



LD Patho320A & CytoBrain

User Manual

Website: www.landingmed.com

Email: hello@landing-med.com



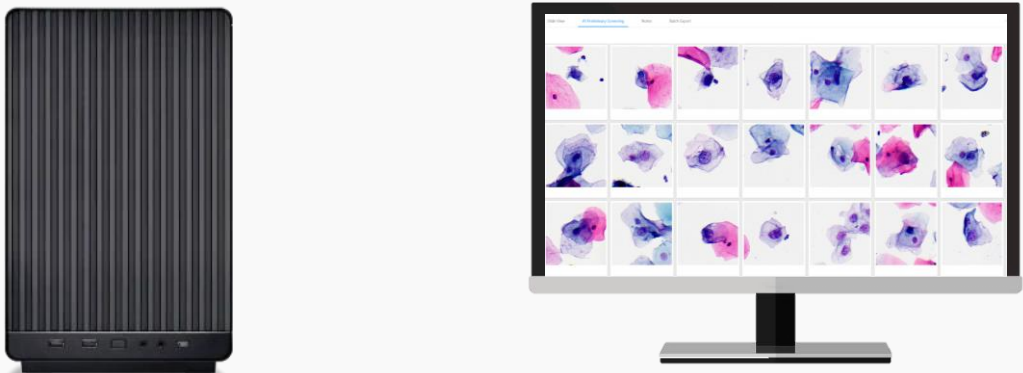
LD Patho 320A	
Magnification	20X
Objective N.A.	0.5
Slide Capacity	2
Slide Specifications	75mm × 25mm
Light Source	LED
Image Format	JPEG, SVS
Size	253 x 214 x 270 mm
Weight	6KG

1. LD Patho320A Scanner System



- Utility case × 1
- LD Patho 320A scanner × 1
 - Power cord × 1
 - Metal slide tray × 1
- SuperDog USB key × 1

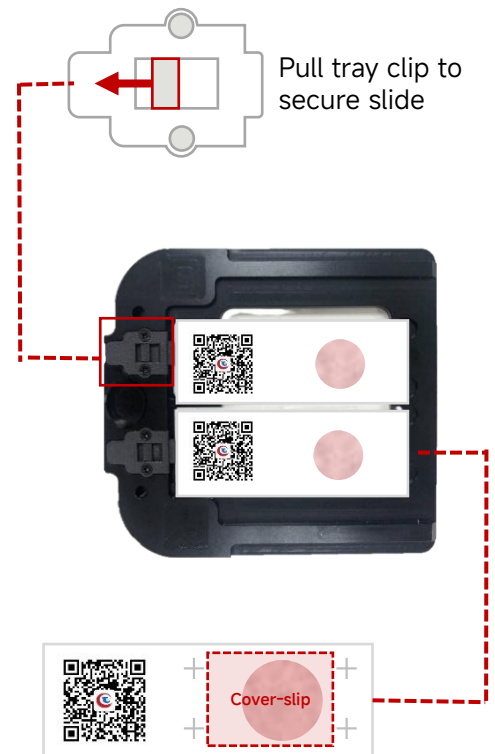
2. CytoBrain AI System



- Computer × 1
- SuperDog USB key × 1

Slide tray and slide direction

- Push slide down and pull clip to secure the slides. The slides must be parallel to the surface of the tray and all four corners are secured to avoid slide tilting.
- Scan two similar specimens within the slide tray; avoid mixing different types of specimens to reduce scan time
- Do not remove the slide tray during scanning to avoid scanner malfunction
- Left slide Preview slot – slide tray faces right
- Bottom slide Scanning slot slide tray faces up



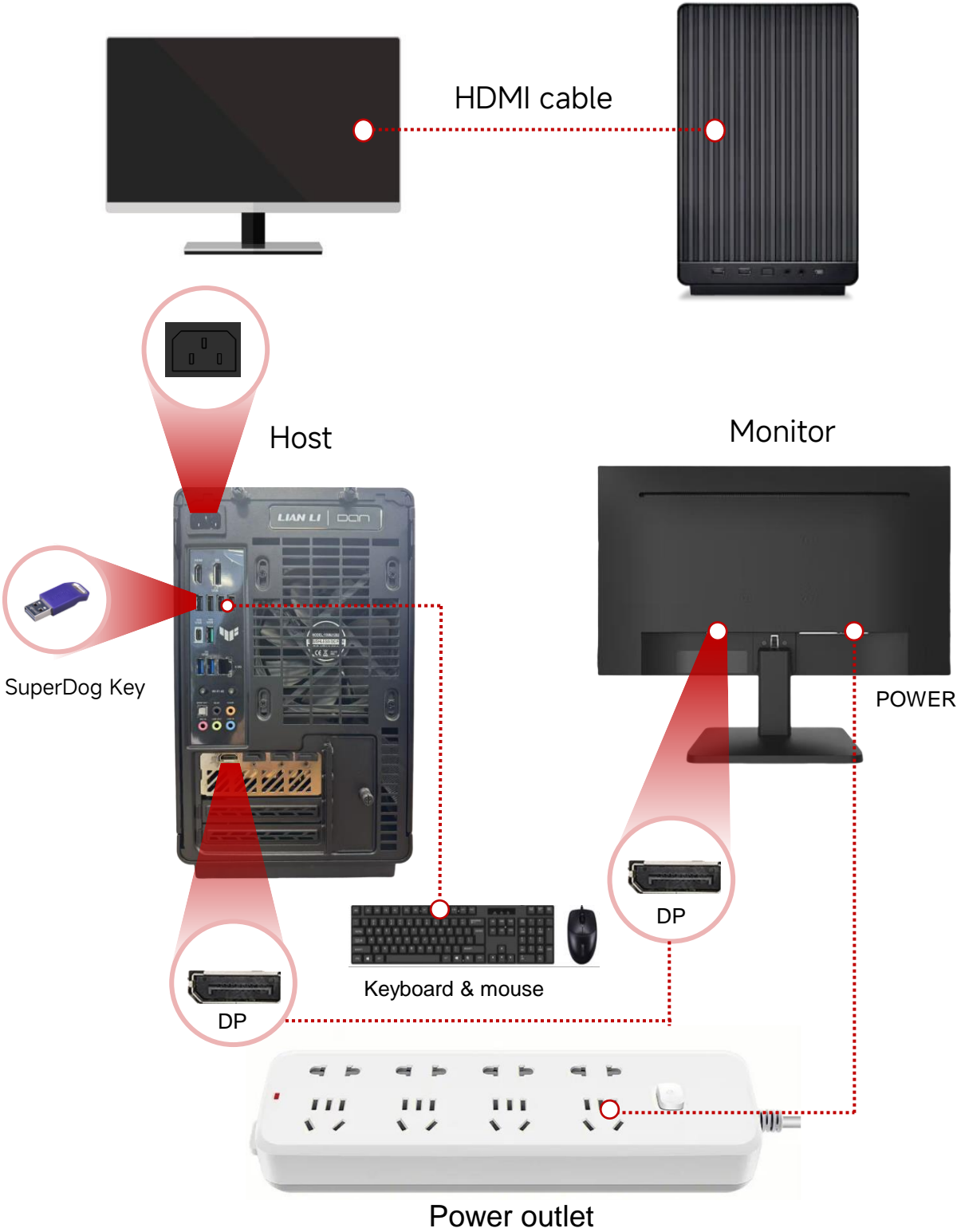
Scanner

- The scanner should be used exclusively for scanning and slide review. Avoid downloading external software or connecting the device to the internet for non-scanning purposes to reduce the risk of computer viruses and ensure system security
- Ensure the slide and sealing agent is completely dry before scanning
- Scanner performs one function at a time. Do not scan and export SVS images at the same time.
- First turn off the scanner system before switching off the power switch in the back of the scanner
- Ensure the electric source is stable to avoid sudden outages or electricity is cut off while scanning instrument is in operation
- Do not move the scanner while it is in operation, handle the instrument with care
- Place the tray with slides in the scanner only after opening and entering the scanner software on the desktop
- Portions of the specimen exceeding the dotted line will not be scanned
- Regularly backup and delete data to ensure enough storage capacity on the scanner



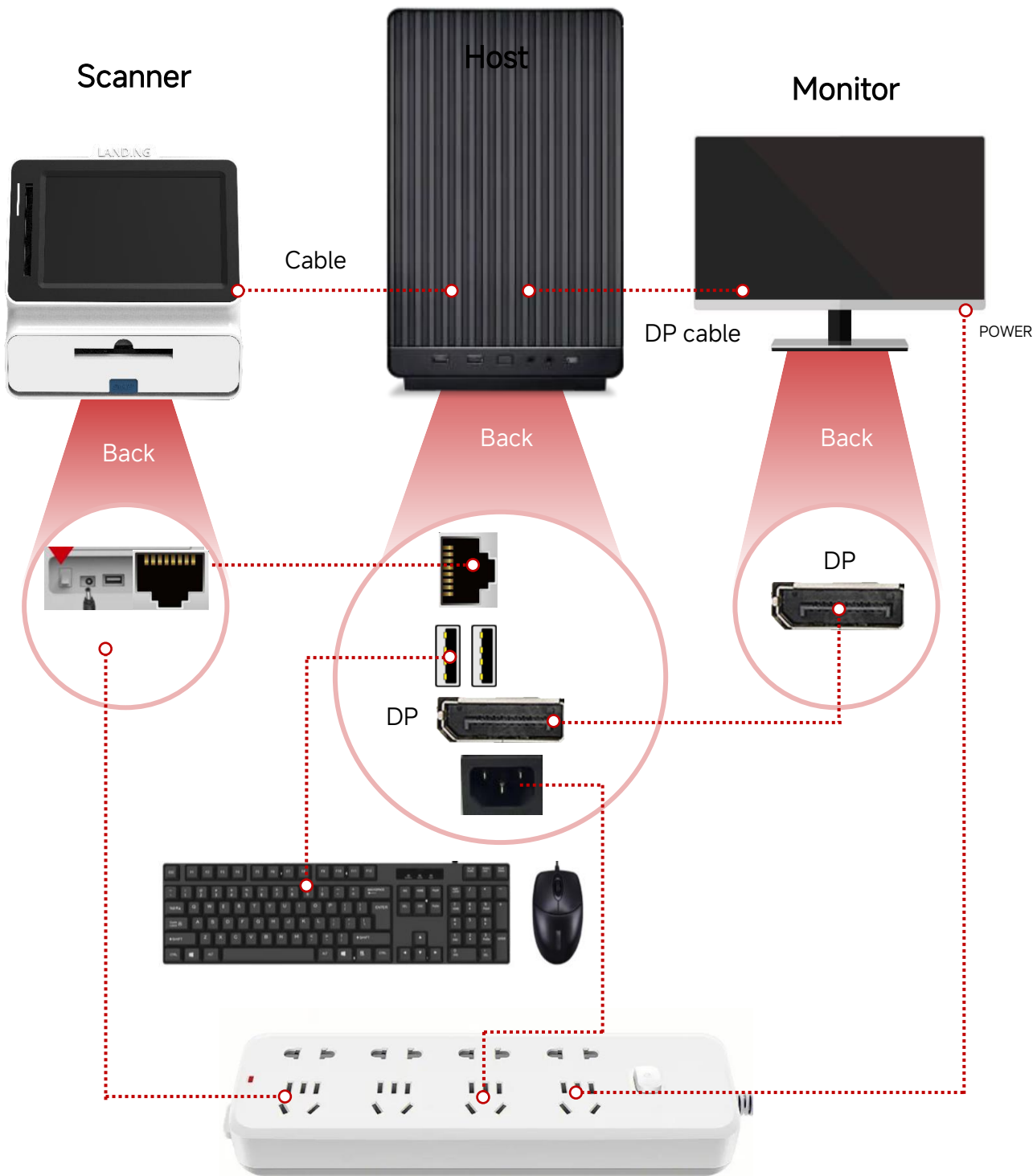
Installation of CytoBrain

Connect the cables as shown in the figure below:



Installation of Patho320A and CytoBrain

Connect the cables as shown in the figure below:

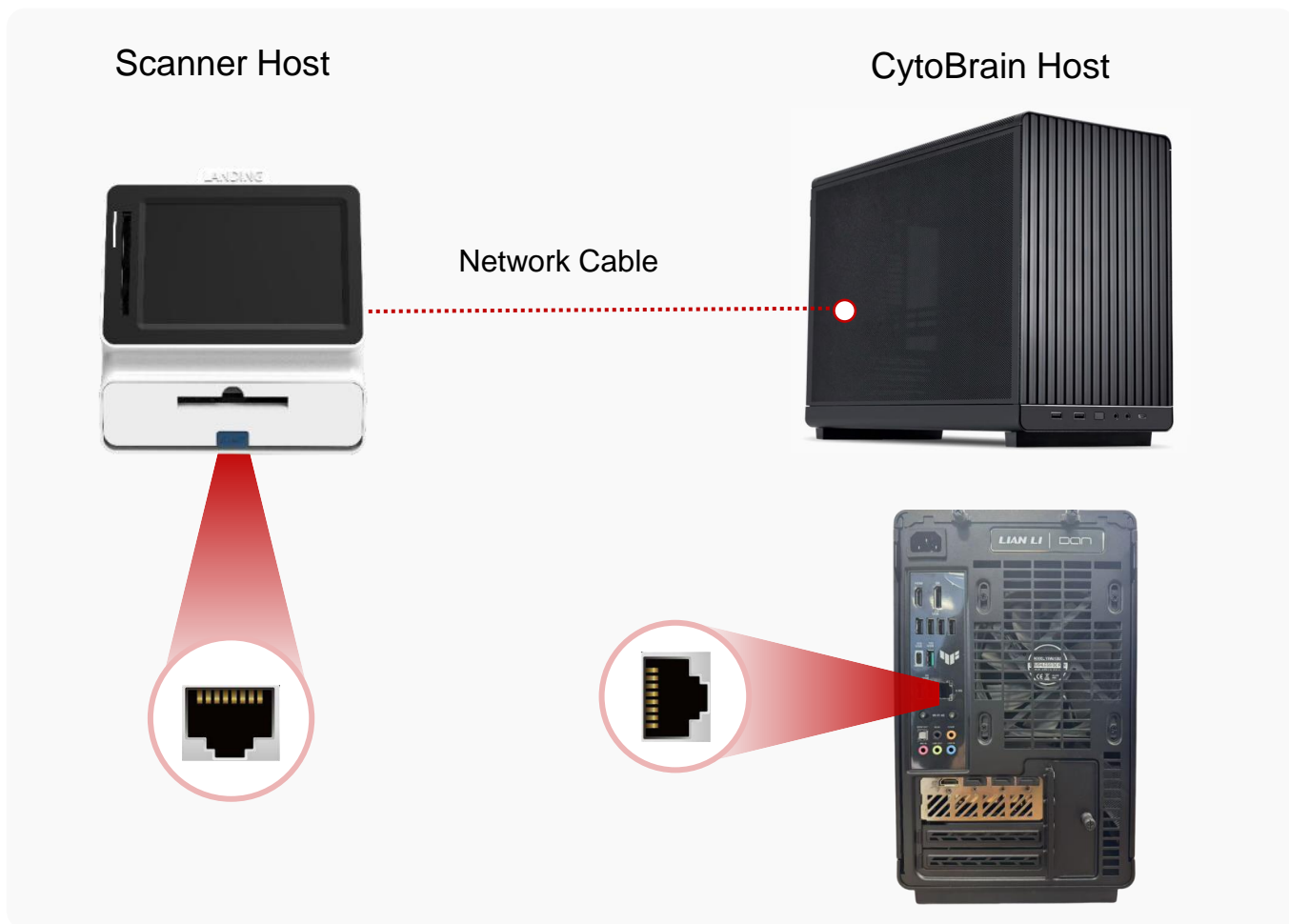


Connection & Configuration of LD Patho 320A and CytoBrain

Hardware Connection

Connect a section of the network cable to Network Port 2 of the scanner host, and the other one to the network port of CytoBrain host.

Note: Ensure the network cable is securely inserted into the specified ports.



IP Address Configuration

- Set the IP address of the **scanner** host's network port connected to CytoBrain host to: IP Address: **192.168.168.101** and Subnet Mask: Default (**255.255.255.0**).
- Set the IP address of the **CytoBrain** host's network port connected to the scanner host to: IP Address: **192.168.168.100** and Subnet Mask: Default (**255.255.255.0**).



Instructions for LD Patho 320A

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LD Patho 320A
Scanner Unboxing



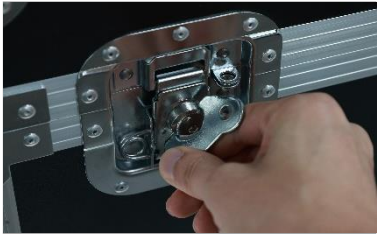
- Utility case × 1
- LD Patho 320A scanner × 1
- Power cord × 1
- Metal slide tray × 1
- SuperDog USB key × 1



1. Place utility case on a flat surface (load-bearing 20KG+)



2. Lock the wheels to secure the utility case



3. Twist the lock latches to unlock the lid



4. Open the lid and take out the product manual



5. Lift the scanner handle with both hands and place it on a flat stable surface



6. Connect the power cord to the scanner and plug it into a power outlet



7. Turn on the power switch in the back of the instrument



8. Once the scanner is turned on, enter password **000000** to enter into the homescreen

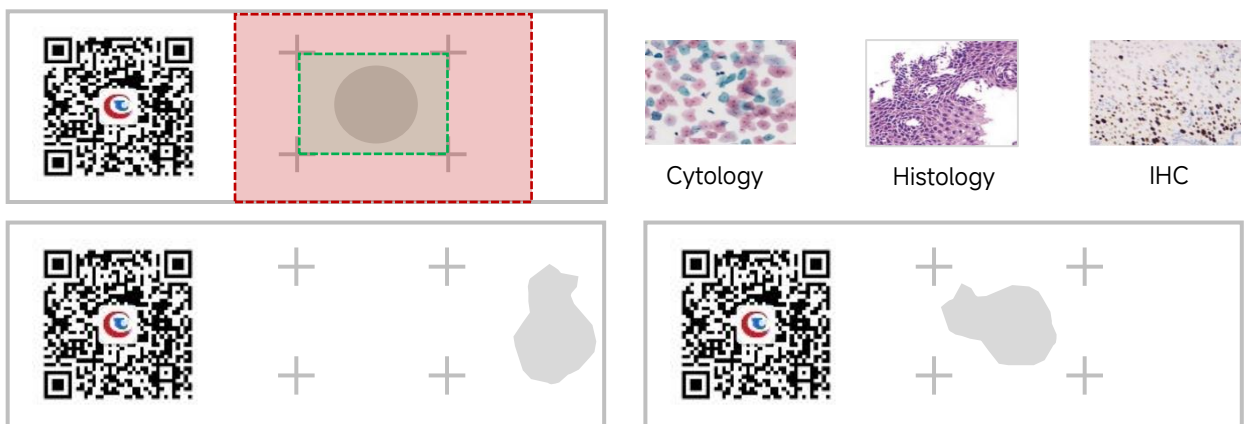


9. Insert the SuperDog Key (USB) into the USB port to enable scanning, The USB must be inserted for scanning!

Slide preparation

- ① Red Area: Maximum scanning area 35mm×25mm (*see image 1*)
- ② Green Area: Recommended scanning area 20mm×20mm (*see image 1*)
- ③ For better results, the specimen is uniform and complete, and thickness is within 10μm
- ④ Glass slide size is 75*25mm (±1mm) and thickness is 1mm (±0.1mm)

Image 1

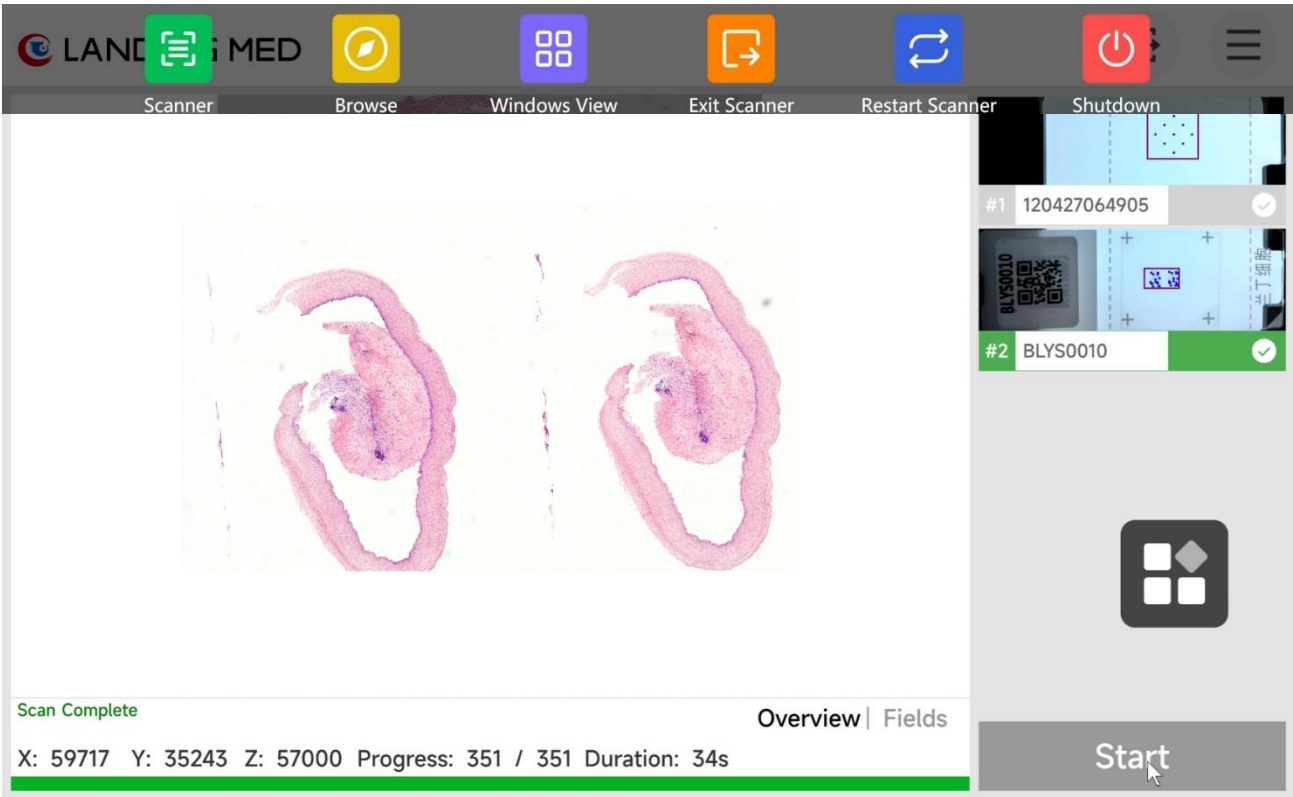


Specimen is placed outside of the scan area (×)

Set specimen in the middle (✓)

Connect scanner to keyboard, mouse and HDMI cable for a better viewing experience.





Shortcut Menu

Click for menu bar



Scanner

Return to scanner interface



Exit Scanner

Exit the scanning software



Browse

Browse scanned slide images



Restart Scanner

Restart the scanning software



Windows View

Return to desktop view



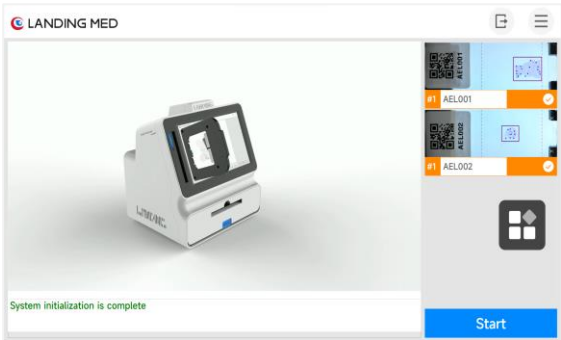
Shutdown

Turn off the instrument

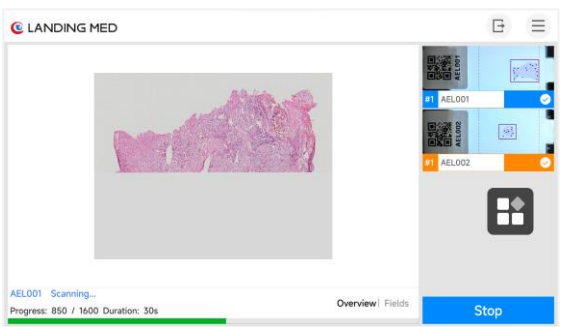
LD Patho 320A Slide Scanner Overview



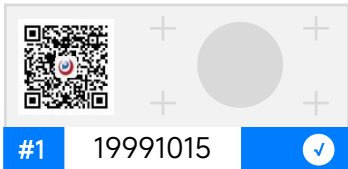
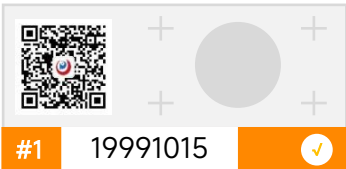
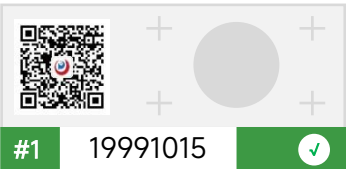
1. Double-click LD Patho 320A Scanner icon to open the scanner software
2. Click "Click To Enter"



3. Insert the slide tray in the Preview slot on the left side of the instrument
4. After taking a photo of the slide(s), check if the slide label and scan area are automatically detected



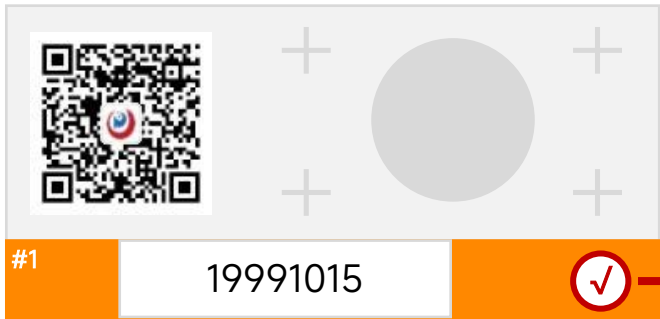
5. If needed, click on the slide and manually change the slide name and adjust the slide settings (focus, Z-stack)
6. Preview the scanning progress directly on the scanner. When the scan is complete, the slide bar turns green



Green: Scan complete

Orange: Not scanned

Blue: Scan in progress



Slide Setting

Focus Setting

☒ Auto Scan Area

High

Z-Stack

☒ Single Layer (Auto)

☐ Multiple Layers ☒ Multilayer Blend

Layers 1 3 5 7 9

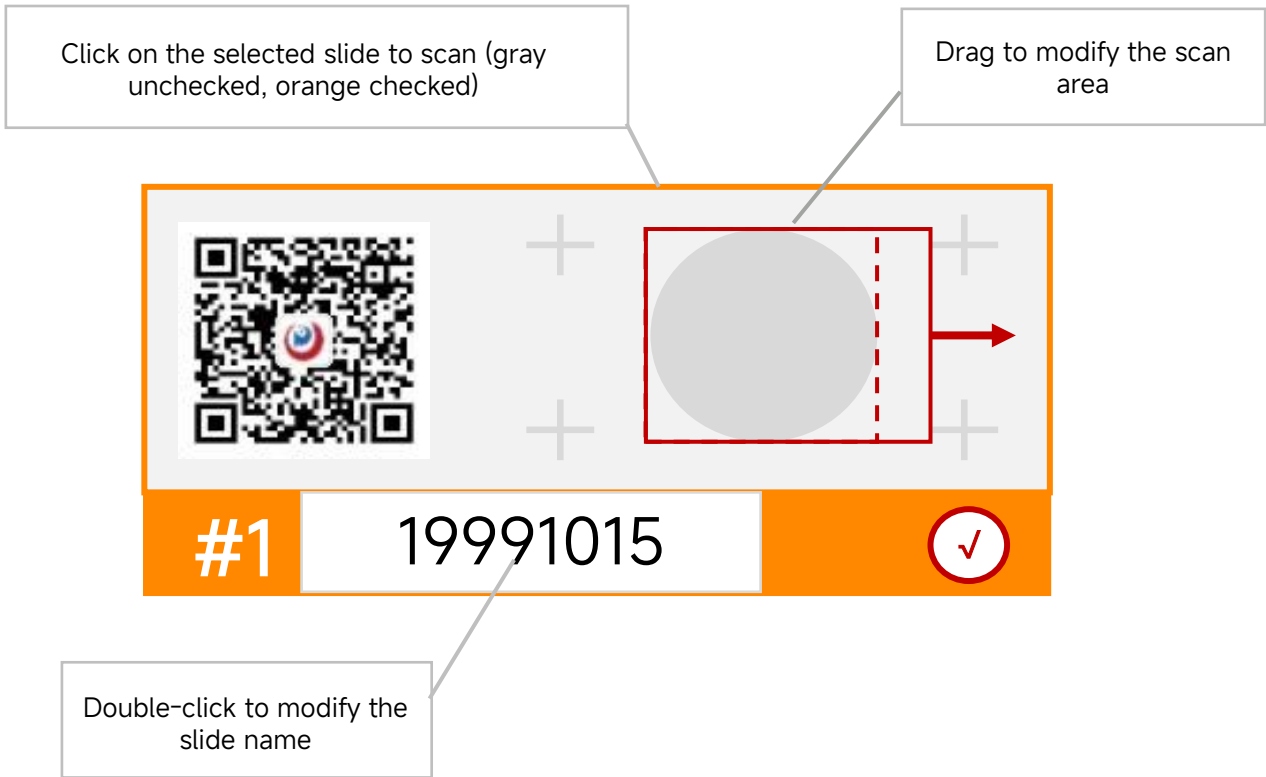
Interval (μm) 0.00 0.5 1 1.5 2

Type (Optional)

OK

Overview of features

- Z-stack scanning has been changed to EDF and interval spacing provides default and customizable figures. 1 combined image will appear after scanning multiple layers.
- Focus setting (default Medium)
- Automatic scan area recognition
- Note: Settings are only valid for the selected slide





Instructions for CytoBrain

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Introduction to Software Operation

Local-viewer Software

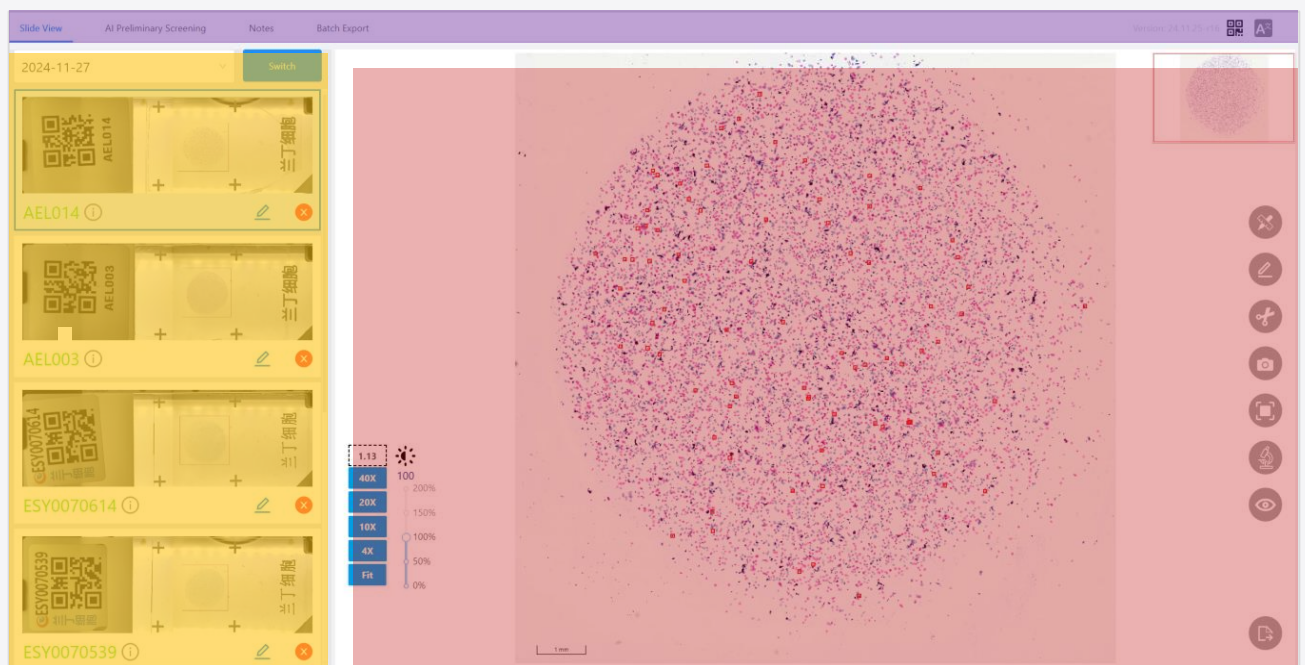
Startup method:

1. On the desktop, click the icon  to start the program;
2. Type “localhost:5050” or “127.0.0.1:5050” in the browser address bar.

Sample Browsing:

The browsing interface will appear once the program is open. Select a sample in the Scan Date folder or search for a specific sample by clicking the “Switch” button. Click on the preview image of the selected sample, and the whole slide image (WSI) panoramic view of the sample will be displayed on the right.

Toolbar area



List of slides sorted by Date

Panoramic WSI view

Button Functions



	Measurement Line feature		Language Switch instrument language
	Annotation Select shape to annotate		Magnification Switch between different field magnifications
	Screenshot Take a screenshot of a small area for the report		Brightness Adjustment Adjust the brightness of the image
	Camera Take screenshot of the field of view and save it as a JPG image		Color Selection Select the preferred color for annotation
	Full-screen view The screen is enlarged to full screen		Markup tool Different shape markup tools
	Microscope simulation Simulated microscope reading		
	AI View* Turn on or disable the AI function		
	SVS Export image to SVS format		

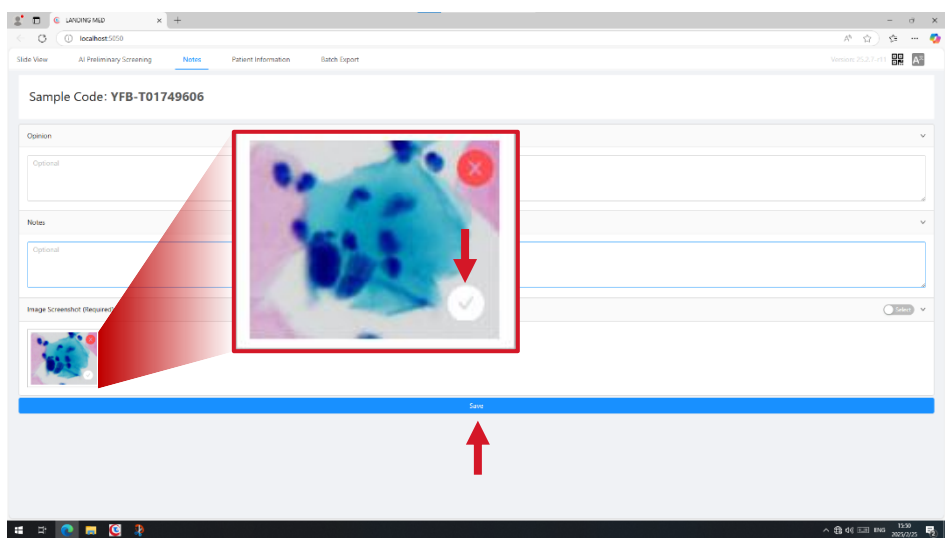
Select Image Screenshot

1. Right-click on the image to set it as a report graph.




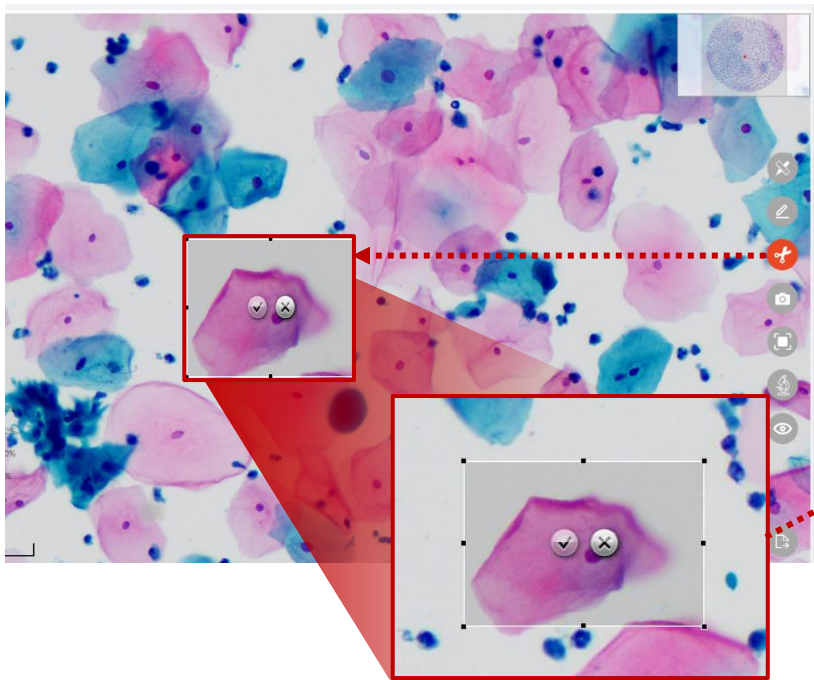
2. Click on the “Notes” tab and enter opinions and notes (optional). Under screenshots, click “ ✓ ” to select the image(s) to include in the report.

3. Click “Save” to save the report. The screenshot can be accessed in the default path 'D:\Diagnosis,' organized by the save date and the label name.

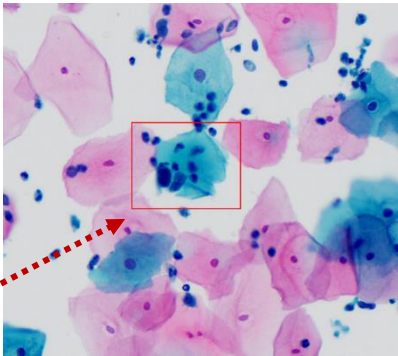


Manually Take Screenshots

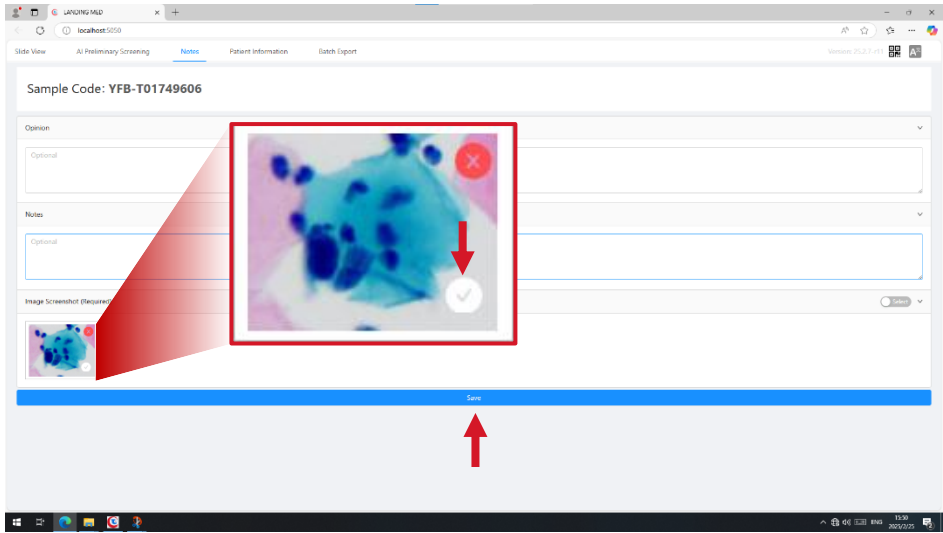
1. Click the  icon in the browsing interface and select the area to include in the screenshot.
2. Click "√" to take a screenshot.



The red box shows the screenshot is successfully taken



3. In the "Notes" tab, select the screenshot(s) to include in the report.
4. Click "Save" to save the report. The screenshot can be accessed in the default path 'D:\Diagnosis,' organized by the save date and the label name.



Manual Cell Grading

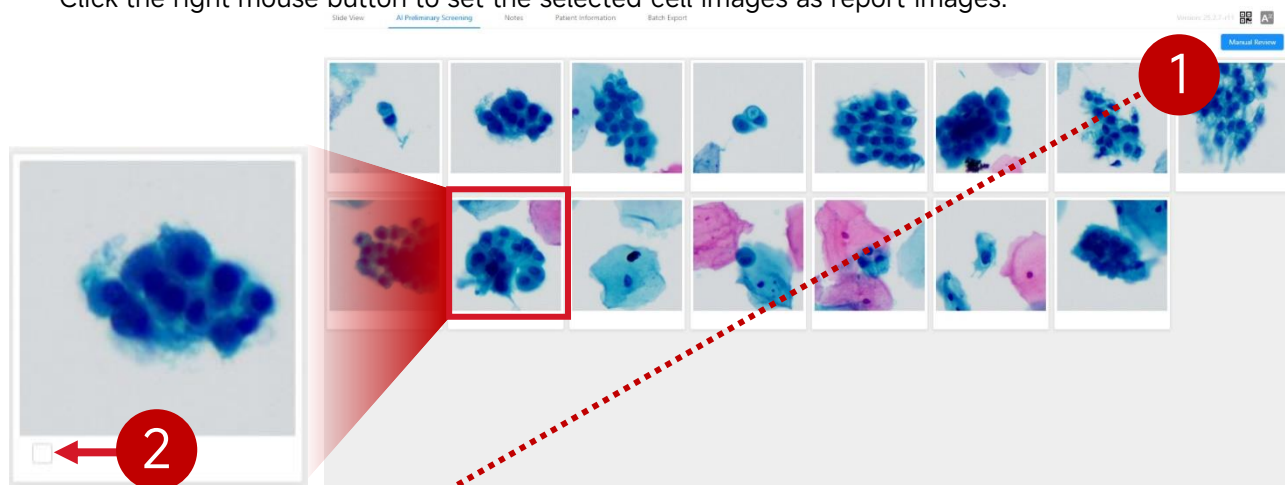
"AI Preliminary Screening" Tab

Select "AI Preliminary screening" to enter the AI preliminary screening interface.

Click on the cell picture to locate it in the the whole slide image (WSI) panorama view.

Click the "Manual Review" button to enter the manual review mode. Click the left mouse button to select one or more cell pictures, and then click on the cell grade (HSIL, LSIL, ASC-H, ASCUS, AGC, Normal or MASS cell cluster) on the top to modify the cell category, and finally click on "Save Category" to save it. The manual review will be displayed at the bottom of the cell picture after manual review.

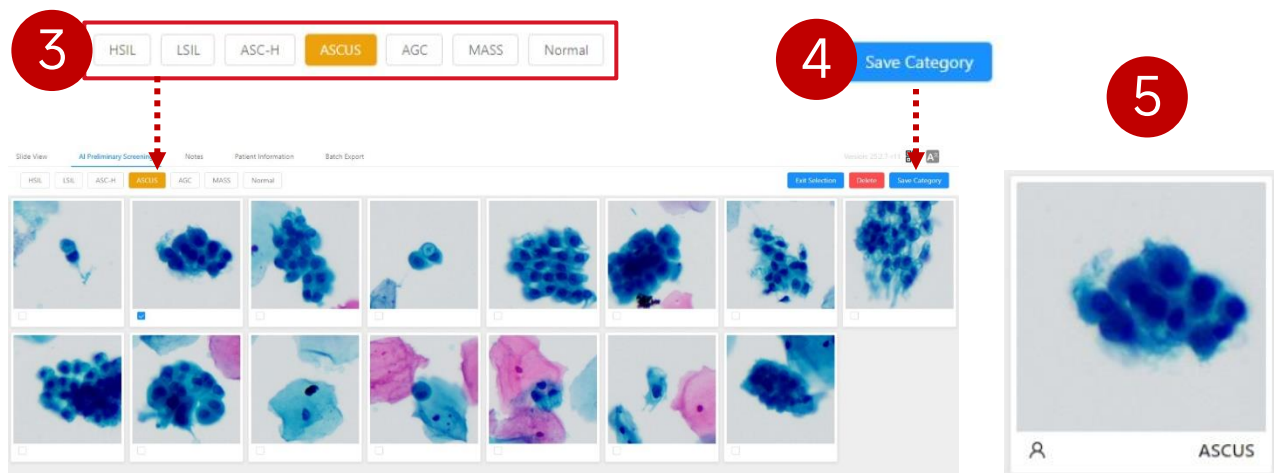
Click the right mouse button to set the selected cell images as report images.



1. Click "Manual Review" to turn on the rating option

2. Tick the cell selection level you want to grade then click the "Save Category".

The saved grade level will appear in the bottom of the cell for future review.



Default LBC Cervical Cytology Report Template



Wuhan Landing Intelligence Medical Co., Ltd.

GYN CYTOLOGY REPORT

Patient Name: Jane Doe

Ordering Physician: Dr. Moon

Sample Collection Hospital:

Age: 62

Sample Type:

Address:

Gender: Female

Sample Code: DQH49626

Phone Number: 123456123456

Collection Type: 1. Cervical brush sampling ; 2. LBC

1. Slides method:

- ☐ Smear ☐ Liquid based

2. Sample quality:

- ☐ Satisfied
☐ Basically satisfied
☐ Resampling required

3. General classification(optional):

- ☐ No intraepithelial or malignant lesions
☐ Epithelial cell abnormalities
☐ Squamous cell
☐ Gland cell
☐ Other

4. Microorganism:

- ☐ Trichomonad
☐ Fungi (Candida albicans, etc.)
☐ Clue cell
☐ Actinomyces
☐ Herpes simplex virus infection
☐ HPV infection

5. Reactive cellular changes:

- ☐ Inflammatory cells
☐ Small number
☐ Medium number
☐ Large number
☐ Radial shadow
☐ Intrauterine contraceptive device
☐ Atrophy

6. Other:

- ☐ Endometrial cells (≥ 45 years old, specify)
☐ Glandular epithelium

7. Epithelial cell abnormalities:

Squamous cell

☐ ASC

☐ ASC-US

☐ ASC-H

☐ L-SIL

☐ H-SIL

☐ Squamous cell carcinoma

Glandular cells

☐ Atypia

☐ Cervical duct cells

☐ Endometrial cells

☐ Gland cells

☐ Atypical glandular cells, inclined towards tumorigenicity

☐ Adenocarcinoma in situ of the cervical canal

☐ Adenocarcinoma

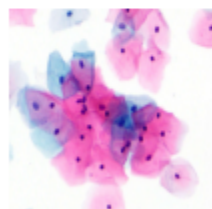
☐ Adenocarcinoma of the cervical canal

☐ Endometrial adenocarcinoma

☐ Extracervical adenocarcinoma

☐ NOS

8. Other malignant tumors (specify):



Opinion: Opinion inserted here

Notes: Notes inserted here

Note:

This report is solely based on the collected sample.

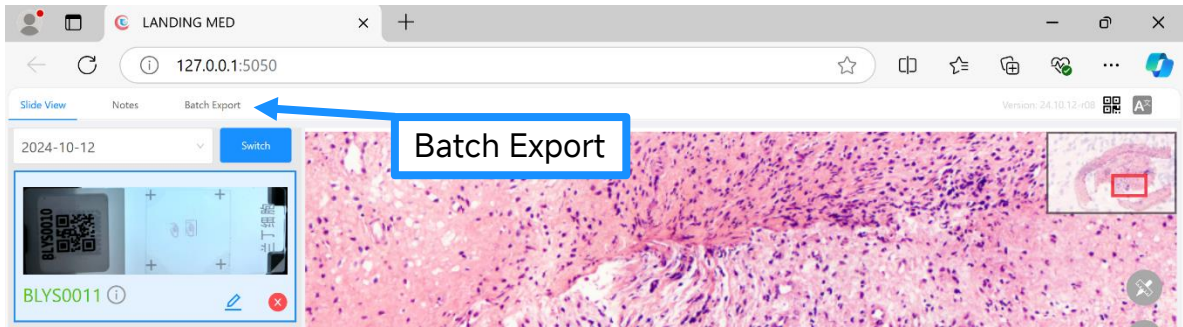
Physician Signature:

Report Date: 2025-02-20

LD Patho 320A

SVS File Batch Export

(To Simultaneously Export Multiple Images)



Click on the browse screen “Export”

1 Select a date
2024-10-10

Export progress bar

One-click export in batches

3 Export

Refresh

Success

Batch Export

	Sample Code	Status	Progress	Operation
<input checked="" type="checkbox"/>	BLYS0011	Exporting	67%	Export
<input checked="" type="checkbox"/>	BLYS0010	Export Complete	100%	Export

1

2

1

Select all slides

Individual slides selected

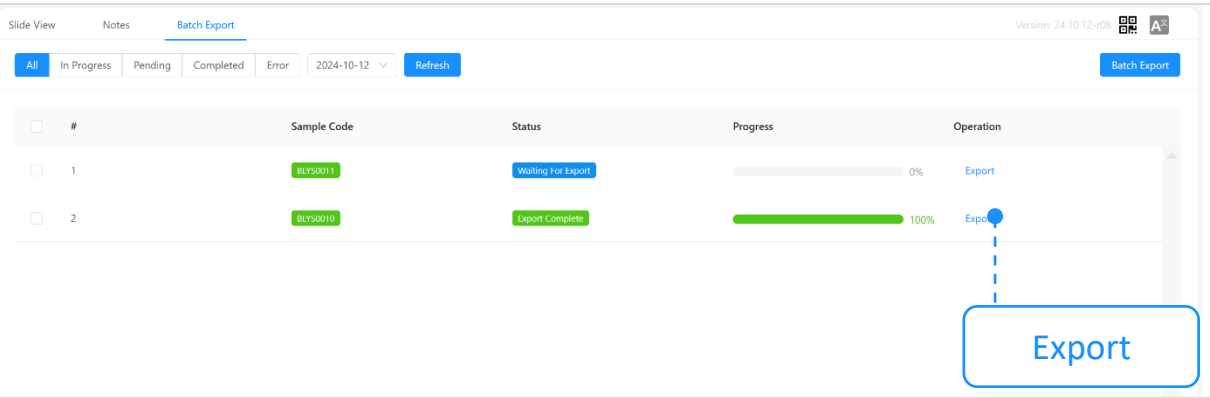
Waiting to Export

Exporting

Flip through different pages

1. Select the date you want to export the sample scan
2. Select the samples to export
3. Click the “Batch Export” button

4. To export individual sample slides as SVS files, not as a batch, click the “Export” button



5. To retrieve the exported SVS file, go back to the desktop and open the “SVS Data” folder

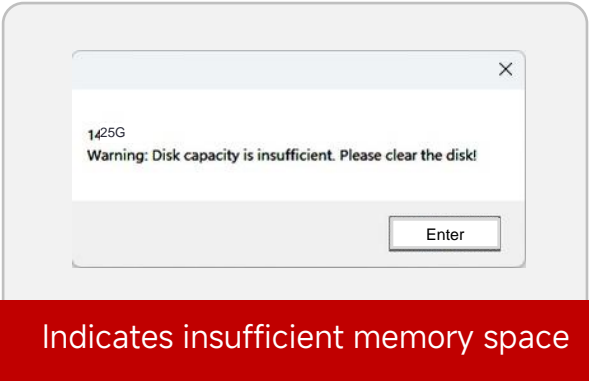


6. Copy or move file to another storage device



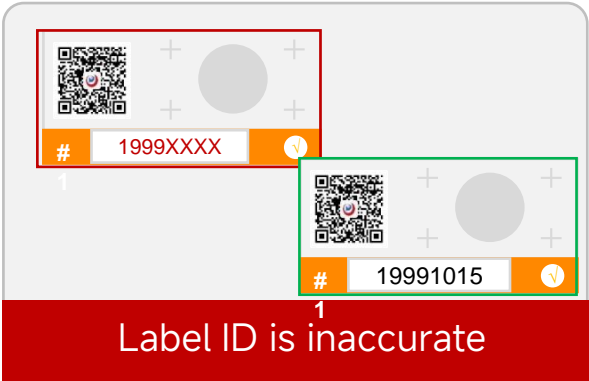
Note: If the SVS file is moved to a different device or deleted, the sample status progress bar will be updated to “Waiting for Export”

LD Patho 320A
Troubleshooting



Indicates insufficient memory space

Save data files and delete them from the instrument.



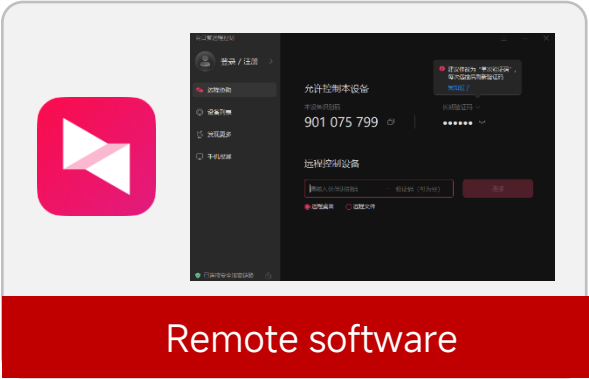
Label ID is inaccurate

Manually change the sample name.



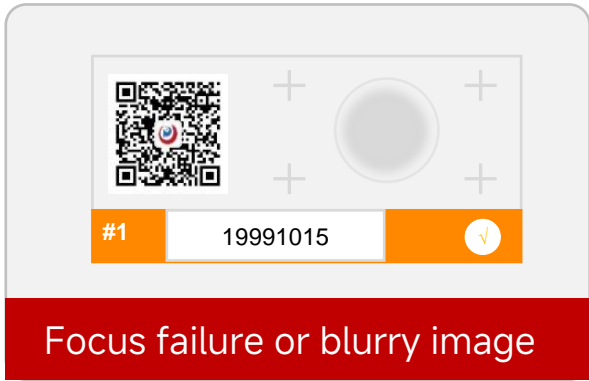
The slide tray is stuck

Please turn off the scanner and power supply switch on the back of the instrument and unplug the scanner. Then replug and restart the scanner.



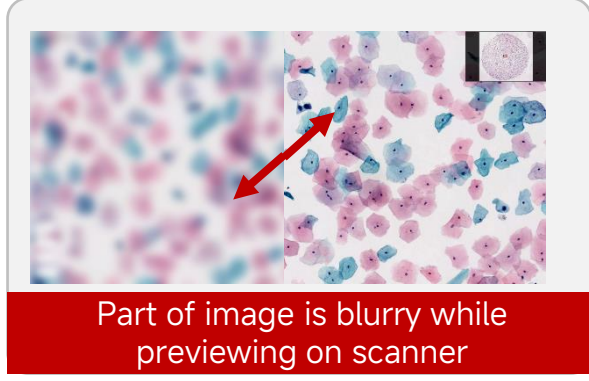
Remote software

To enable remote support, open the software icon in the Windows menu. Provide the Device ID and passcode to Landing Med for remote support.



Focus failure or blurry image

Ensure the slide is well secured and flat on the slide tray. Re-scan the slide.



Part of image is blurry while previewing on scanner

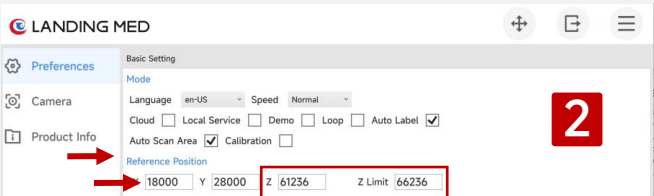
Expand or minimize the image then drag the screen for a clearer image.

Note: If you encounter other problems, please contact Landing Med's technical team


LD Patho 320A
Scanner Focus and Light Intensity Settings



Only change settings if scanned images are repeatedly unclear. Avoid regularly changing settings.

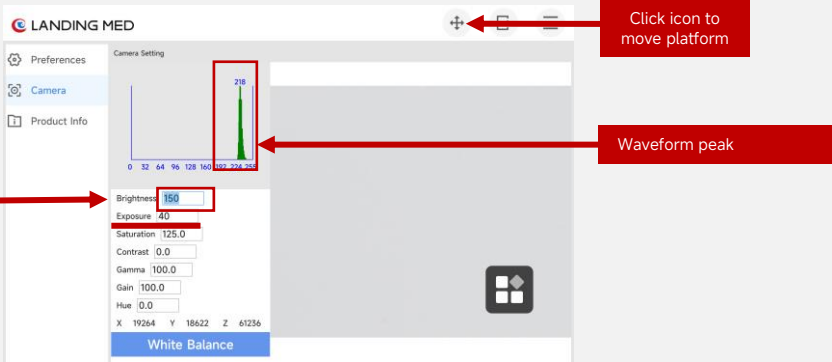


Manual focusing method:

In the **Camera** settings, control the platform operation through this icon  to adjust the field of view to a position with clear focus. Remember the Z value. Go to **Preferences > Reference Position** and fill in the Z value. In the Z Limit box, add 5000 to the Z value.



Only change settings if the scanned image is too bright or too dark. Avoid regularly changing settings.



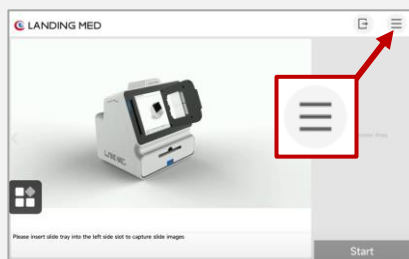
Light intensity setting method:

In the **Camera** settings, when the specimen/cells are at their clearest position, move the platform so that the blank area is in the camera's field of view, adjust the light source intensity and **Exposure** time (no more than 60), so that the waveform peak is at 210-220.

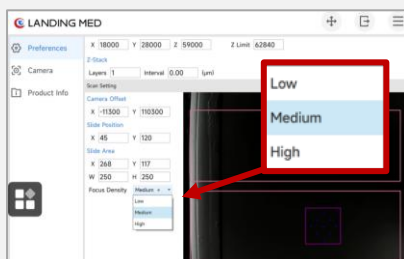
Scanner Focus and Light Intensity Settings



Modify the preset focus density level, use only when focus is unclear



1. Place slot with slide in the upper left slot. Take a photo then enter the settings interface.



2. Modify the Focus Density parameters.



3. Place slot with slide in the upper left slot and take a photo again, then place it in the bottom slot to scan.

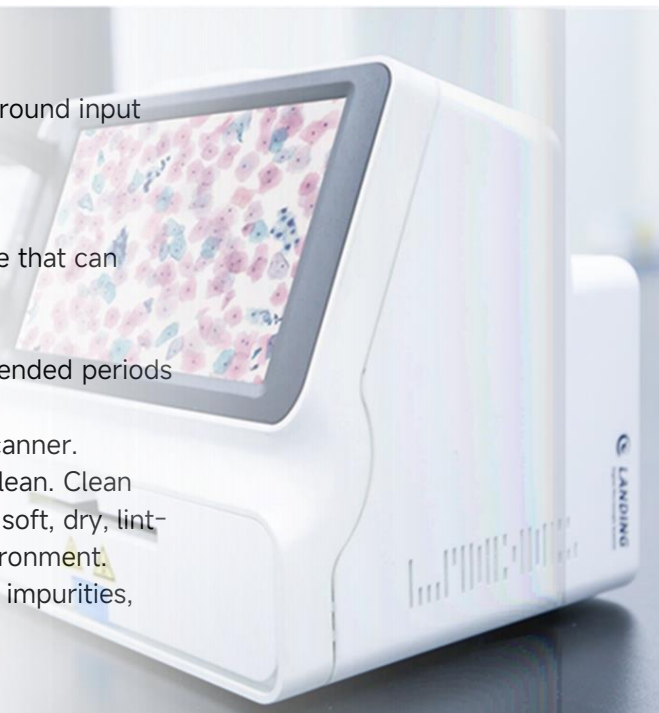


Transportation Maintenance

- Shipping temperature -10°C-40°C
- Humidity: ≤85%
- The outer packaging is firm and scanner is well protected with shock resistant material.
- Do not place the scanner upside down. Do not roll or shake scanner.

Daily Maintenance

- Power supply voltage: 220V AC. Power supply ground input 220V AC, output 19V 7.9A DC
- Working temperature 10°C-30°C
- Room humidity: ≤70%
- Scanner to be placed on a flat and stable surface that can hold at least 20KG without vibrating.
- The room is well ventilated and cool.
- Scanner is not exposed to direct sunlight for extended periods of time.
- No obstruction within 10cm on all sides of the scanner.
- The touchscreen is coated to make it easier to clean. Clean the dust on the surface of the instrument with a soft, dry, lint-free cloth. Do not use instrument in a dusty environment.
- Clean the slide tray so that the surface is free of impurities, glue and other foreign matter



Special Attention

- Non-manufacturer or non-designated technical personnel are prohibited from disassembling and repairing the scanner.
- Do not modify the software and hardware of the equipment, otherwise the warranty will be invalid.



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