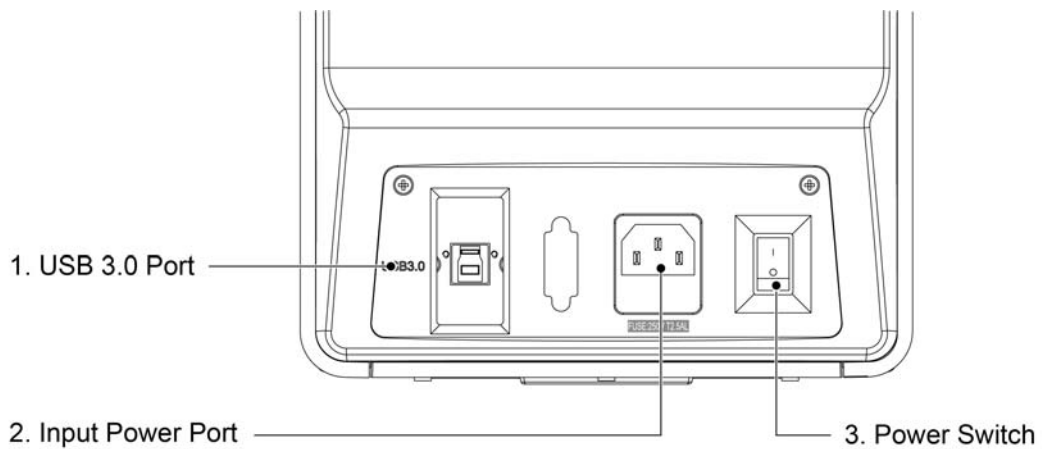
(Fig. 3)

2.2.4 Port Description

2.2.4.1 Device Hosting Ports Description

- MoticEasyScan Pro 6N

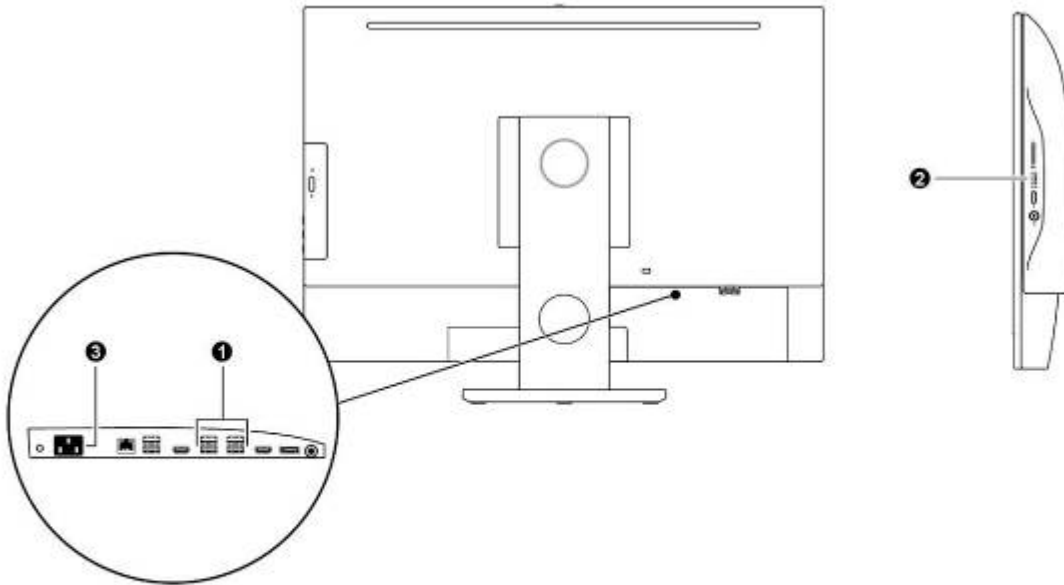
Connect the USB 3.0 of the MoticEasyScan Pro 6N to the USB 3.0 of your computer (the USB 3.0 port is usually blue or next to it, which Marked “SS”.)



(Fig. 4)

2.2.4.2 Computer Ports Description

USB port of host computer should be USB3.0 port, which is signed with SS or marked as blue color.

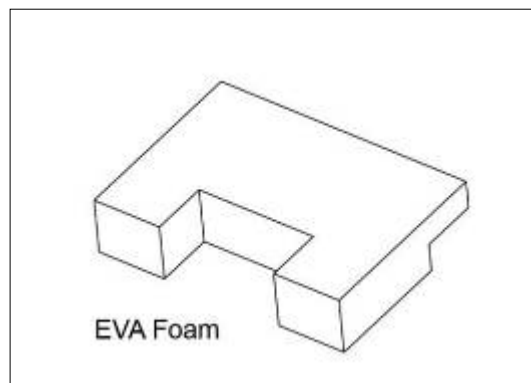


- 1. & 2. Computer's USB 3.0 Port (For Scanner use)
- 3. Computer Power Supply

Computer Port Diagram
(Fig. 5)

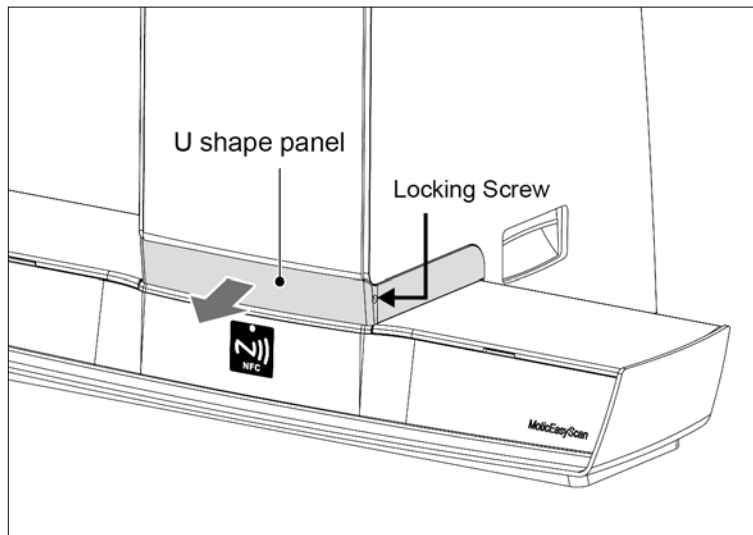
2.2.5 System Connection Operation

*** Please make sure the EVA foam (Fig. 6), which is inside the MoticEasyScan Pro 6N is taken out before starting any operation

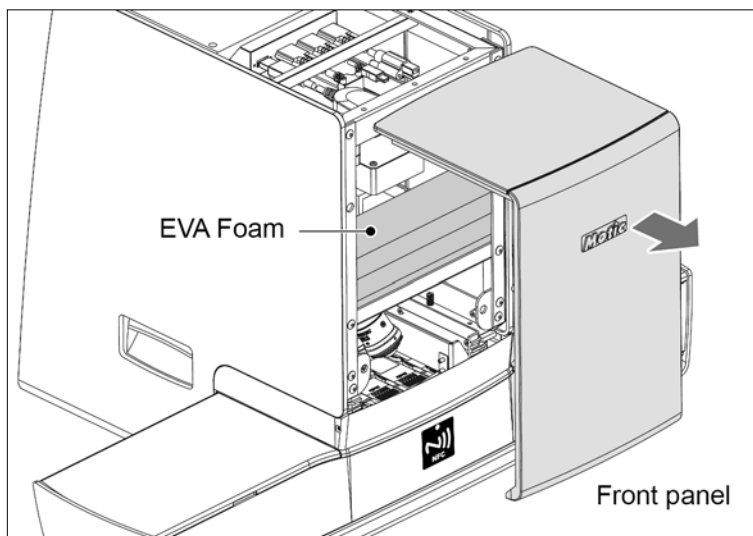


(Fig. 6)

- Firstly, manually disassemble the locking screw on the both sides of front U shape panel. And remove the U shape panel. (Fig. 7a)
- Then slide the front panel out in horizontal direction from the device. (Fig. 7b)
- Cut the nylon cable tie
- Remove the EVA foam carefully. (Fig. 7b)
- Slot the front panel and the U shape panel back into the MoticEasyScan Pro 6N and lock the locking screw.



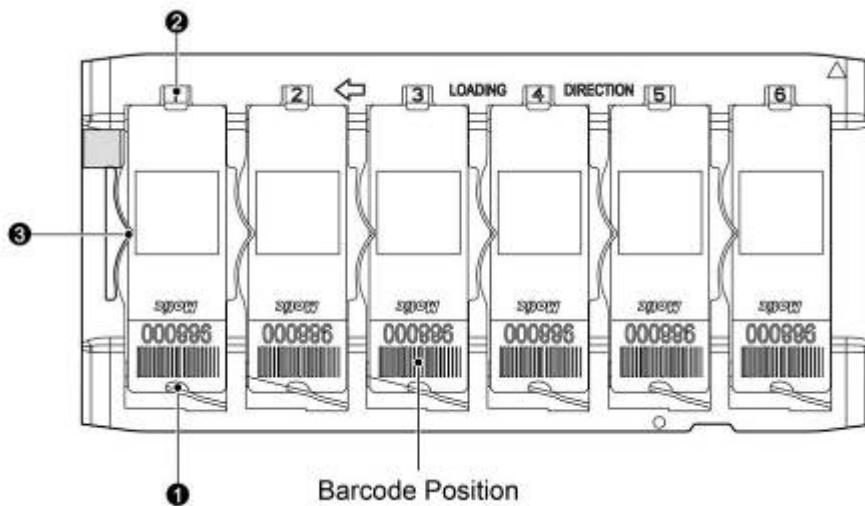
(Fig. 7a)



(Fig. 7b)

- MoticEasyScan Pro 6N Connection
 - a. Please make sure that all power is switch off before connecting.
 - b. Take reference of system connection diagram (Fig. 4), follow the steps below for connection.
 - Plug one end of USB3.0 line to USB port of scanner and connect the other end to USB3.0 port of computer.
 - Make sure system power is switch off, plug the power cord to the power socket of the scanner and connect the other end to a safety rated Power outlet.

2.3 Slide Tray



(Fig. 8a)

2.3.1 Slide Placement Procedure:

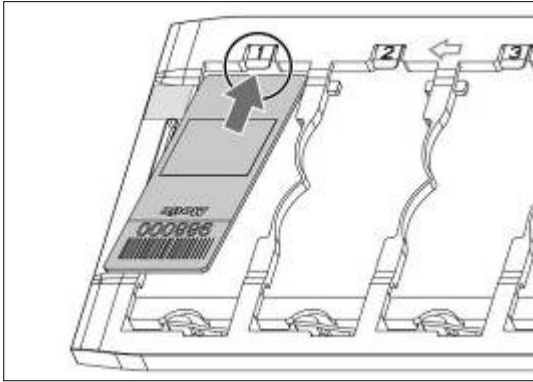
2.3.1.1 Slide Loading Procedure:

- a. Hold the edge of the sides with the thumb and index finger, follow the direction of Fig.9a, load the slide under the clip Fig. 8b-② with 15 degree angle, then push it to the end .
- b. Push the slide with barcode end downward to the direction of clip Fig. 8b-① and in the meantime the other hand move beneath clip of Fig. 8b-① to assist the slide goes into the clip.
- c. Make sure the slide is pushed against the left side of Fig. 8b-③ as shown in Fig. 9c

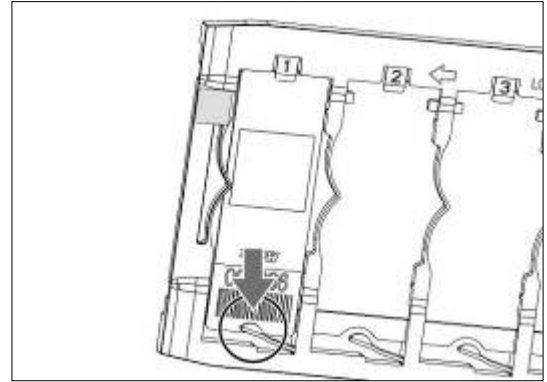
Note:

Ensure the backside of clip Fig. 8b-① and Fig. 8b-② are pressed on the top of the slide.

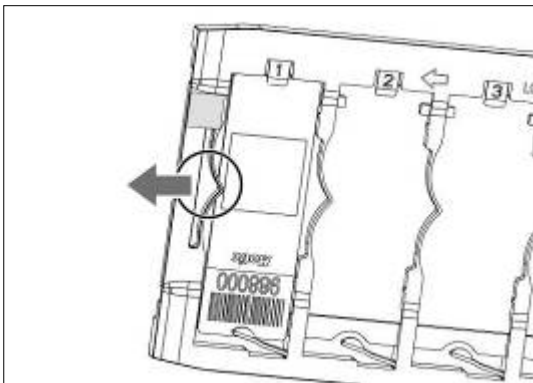
Try not to touch the cover glass on the slide during the whole process.



(Fig. 9a)



(Fig. 9b)

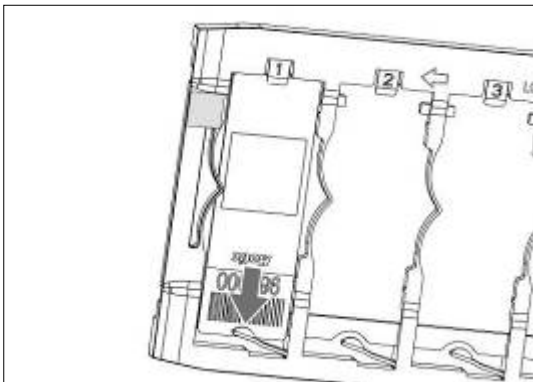


(Fig. 9c)

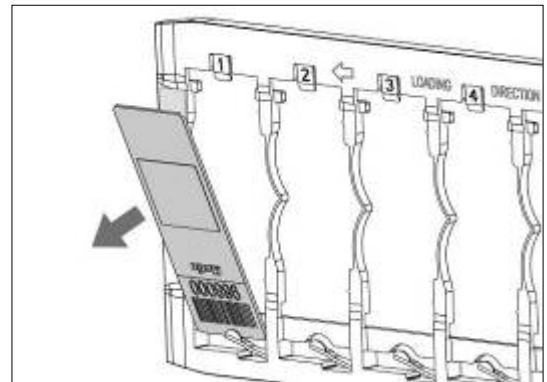
2.3.1.2 Slide unloading Procedure:

- a. Hold the slide with index finger and thumb, unload the slide by pushing the slide towards the direction of clip Fig.8b-① until the other end of the slide can be lifted (Fig. 10a)
- b. Lift the slide upward to move out of the slide position (Fig. 10b)

Note: Try not to touch the cover glass on the slide during the whole process.



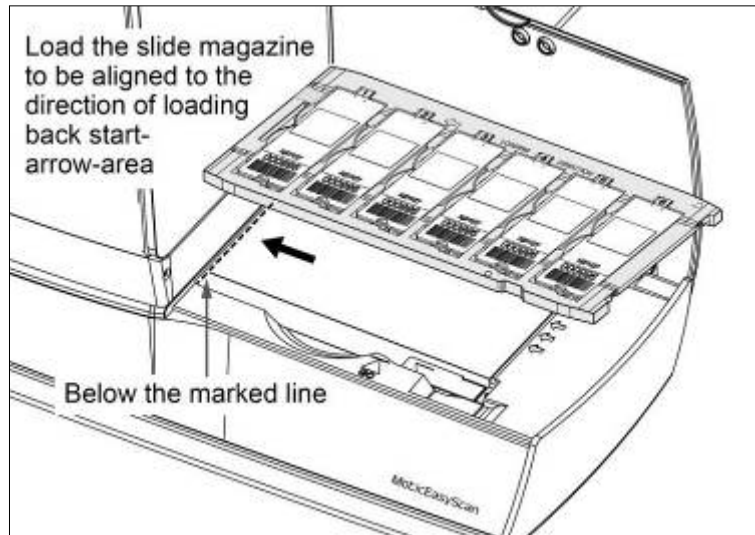
(Fig. 10a)



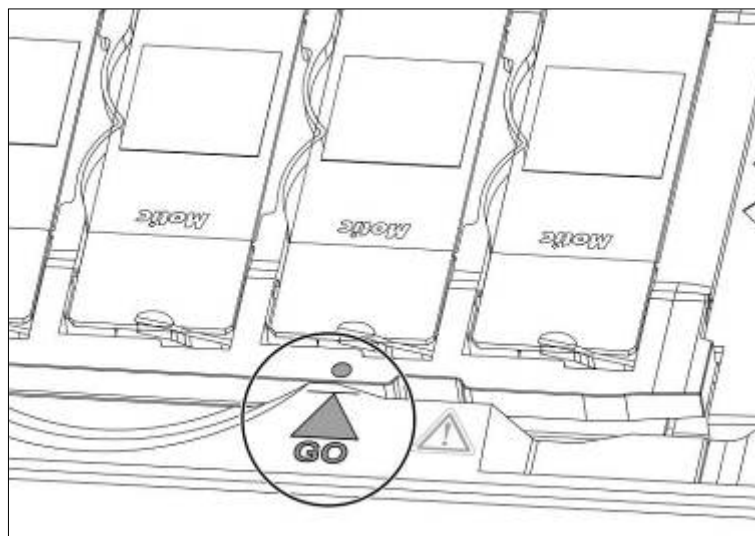
(Fig. 10b)

2.3.2 Slide tray Loading Procedure:

- a. Open the right flip cover, load the slide tray with the direction shown in the figure, and make sure the top surface of slide-tray fits below marked line (Fig. 11a).
- b. After inserting the slide-tray, ensure the triangle arrow of positioning slot “GO” points to the dot (Fig. 11b).

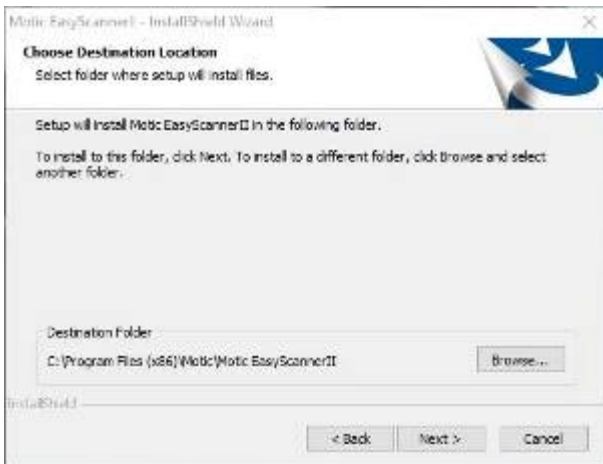


(Fig. 11a)

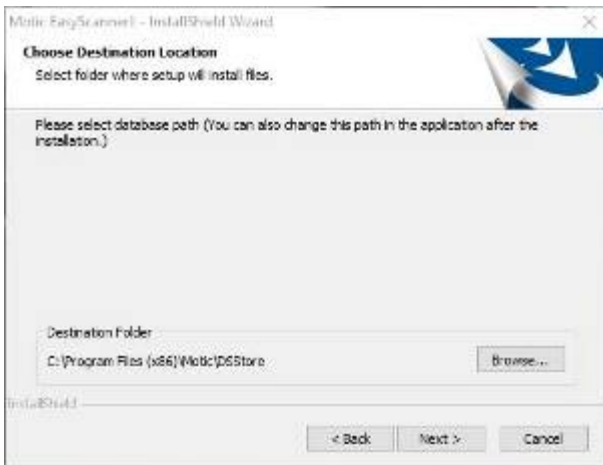


(Fig. 11b)

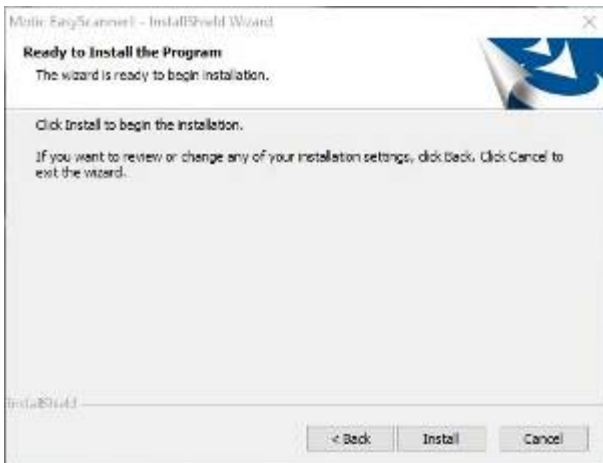
d. Select installation path and click “Next” button;



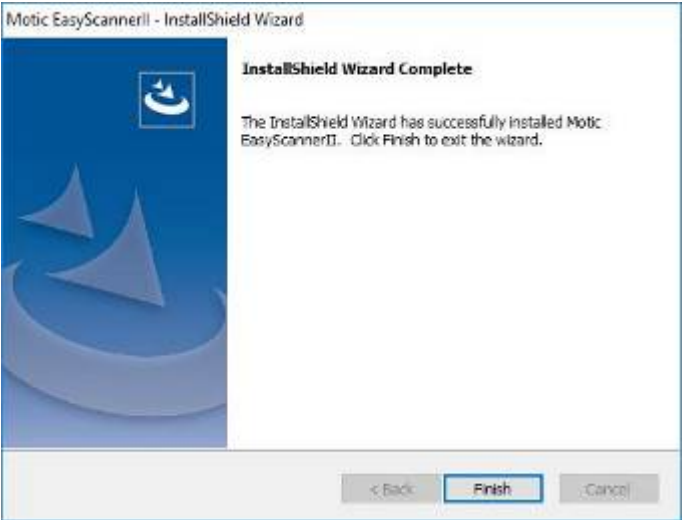
e. Select the database installation path and click the “next” button;



f. Click “Install” button to proceed installation and display installation process;



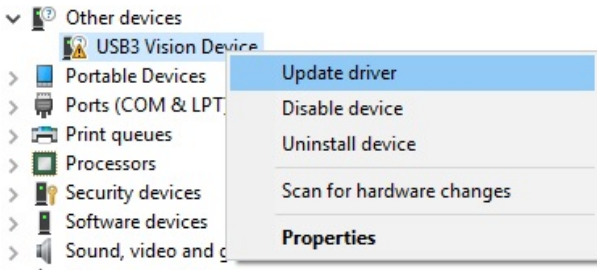
g. When installation is completed, click **“Finish”** button to complete software installation



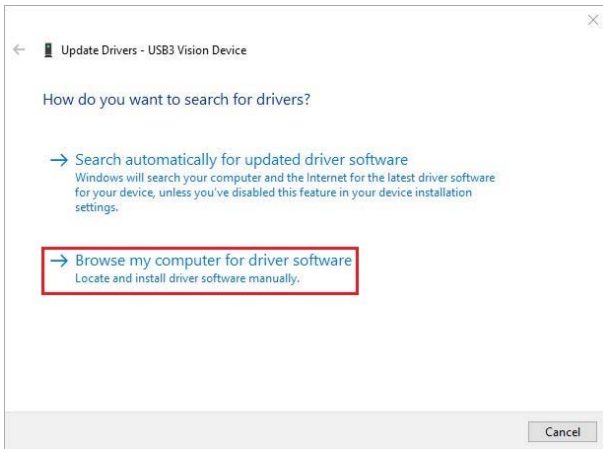
3.2 Driver Installation

3.2.1 Driver Installation for Main camera

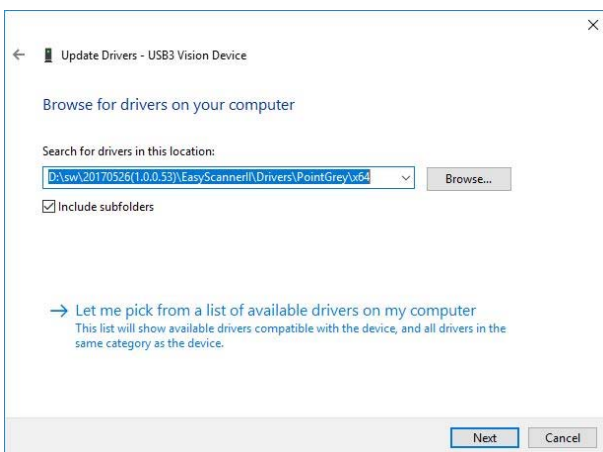
- a. Find the camera in the “**Device manager**”, then click “**Update Driver Software**”.



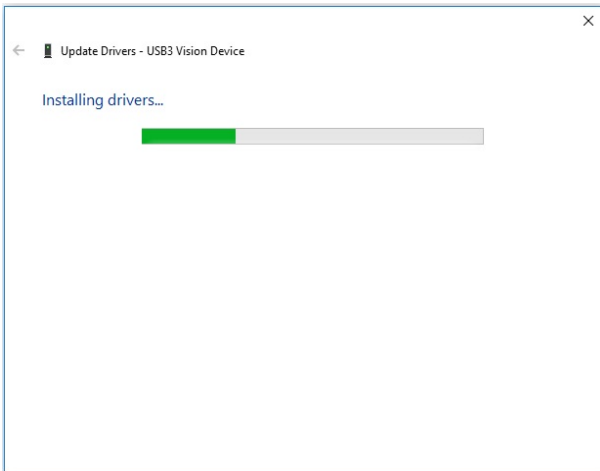
- b. Click “**Browse my computer for driver software**”.



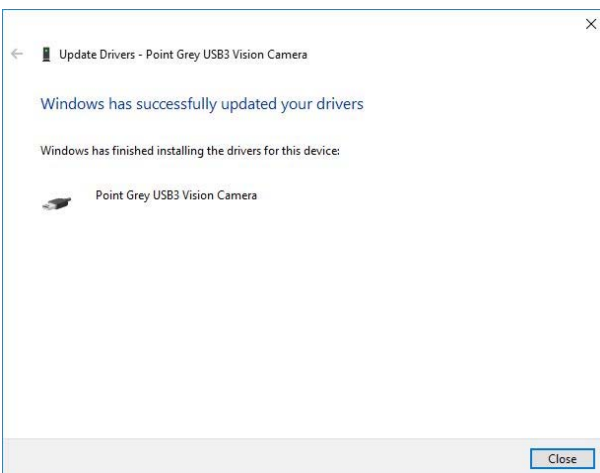
- c. Click “**Browse**”, select Drivers\PointGrey in the folder, and click “**Next**” button.



d. The files are being copied to your computer.

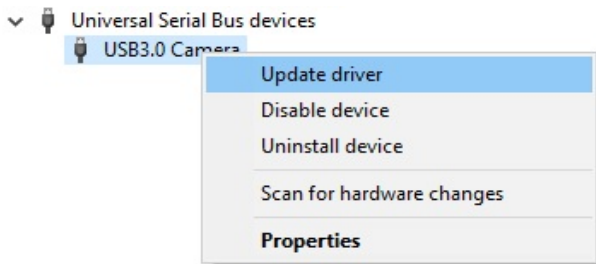


e. When the installation is completed, close the window in the following figure to complete the driver installation. To ensure the proper work of your device, please restart your computer.

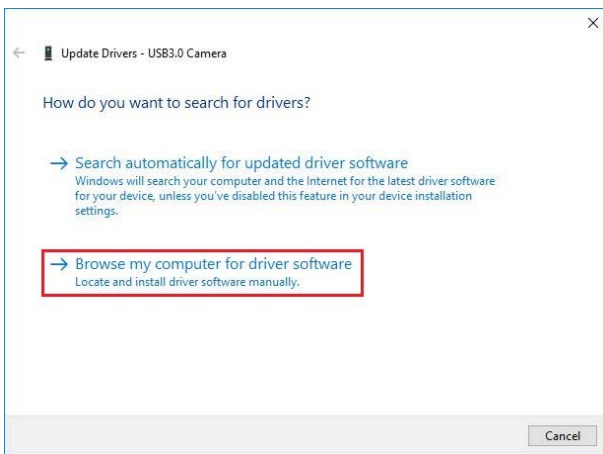


3.2.2 Driver Installation for Focusing Camera

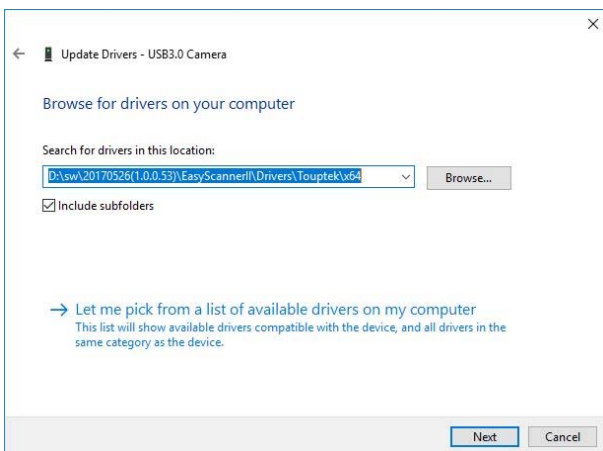
- a. **“USB3.0 Camera”** shows under the PC **“Device manager”**, then click **“Update Driver Software”**.



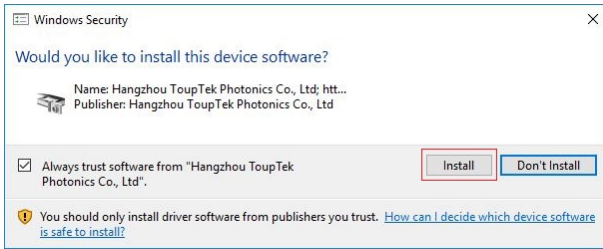
- b. Click **“Browse my computer for driver software”**.



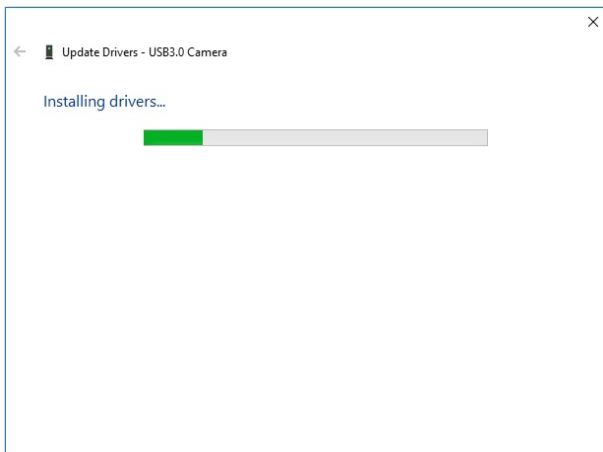
- c. Click **“Browse”**, select the installation package of Motic EasyScanner, then find **“Motic USB3.0 Camera”** from **“Drivers”** folder, and click **“Next”** button.



d. Click **“Install”** button.

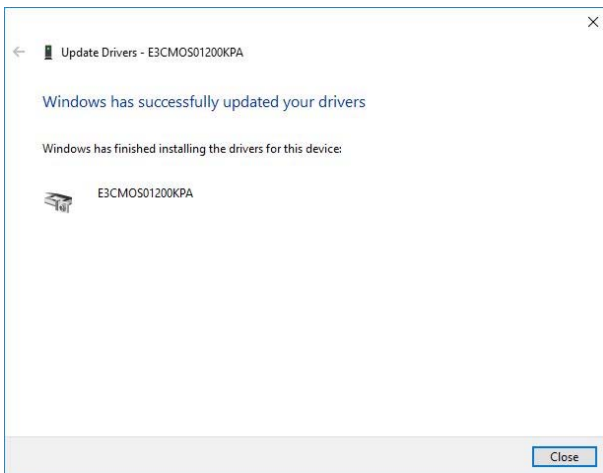


e. The files are being copied to your computer.



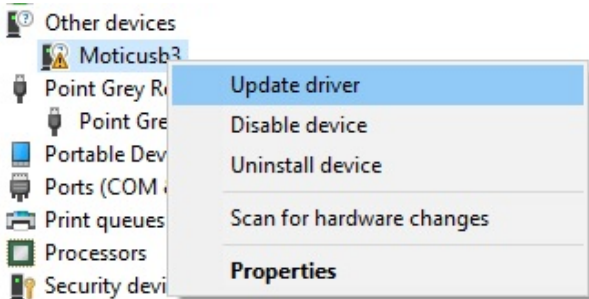
f. Click **“Close”** button.

To ensure the proper work of your device, please restart your computer

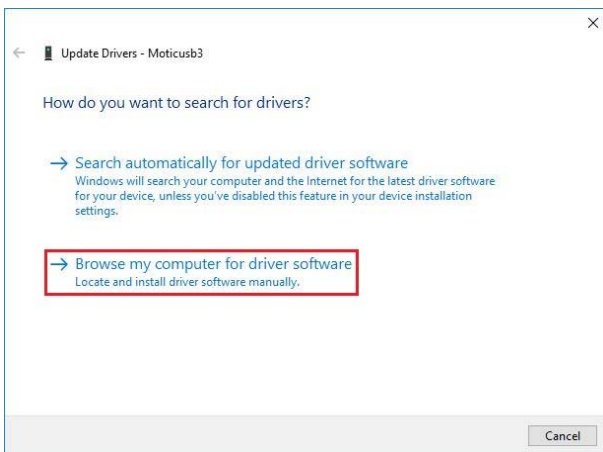


3.2.3 Driver Installation for Macro camera

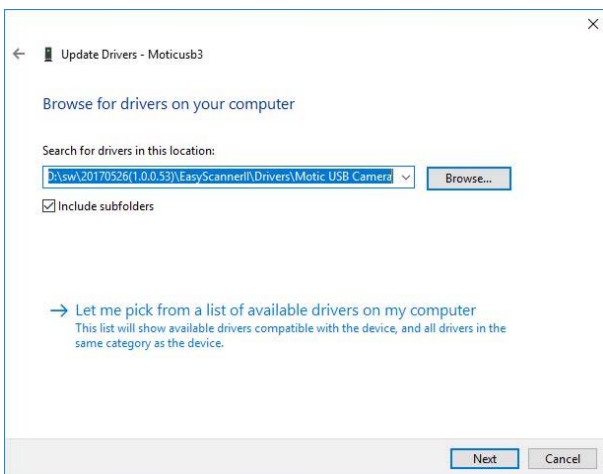
- a. “**Motic USB3.0**” shows under the PC “**Device manager**”, then click “**Update Driver Software**”.



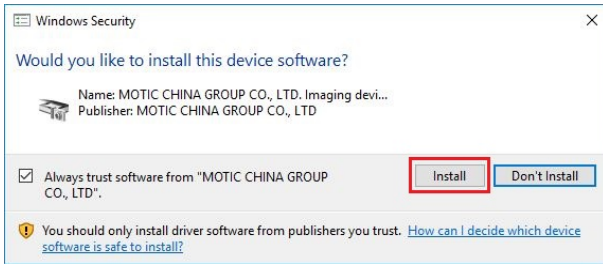
- b. Click “**Browse my computer for driver software**”



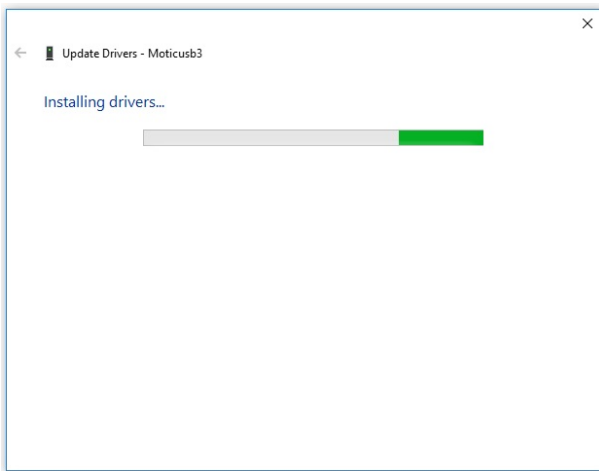
- c. Click “**Browse**”, select the installation package of Motic EasyScanner, then find “**Motic USB3.0 Camera**” from “**Drivers**” folder, and click “**Next**” button.



d. Click **“Install”** button.

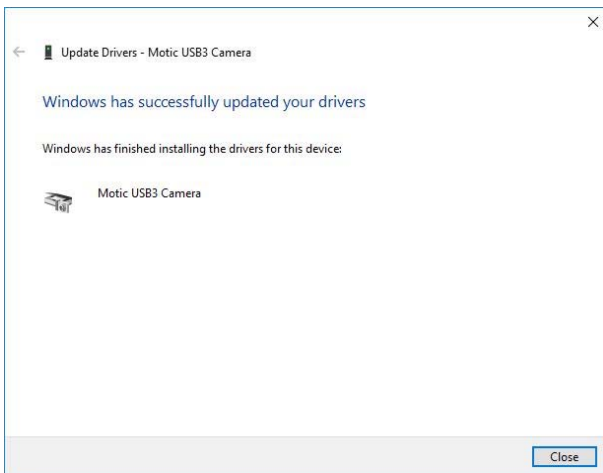


e. The files are being copied to your computer.



f. Click **“Close”** button.

To ensure the proper work of your device, please restart your computer

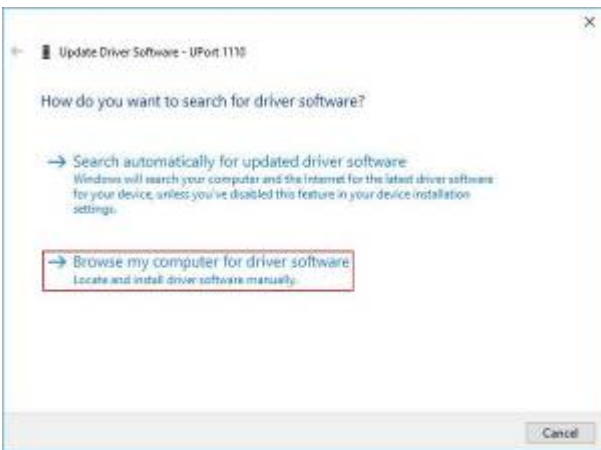


3.2.4 Driver Installation for MOXA USB Serial Port driver

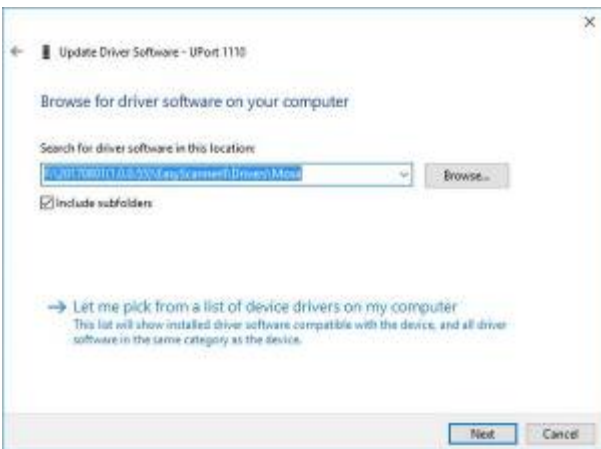
- a. “U Port 1110 driver” shows under the PC “Device manager”, then click “Update Driver Software”.



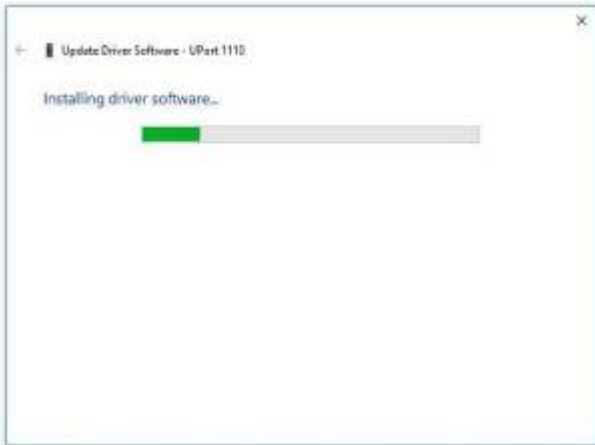
- b. Click “Browse my computer for driver software”



- c. Click “Browse”, select Drivers\Moxa in the installation package, and click “Next” button.

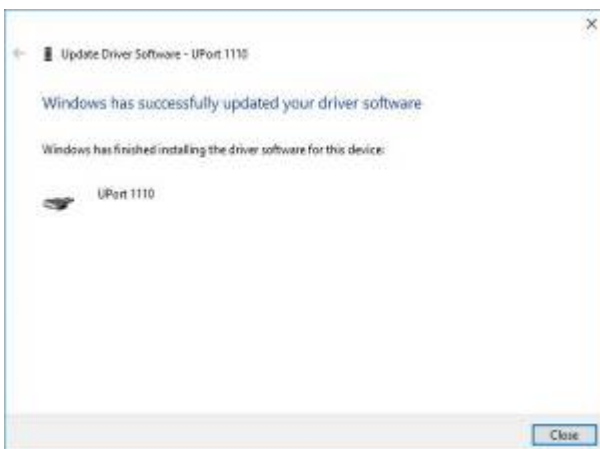


d. The files are being copied to your computer.



e. Click **“Close”** button.

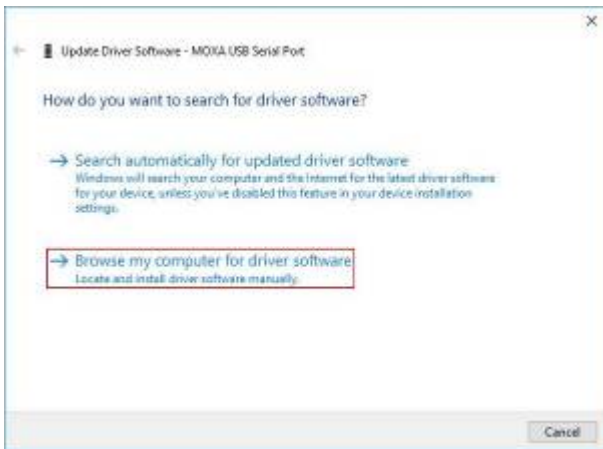
To ensure the proper work of your device, please restart your computer.



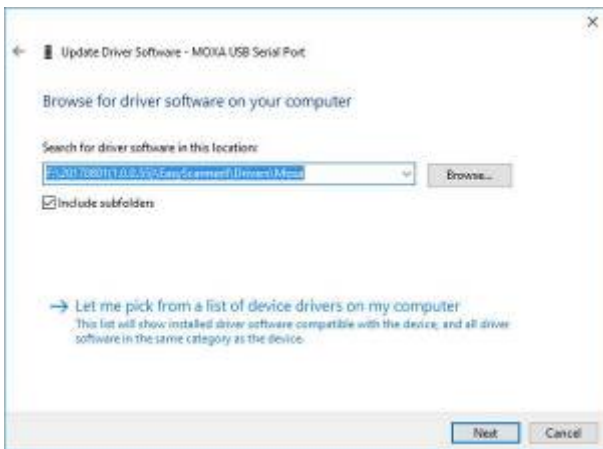
f. **“MOXA USB Serial Port”** shows under the PC **“Device manager”**, then click **“Update Driver Software”**.



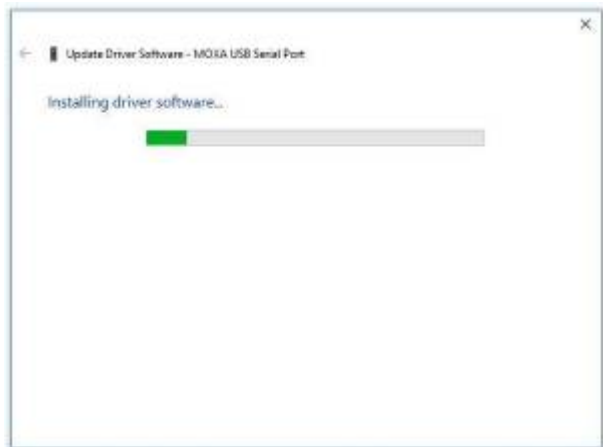
g. Click **“Browse my computer for driver software”**



h. Click **“Browse”**, select Drivers\Moxa in the installation package, and click **“Next”** button.



i. The files are being copied to your computer.



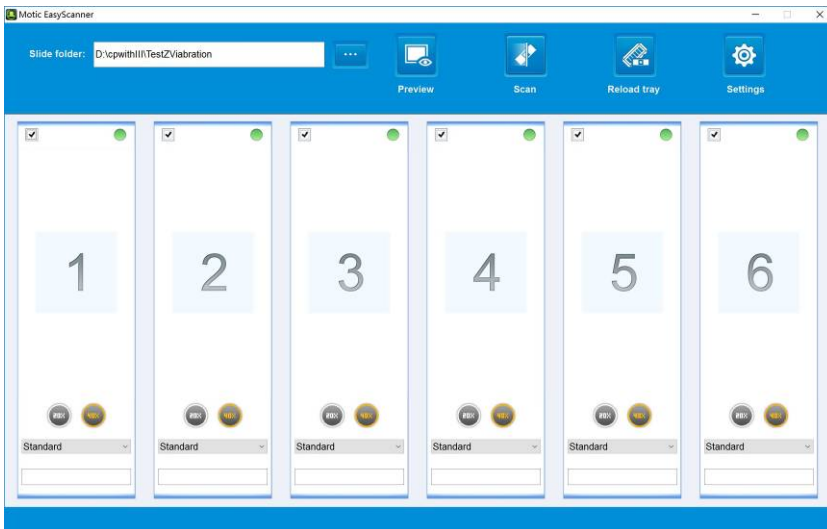
j. Click **“Close”** button.

To ensure the proper work of your device, please restart your computer



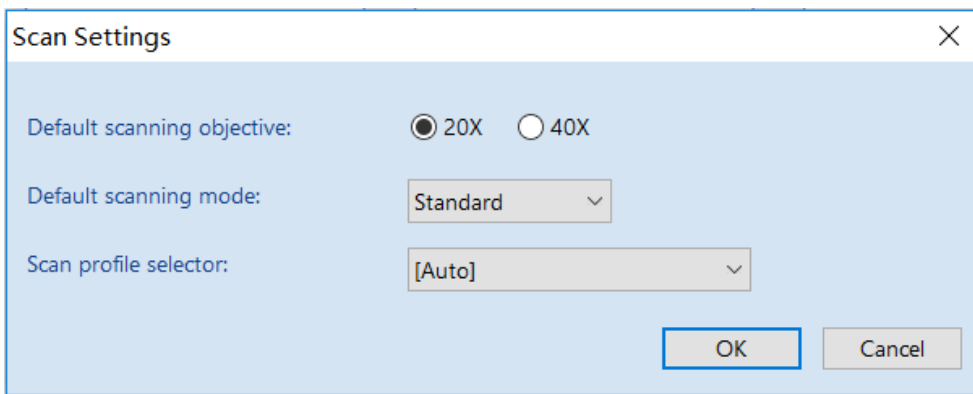
3.3 User Interface

Double-click the software icon on the desktop to run the software, and the following interface will display.



This is simplified operation interface, software initial status **“Scan”** button is in grey. After loading the slide tray, **“Scan”** button will be automatically activated (change from grey to blue), then click **“Scan”** for automatic scanning. Main function is described as below:

- a. **Slide Folder:** Set up batch slide scanning saving route
- b. **Preview:** The macro image of clicking the slide for batch scanning.
- c. **Scan:** Click the slide for batch scanning
- d. **Unload Tray:** slide tray will move to the left side (the dot on the slide tray will be pointed to the triangle point of FINISH of left side positioning slot), then open the left flip cover and take the slide tray out.
- e. **Settings:** For setting the Magnification Mode 20x or 40x, Scanning Mode & Scanning Profile Once the setting is complete, it will be the default setting. The system boot up will automatically detect the default setting. *(if nothing to done on the setting, the system will use the default setting from the factory)* During the operation any changes in the setting does not require reboot but the scanning will adopt the setting parameter.



- f. **Advanced Mode:** Click the advanced mode interface (need to input password, default password: Motic12345).



The advanced mode interface consists of a title bar, menu bar, tool bar, observation window, status bar, and each Panel (such as video tuning, digital chips scanning and device control window).

User interface applies floating/ fixed window design, the user can customize the window layout, all windows can be set as floating, fixed or hidden type. System will automatically save current window layout, and take it as the default window next time when running the program.

- g. **Magnification Mode Selection:** Include 20X and 40X. 40X is the default magnification and can be changed in the settings.*
- h. **Scanning Mode Selection Frame:** Can select standard, high precision, EDF extension and Z-stacking, standard is the default mode.*
- i. **Scanning Profile Selection:** Can select the prefix scanning area otherwise the default will be on Auto. *
- j. **File Name Edit Frame:** If slide has barcode, it will be automatically identified and name it with the time to date; if there is no barcode, then it will be named as the time to date; name can also be changed manually.

Note:

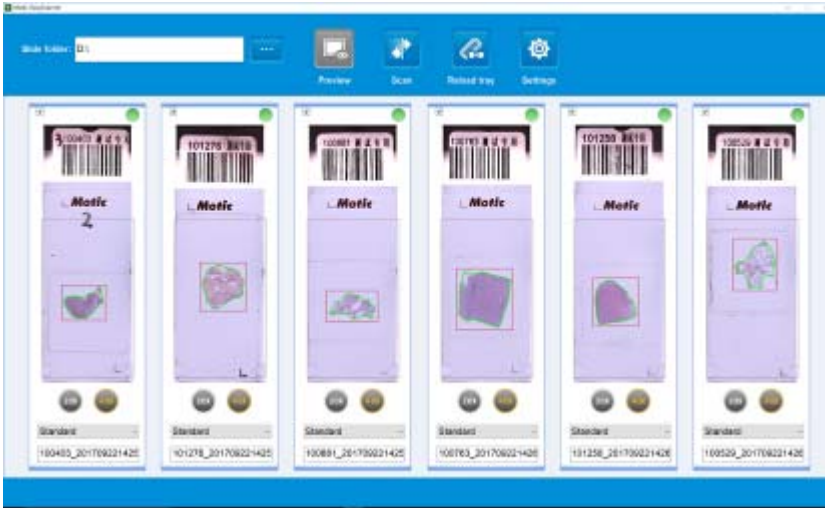
* The selection setting is on individual slide, only applicable on the present slide. Even the selection is not interrupted; the system will automatically return to the default setting for the next tray.

3.4 Slide Scanning

3.4.1 Slide scanning — operation interface

Operation interface can realize simplified operation, simplified setting and fast batch scanning.

Operation interface is the main interface of the scanning software.



It provides essentially One-Click-Operation, but allows simple customization steps to operate Scanner. The software provides basic default settings, but user can also manually set-up slide-tray storage path, scanned magnification and scan mode if needed.

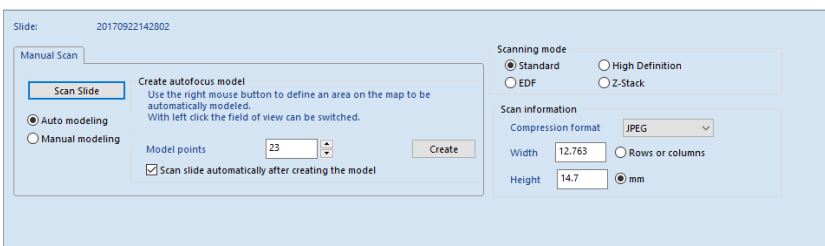
After clicking “**Scan**” button, the batch scanning will be performed based on interface settings. When scanning is completed, a message will be displayed for next step operation. The digital slide image can be viewed by double clicking the macro image or via “**DSAssistant**”.

3.4.2 Slide Scanning — Advanced Mode Interface


Manual scan selection page is in “**digital slide scan**” window.

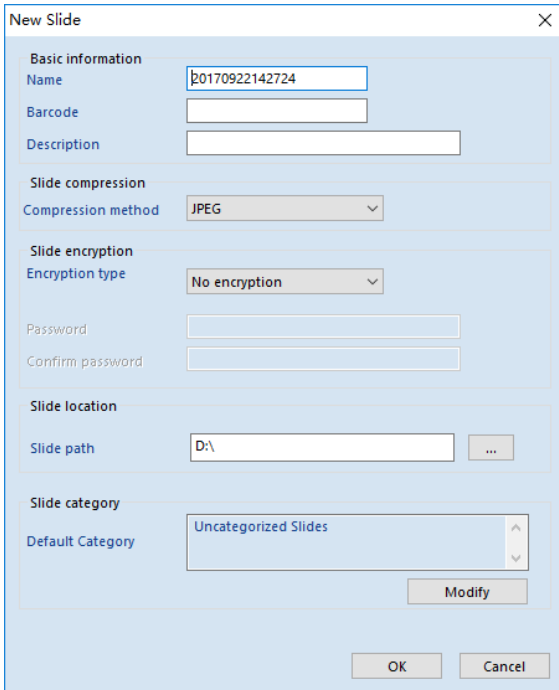
User can obtain a sharp digital slide via scanning map, establishing focus model and scanning slide

Below shows full slide scanning acquisition process (slide macro image is obtained by loading the slide).



a. Create New Slide

In the tool bar, click  and a window will be popped up, type in corresponding slide name and description, select encode method and slide storage path, click “**confirm**” button.



New Slide

Basic information

Name

Barcode

Description

Slide compression

Compression method

Slide encryption

Encryption type

Password

Confirm password

Slide location

Slide path ...

Slide category

Default Category

Modify

OK Cancel

b. Create Focus Model

Focus model establishment includes auto model and manual model.

If selecting “**Auto Modeling**”, please follow below procedure.

- Move the slide to ensure the area with tissue is in the middle of the field. Focus the slide until a sharp tissue image is acquired in the field.
- Define modeling area
 - i. Software normally will automatically identify slide tissue based on the slide macro image and show it with red bold line square. The red bold line square is used for establishing auto focusing modeling.
 - ii. To adjust modeling area, move the mouse on the red frame line and hold the left mouse button to drag then the dimension of red bold line frame will be changed.
 - iii. If user does not need to do modeling in this area, click the mouse left button on the map to cancel modeling area and the red frame will be disappeared.
- Set modeling point: system will automatically display modeling number on the “**modeling numbers**” based on scanned tissue dimension. Add or reduce the number of models by clicking the arrow (up is for increase and down is for reduce), or manually enter a numeric value.
- Click “**modeling**” button, system will automatically collect modeling point.

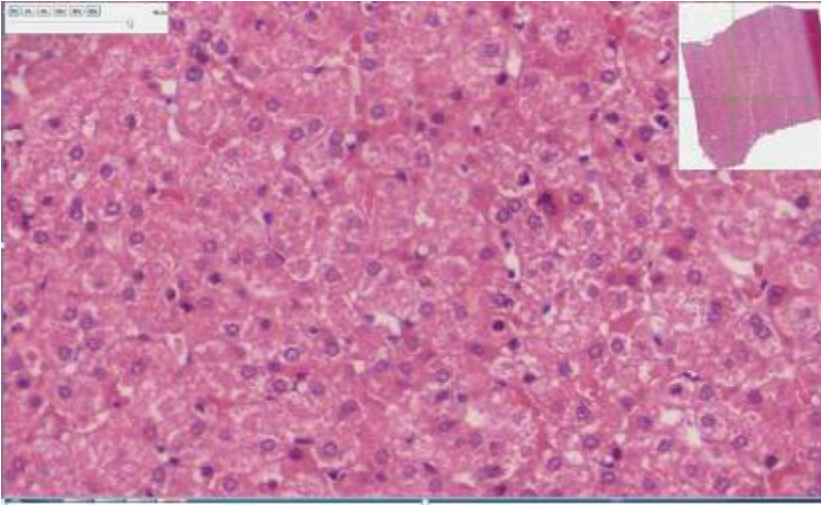
At the beginning of modeling process, several Green models will be displayed on the map collection point. After the acquisition is completed, the model will changed from green to blue.
- After acquisition of the models, system will automatically start flat focus compensation function
- Can move to the field and observe the model assessment results by clicking the left mouse button.

Normally most field images are sharp after starting general model.

If majority of the images are not sharp, please repeat (1) to (5) steps to re-establish the model;

3.5 Digital Slide Browsing

In the main window of the software setup interface, select the slide library tab to display the list of slide scanning records. The user can open the digital slide browser by double clicking the section of the slide list column. The slide browser provides multiple multiples for user selected browsing (the highest viewing times are the scan multiples). Users can also browse, edit, mark and so on through the DSAssistant software.



3.6 NFC Function

Put one end of the tray with NFC chip close to the sensing area on the front panel of the scanner. After hearing the sound of **"tick"**, the system displays the tray information.

4. OPERATION GUIDANCE

4.1 Cautions

- a. Maintain clean slide tray, preventing contamination of glue, oil and others.
- b. Follow procedure **Chapter 2.3** (Slide tray) for slide tray loading.
- c. Follow the software prompts to load and unload slide tray, prohibit any arbitrary action, otherwise it will cause damage to the device.
- d. MoticEasyScan Pro 6N is a high precision system, any arbitrary opening of the system cover is prohibited.
- e. When operating the equipment, operator should always use protective glove, gown and moth protection when in contact with slide in order to preventing (bio) hazards.
- f. To prevent environmental and biohazards, please disposal or recycle the slide and slide tray in accordance with local regulation and rules or contact manufacturer or local distributor for further recycle process.
- g. When equipment expired the period of use, please disposal or recycle equipment in accordance with local regulation and rules or contact manufacturer or local distributor for further recycle process.

4.2 Operation Instruction

- a. Turn on the power switch.
- b. Start the scanning software. When the software starts the mechanism initialized to the origin position
- c. Open the right cover flip of the scanner. Load the slide tray into slide tray positioning slot and make sure the white dot on the slide tray is points precisely to the triangle “GO”.
- d. At this moment, the “**Scan**” button is activable on the operation interface. Single click operation will start the operation by clicking on the Scan button. It is prohibited to remove the slide by force during normal operation.
- e. A prompt window will be popped up when the scanning is completed, a new slide tray can be replaced. Frist remove the scanned slide tray, the loading mechanism will return to the origin position at right side of the MoticEasyScan Pro 6N, a new slide tray can be loaded after loading
- f. When software exits normally, the slide tray will be exit to the left side of the MoticEasyScan Pro 6N. The scanned slide tray can be removed by opening left cover flip and remove the slide tray.

5. MAINTENANCE AND TROUBLESHOOTING

5.1 Care and Maintenance

- a. Keep the slide tray clean (especially the backside of the slide tray) to prevent contamination and deformed during operation.
- b. Keep scanning guiding rod clean and avoid foreign objects attaching to the top which would result to uneven placement of slide affecting the scanning results.
- c. Careful handling is required during operation to avoid collision or fall which would result to components deformation and affecting scanning precision.
- d. During cleaning and maintenance process, be careful not to drag the device which would affect the accuracy of it.
- e. Turn off the power when the device is not in use.

5.2 System Calibration

5.2.1 Calibration

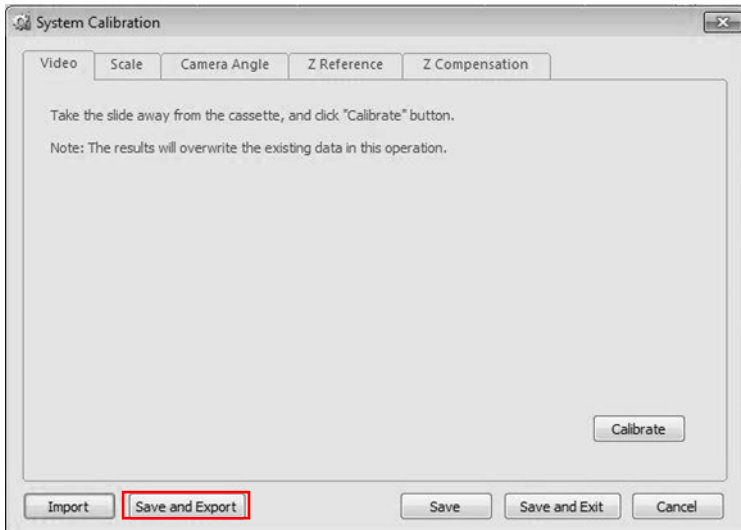
It provides 3 method to calibrate.

5.2.1.1 Import Calibration File

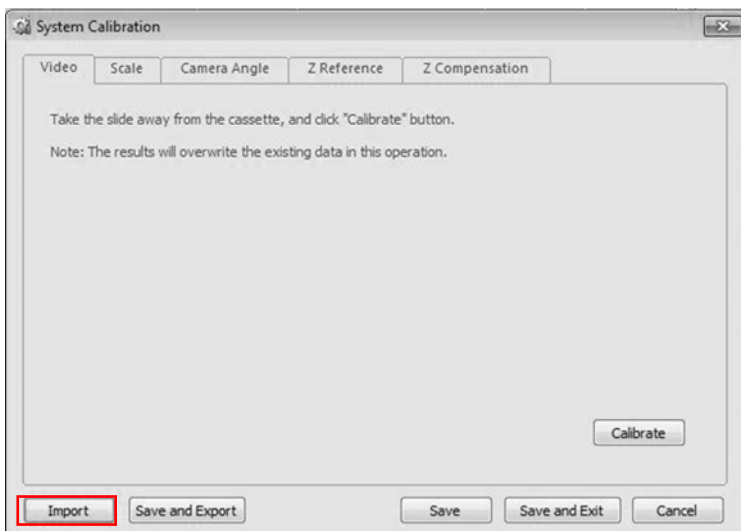
The importing of the calibration file is required for reinstalling or updating the software. (No change the hardware)

- a. Make sure the correct calibration data is backup before reinstalling or updating the software. Go to “**System Calibration**”, click “**Save and Export**” button; then it will save the calibration data to a file.

Note: Generally backup is recommended even the MoticEasyScan Pro 6N is in a good working condition or once the calibration is completed.



b. Go to "System Calibration", click 'Import' button and select the backup calibration file.

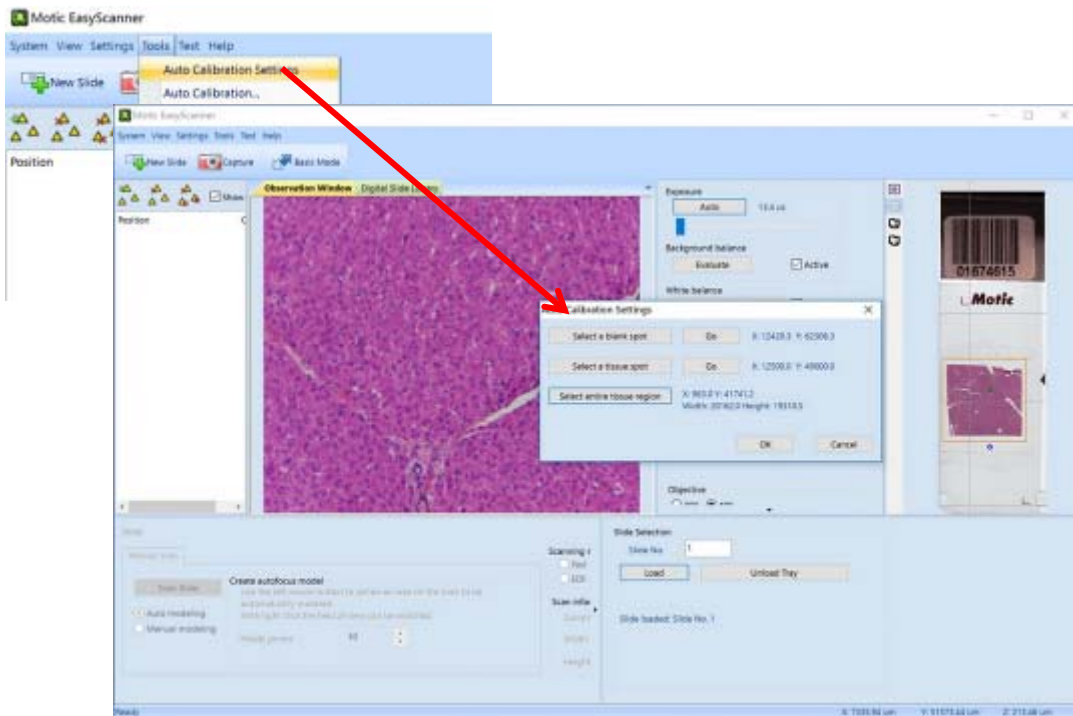


5.2.1.2 Auto Calibration

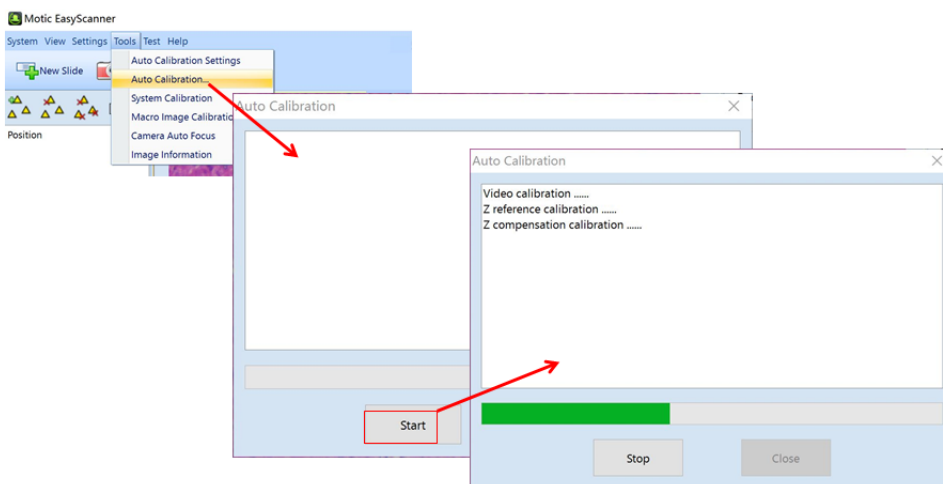
This is an intuitive automatic calibration procedure which provides simple and quick operation. It is only required when changing the objective or poor scanned images.

a. Auto Calibration Settings

Follow the wizard; select a blank spot then a tissue spot and the entire tissue region in the map.



b. Click the Auto Calibrate as shown in the following figure, it will automatic complete the System Calibration, Macro Calibration and Focus Calibration.



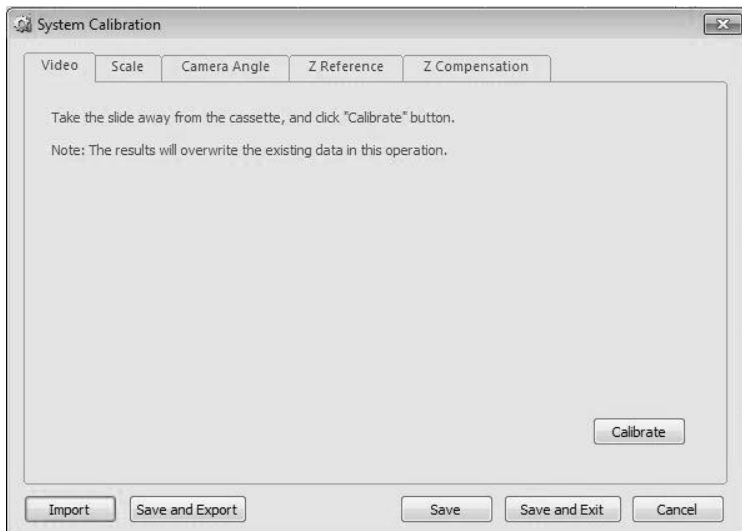
5.2.1.3 Manual Calibration

It is required when changing the hardware especially replacing the camera or system fail to auto calibrate.

a. System Calibration

- Video

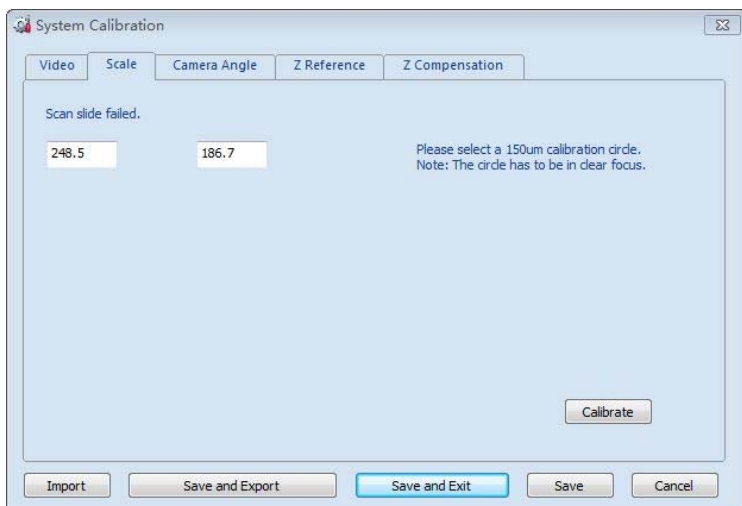
Calibrate: remove the slide first, and click the Calibrate button, the system will automatically execute the "**Exposure**", "**Background Balance**", "**White Balance**".



- Scale

For calibrating the field of view (FOV) width and height (um)

Calibrate: start to perform the calibration operation.

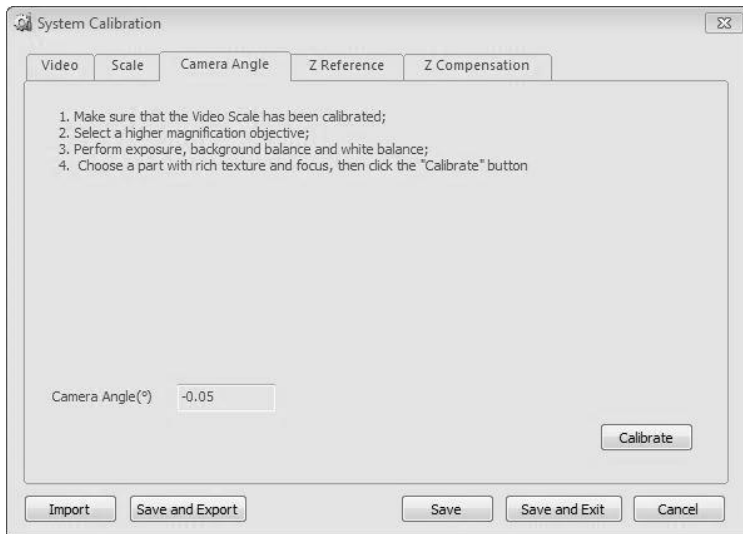


- Camera Angle

Camera angle offset calibration is to calibrate the camera angle offsets against the instrument axis, this ensures the image stitching.

Camera Angle: display calibration results of camera angle

Calibrate: start to perform calibration operation (Please read the calibration conditions before calibration).



b. Macro Camera Calibration

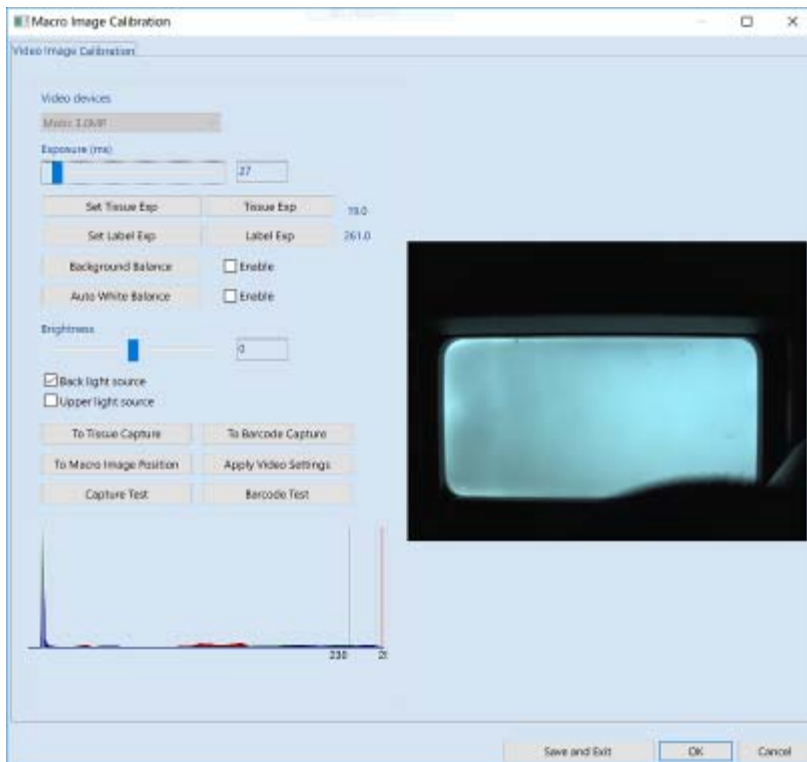
Below procedure are for video image calibration and map (slide macro image) position calibration.

Video image:

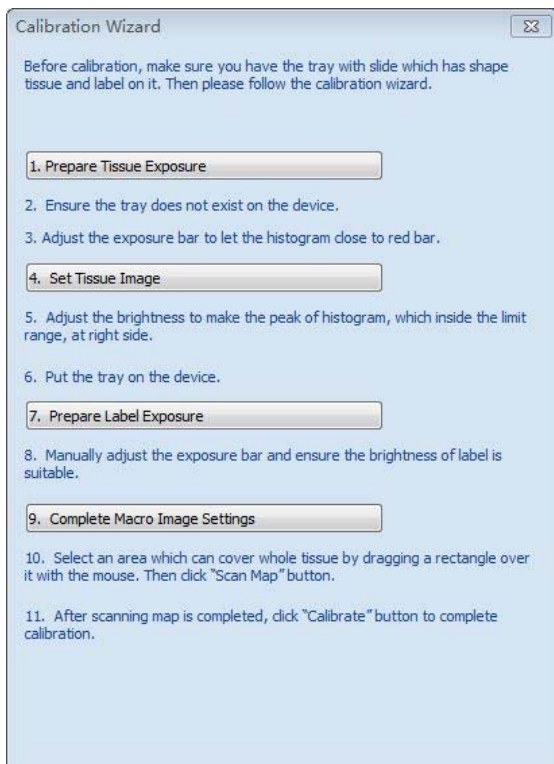
Before calibration, make sure the tray is properly loaded (slide with tissue and label), then follow the calibration wizard. (Fig. B)

- Click "**Prepare Tissue Exposure**" on the calibration wizard window, the tray will move to blank area automatically (follow the instruction on the screen). Macro camera will display blank image.
- Adjust the exposure bar till the histogram is closed to red bar (Fig. A)
- Click "**Set Tissue Image**" on the calibration wizard window, then system will automatically complete Exposure, Background Balance and Auto White Balance setting.
- Adjust the brightness until the histogram shown the peak and histogram is moved to the right side (the peak histogram must be within the limit of the 2 lines) (Fig. C)

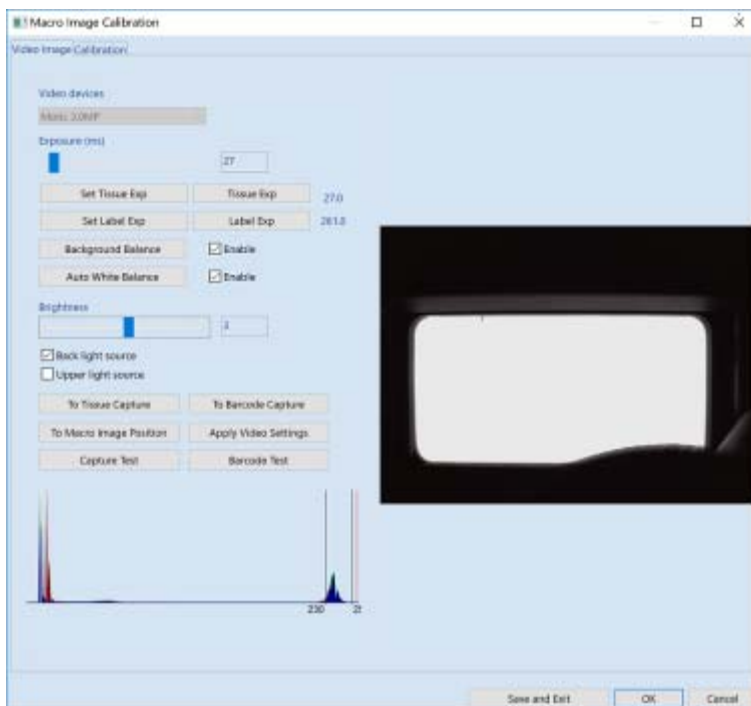
- Click “**Prepare Label Exposure**” on the calibration wizard window, then system will automatically move to slide label section.
- Manually adjust the exposure bar and ensure the brightness of label is suitable.
- Click Complete Macro Image Settings.
- Select an area which can cover whole tissue by dragging a rectangle over it with the mouse. Then click “**Scan Map**” button.
- After scanning map is completed, click “**Calibrate**” button to complete calibration. (Fig. D)



(Fig. A)



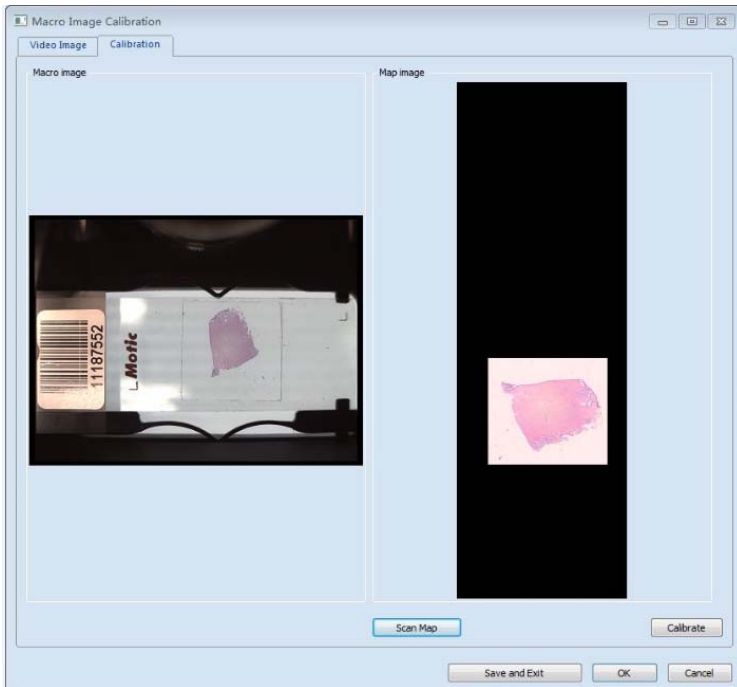
(Fig. B)



(Fig. C)

Calibration:

Please follow the steps 10 and 11 (Fig. B)

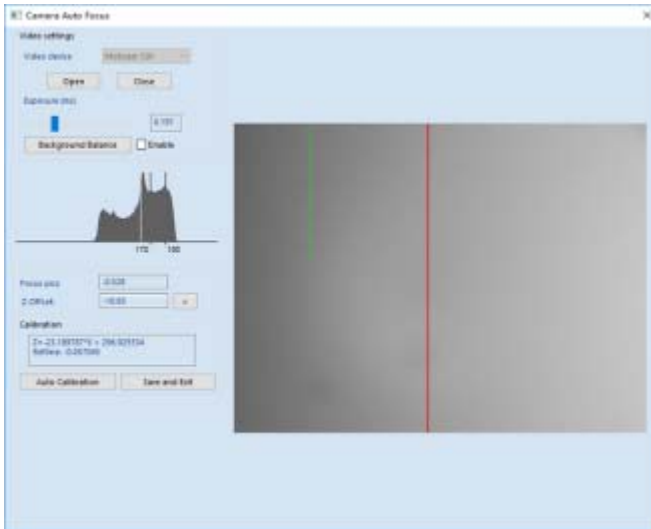


(Fig. D)

- Select an area which can cover whole tissue by dragging a rectangle over it with the mouse. Then click "**Scan Map**" button.
- After scanning map completed, click "**Calibrate**" button to complete calibration.

c. Focus Camera Calibration

It is mainly to calibrate the video parameters of focus camera and the correspondence with z axis.



Please do as below to perform Camera Auto Focus Calibration (refer to the detailed instructions):

- Make sure a slide with rich texture has been placed on the slide magazine (such as slide1), then load this slide.
- Select a field with content, focus the image, move to the blank area of slide, adjust exposure, ensure the right half of histogram has no saturation.
- Click “Background Balance” button in the blank area of slide.
- Find a field filled with contents and adjust to focal plane; check the value of “Focus Pos”, if it is greater or equal ± 0.1 the par focal settings of the hardware should be adjusted; if it is less than ± 0.1 , then click the “Auto Calibration” button which executes calibrating.
- Finally, click the “Save and Exit” button to exit the program and save the calibration values.

5.3 Trouble Shooting

Problem	Possibility	Method
EasyScanner software can't be opened	Can't detect the MoticEasyScan Pro 6N	1. Check USB3.0 cable is properly connect
		2. Check if power of MoticEasyScan Pro 6N is switch
		3. Switch off the MoticEasyScan Pro 6N and restart it
No image display	Can't detect the camera	Switch off the MoticEasyScan Pro 6N and restart it
Scanning speed is slow	USB 3.0 camera is detected as USB2.0	Switch off the MoticEasyScan Pro 6N and restart it
Many blur spot	Real-time focusing failed	Re-calibrate the focusing camera
Image has tiling symptom	The slide is not flat or the edge of slide is not pushed against the left side of Fig. 8b-③ as shown in (Fig. 9c)	Refer to 2.3.1 Slide Placement Procedure
Image is not in focus	Slide thickness could be out of the slide tolerance range of 0.9-1.2mm	Use the ISO standard slide
Image with poor contrast	Slide surface it dirty	Clean the slide surface
	Objectives could be not clean	Contact Motic distributor

6. APPENDIX

6.1 Specifications

Model	MoticEasyScan Pro 6N
Slide Capacity	6-slide tray can load 1~6 slides
Slide Tray Dimension	210 x 100 x5.8mm
Slide Dimension	Length: 75-76mm Width: 25-26mm Thickness: 0.9-1.2mm
X axis parameter	X maximum scanning range (max) 25mm
Y axis parameter	Y maximum scanning range (max) 45mm
Objective	Apo 20X/0.75 S Apo 10x/0.3
Resolution	Under 20X mode, scanner resolution is 0.48 μ m/pixel Under 40X mode, scanner resolution is 0.24 μ m/pixel
Light Illumination	10W LED
Main Camera	12M Pixel
Communication Port	USB3.0

6.2 Electrical Specification

- Input voltage: 100-240V ~ 50-60Hz
- Input power: 100VA
- FUSE: 250V T2.5AL (If damaged, replace the fuse with the same specifications.)

6.3 Working Environment

- For indoor use
- Altitude: within 2000m
- Environment temperature: 5°C ~ +40°C
- Humidity: 30% - 75% (No condensation)
- Voltage: power supply voltage fluctuation should not be more than $\pm 10\%$ of nominal voltage;
- Air pressure: 75kPa~106kPa
- Pollution degree II

6.4 Storage Environment

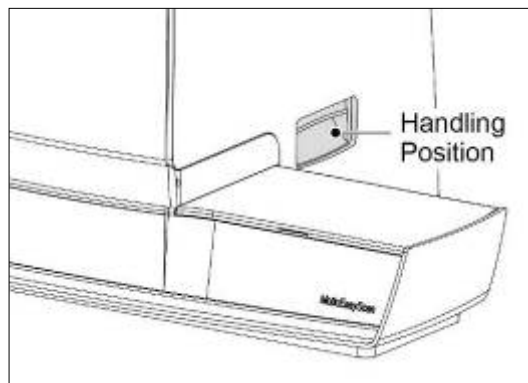
- Temperature: 0°C ~ +40°C
- Humidity: 10% ~ 90% (No condensation)
- Transportation (equipment stored in the package): Allows the ambient temperature of -40°C to +70°C and a humidity of 10% to 90% (no condensation). The digital slice scanning is a high-precision device, and transport protection such as avoid sun exposure, stay dry, Fragile Handle with care should be taken. If you need to pack the equipment for long-distance transportation, please contact the manufacturer (see back cover) or Motic Distributor.

6.5 Digital Camera System Specifications

Resolution	4096 x 3000
Pixel Dimension	1.85 x 1.85µm
Port	USB 3.0
Working Temperature	+5°C to +40°C
Storage Temperature	-20° to +40°C

6.6 Shifting of Instrument

- When moving the devices, unplug all power cable, USB 3.0 cable.
- Lift equipment base plate on both sides respectively, during lifting and handling process, need to keep balance of device to prevent rollover.
** Attention: MoticEasyScan Pro 6N net weight: approximately 16KG.
- If you need to pack MoticEasyScan Pro 6N for long distance transportation, please contact Motic or the Motic Distributor.



(Fig. 13)

6.7 Replacement of Parts & Accessories

To guarantee product performance, please be sure that components are purchase from Motic authorized distributor;

6.7.1 Accessory List:

- Four-Point calibration slide & test slide
- USB 3.0 Cable
- Slide tray
- Power Cable
- Instruction Manual
- Vinyl dust cover

6.8 Miscellaneous

- Automatic voltage selection device is applicable to worldwide voltage configuration, but it is recommended to use the power cable matches with the rated voltage of your area. Incorrect use of power cable may cause fire, or damage to the device
- For external power cable, power cable with ground protection must be used.
- To prevent electric shock, make sure the power switch is turned off before connecting the power cable.
- Please use standard slide, other slides are not allowed to be loaded into the device.
- The product should not be placed in the place with direct sunlight, dust, mechanical vibrations, high temperature or high humidity.

(Please reference to **6.3 Working Environment** and **6.4 Storage Environment**)

- Grounding: Please make sure the device is connected to a wall outlet grounding Terminal, if the device is not grounded, our company no longer guarantee the safety of electrical equipment and EMC performance.
- If an emergency occurs, remove the power cord. Please install the device in a place where you can disconnect the power cable connector, or the socket is placed in the place where you can remove the power cord.
- Please keep this device in the environment with good ventilation.
- Please do not place the device in position which is difficult to disconnect power cable connector.
- Please do not put non-relevant stuff on the device
- When replacing the fuse, please refer to the label parameter “**FUSE: 250V T2.5AL**” near the equipment power socket.
- LED lamp life time is 25000 hrs, please contact Motic authorized distributor if there is any failures.

6.9 Lens Cleaning

- This cleaning process must be carried out by engineer that has been be factory trained.
Please contact your nearest Motic authorized distributor

6.10 Cleaning of with Painting Components and Plastic Components

- Prohibiting the use of organic solvents (such as alcohol, ether, dilution, etc) or dilution of them for cleaning. Otherwise it will cause the paint fading or peeling.
- Stubborn stain can be wiped with gauze moistened with soft detergent.
- Plastic surface can only be cleaned with a soft cloth moistened with water.

6.11 Idle time

- When the device is not used, use vinyl dust cover to cover the device and put it in the low humidity area to avoid mold.

Proper operation of the instrument can pro long the instrument life span and reliability. For maintenance services, please contact your nearest Motic authorized distributor;

Using MoticEasyScan by following manual properly can ensure equipment in long-term, unobstructed statuses.
Should you need any assist, please don't hesitate to contact us via below info.



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Design Change: The manufacturer reserves the right to make changes in instrument design in accordance with scientific and mechanical progress, without notice and without obligation.