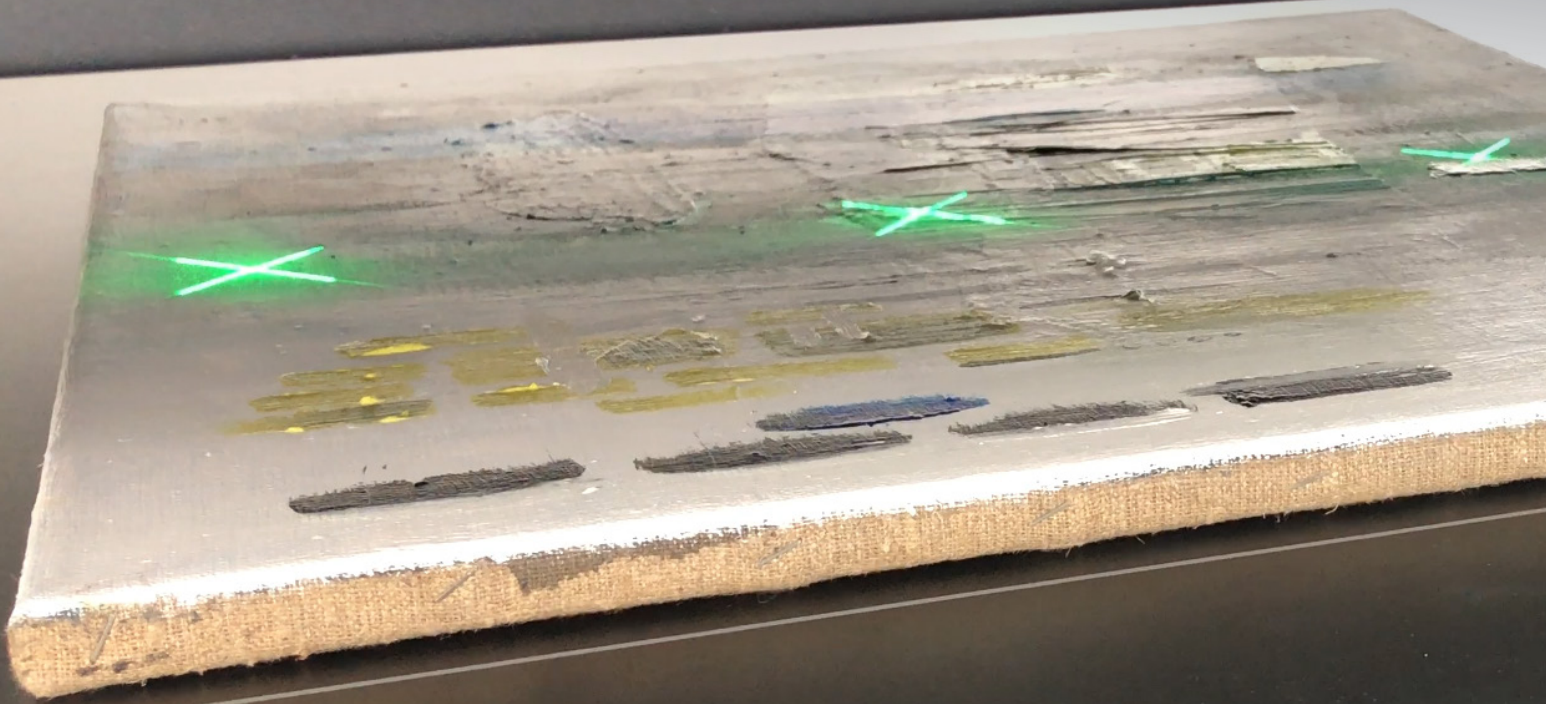


HD Apeiron/42

CONTACT-FREE SCANNER

TIPS AND GUIDELINES FOR OPTIMAL SCANNING RESULTS



 **contex**[®]
WHEN IMAGING MATTERS

This is a compilation of tips and guidelines designed to assist users of the HD Apeiron/42 contact-free scanner in achieving an optimal scanning experience.

Tips and guidelines:

3. Need to know
4. Lamp lever positions
5. Moving the table
6. Adjusting focus plane
7. Presets
8. 3D effect
9. Saving a scan in multiple versions
10. Aligning originals
11. Small originals
12. Difference in surface height
13. Leveling
14. Align and crop
15. Closed loop calibration (CLC)
16. Optimize for speed or quality
17. Calibration
18. Table alignment



Rule #1

Yes, this is a tips and guidelines document, but let's start with a rule to set one thing straight:

The actual scanning with a sophisticated scanner such as HD Apeiron/42 is not a 'one size fits all'. There are different ways to set up and operate both the hardware and the software, and many things to consider.

So, if your scan result is not quite what you expected, try using a different preset, adjust the settings or change the lamp directions.

That was the rule. Read on to learn about the tips and guidelines that will make operating HD Apeiron/42 a success.

NEED TO KNOW

When correctly adjusted, calibrated and set up, HD Apeiron/42 is a finely tuned instrument. And as such, we need to handle it with care. Any changes in the room temperature or actions that change the position of the table, rail and scan module may introduce errors in scans, and should therefore be avoided.

Do not lean on/bump into

1. Do not lean on the scan module
2. Do not lean on the table
3. Do not bump into the table
4. Do not bump into the table rails

If you accidentally leaned on or bumped into HD Apeiron/42, and you see that your scans are not like you expected, then perform a table alignment followed by a calibration.



Keep the scan module free of any objects

Do not add extra weight on the top of the scan module as this will affect both the lamp positions and the scanner's ability to reach the optimal height, and thereby the best focus.

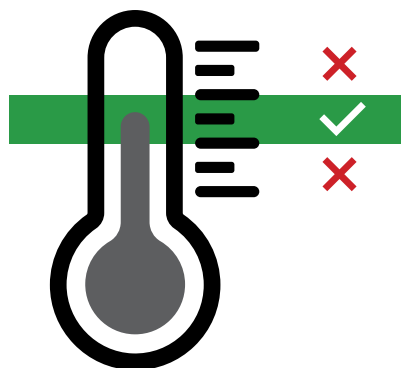
Any added weight may influence on both scanning and any type of calibration (i.e. colour accuracy and/or camera stitching and alignment).



Constant temperature

HD Apeiron/42 is ready to scan as soon as you switch it on. However, for the best and most accurate scanning and calibration results, wait a little while for all of the electronics to adjust to any fluctuations in the temperature caused by the switching on.

Make sure that the room in which the scanner is installed has a relatively constant temperature. If the room temperature varies, for example due to windows being opened/closed, air-conditioning turned on/off, then the scanner needs to acclimatize before use. Make sure that the room temperature is the same for both the calibration and the actual scanning.



LAMP LEVER POSITIONS

What

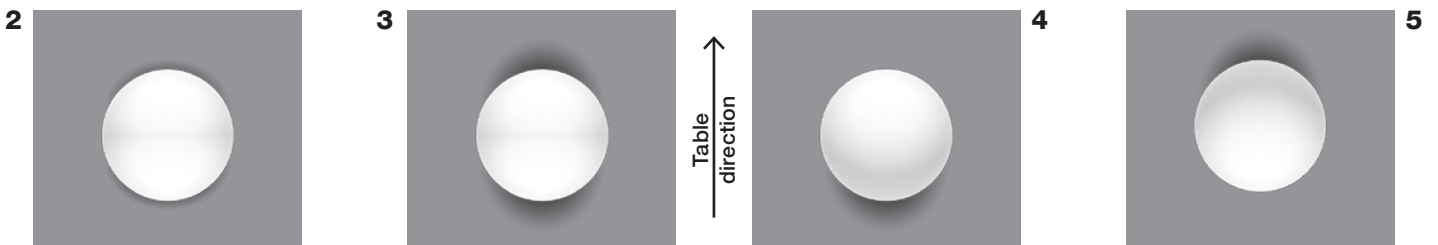
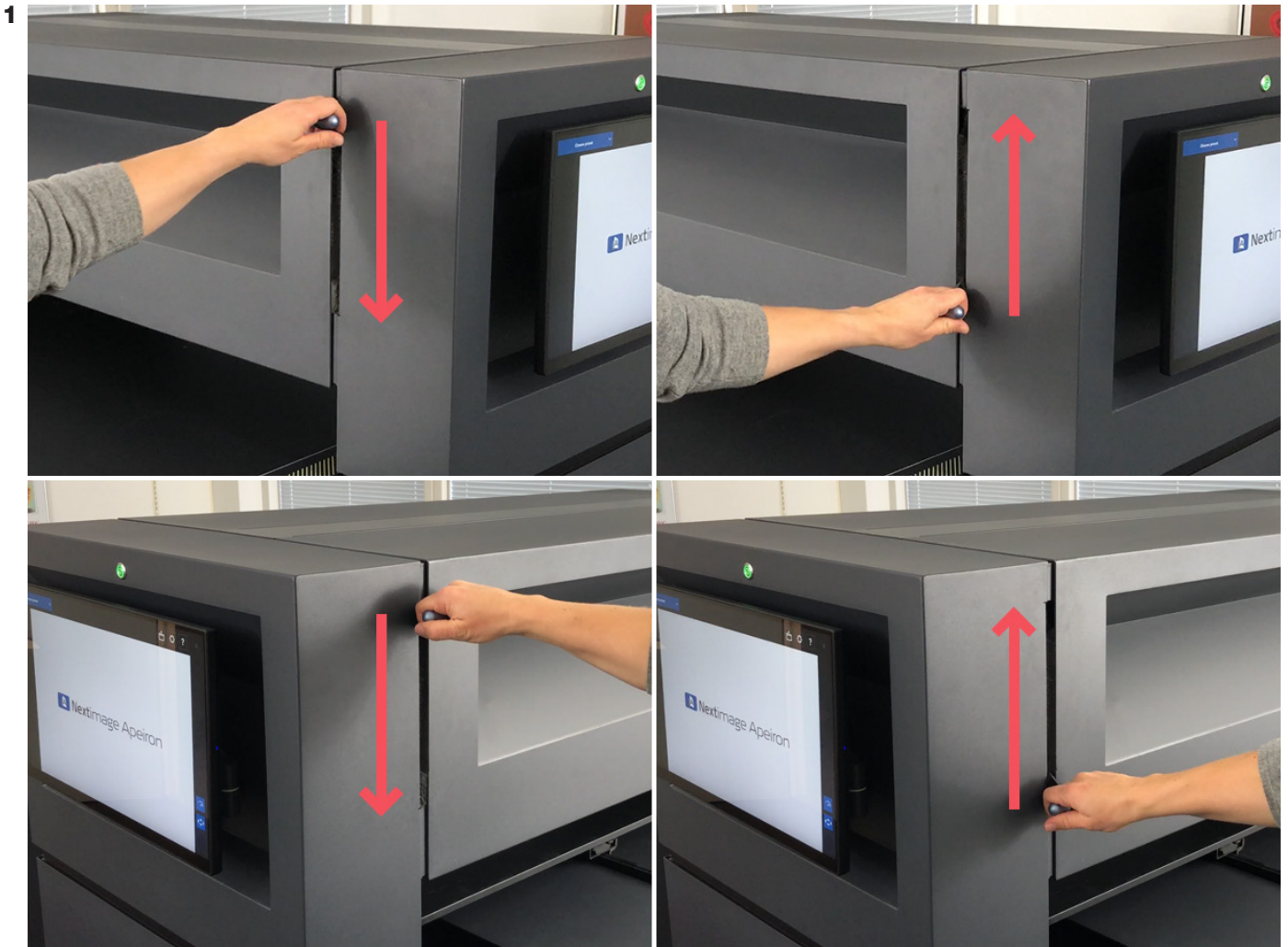
HD Apeiron/42 has 2 LED lamps with dual LED strips, mounted in elliptical reflectors. Each lamp can be set in an up or a down position.

Why

The four possible combinations of lamp positions offer different angles of lighting. Depending on the surface of the original and any added 3D surface effect, various lamp positions can produce different highlight and shadow results.

How

1. Use the handles to move the lamps up or down
2. Both lamps up for a result with minimum shadows
3. Both lamps down for a result with maximum shadows
4. Left lamp up, right lamp down for a result with subtle downwards shadows
5. Left lamp down, right lamp up for a result with subtle upwards shadows



MOVING THE TABLE

What

Move the table smoothly or send it all the way left or right in one go. After scanning, the table returns automatically to the default position.






Why

Move the table to the most optimal position to place, align, or remove your original, or as part of adjusting the focus plane.

How

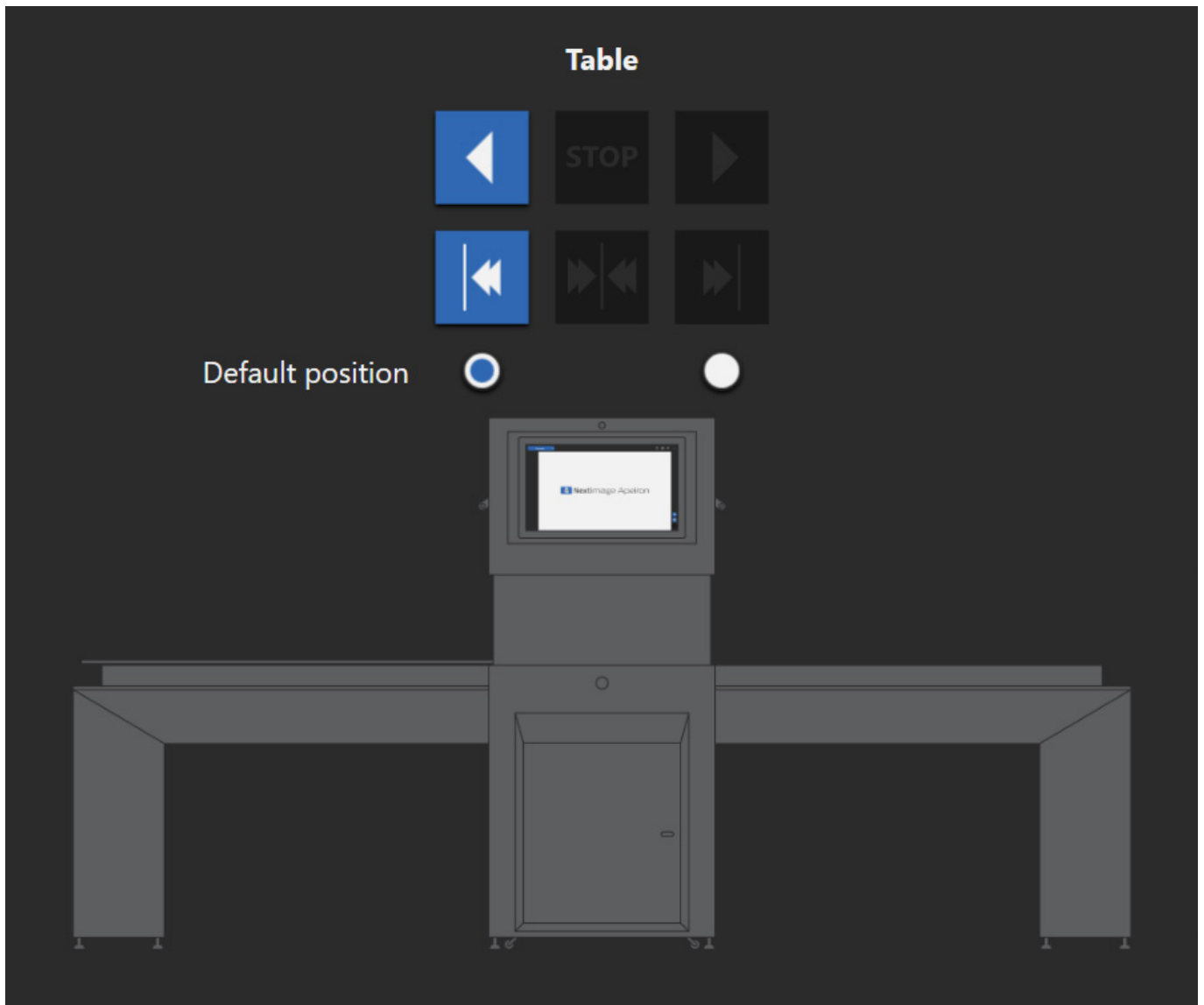
1. Software: Tap Position 

2. Move the table:

-  Smoothly to the left
-  Smoothly to the right
-  All the way to the left
-  All the way to the right
-  Stop

3. Choose left or right default position 

2+3



ADJUSTING FOCUS PLANE



What

Move the scan module up or down to ensure correct focus plane.

Why

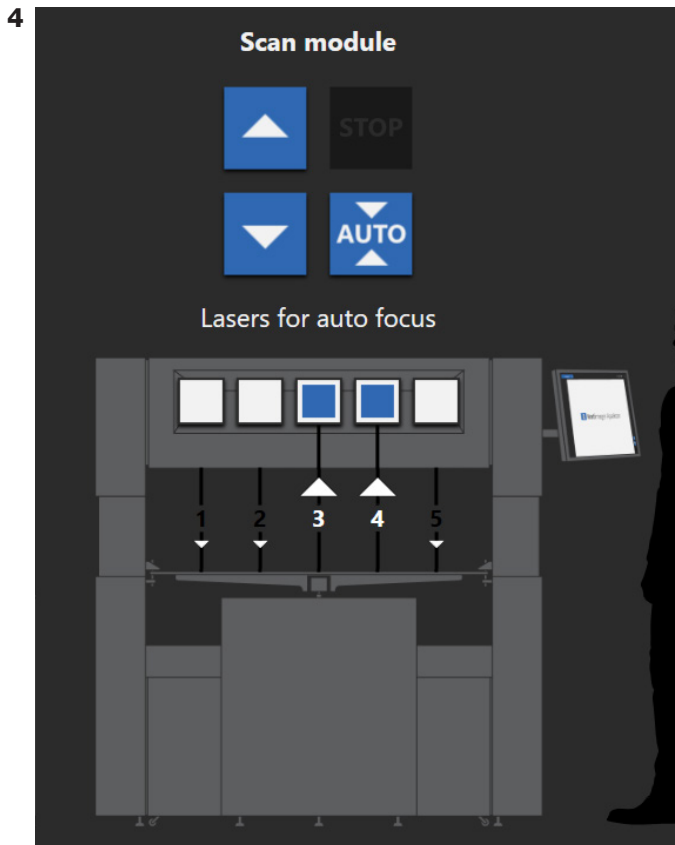
HD Apeiron/42 has a focus depth of +/- 10 mm and will scan in focus, provided that the plane is adjusted correctly. The focus plane can be set to any position between the table surface and 5.1 inches/130mm above it.

How

1. Place your original on the table
2. Software: Tap Position 
3. Move the table so that your original is under at least one laser
4. Select these laser(s) for auto focus 
5. Press 'Auto'
6. The scan module moves until best focus is achieved (selected lasers will turn green)

Alternative:  

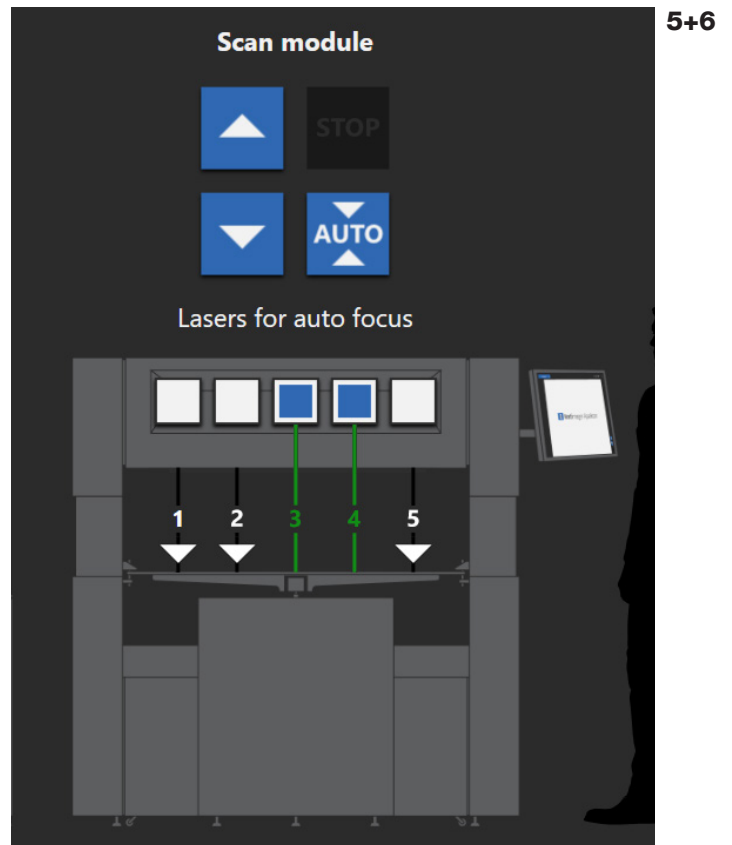
Manually press the buttons to move the scan module up or down until the lasers hitting your original turn green.



The arrows by the lasers indicate which direction the scan module should move for a laser to be in focus.

In this example, the original is under lasers 3 and 4, so the scan module should be moved up.

Use auto focus for best result.



With lasers selected, and the auto focus button tapped, the scanner automatically moves the scan module up or down to adjust the focus plane of the selected lasers. These turn green when the best focus has been achieved.

If more than one laser is selected, Nextimage Apeiron calculates an average, so make sure that the lasers hit your original in areas that resemble as much of the original's surface height as possible.

PRESETS

What

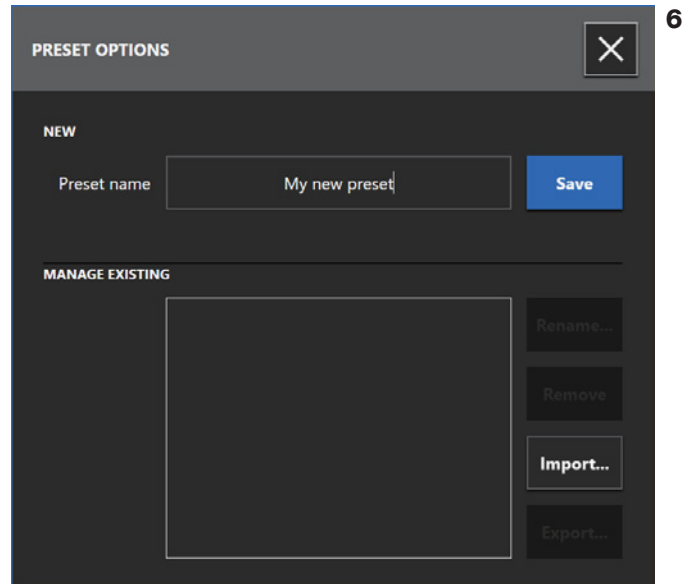
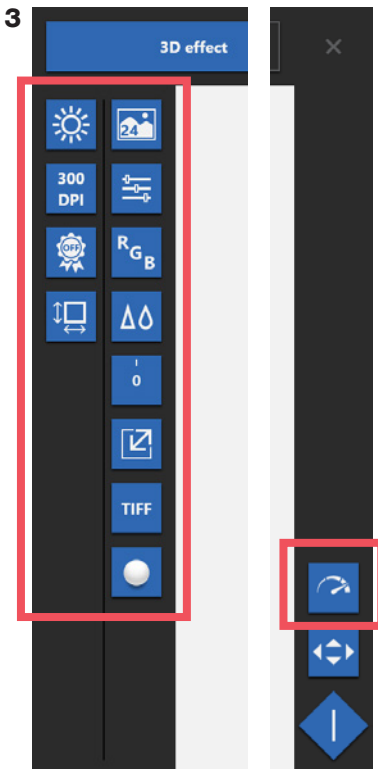
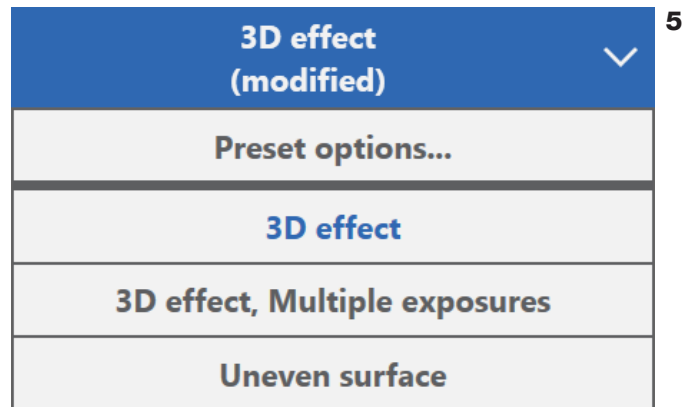
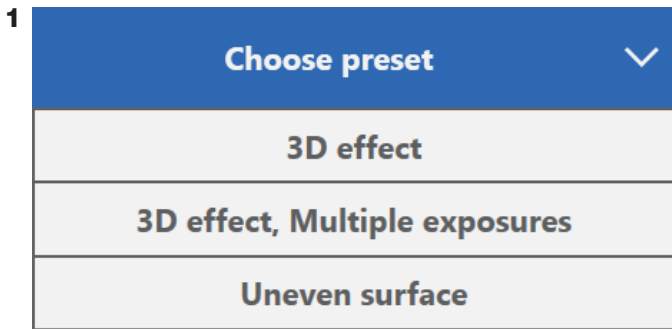
Nextimage Apeiron includes three presets: '3D effect', '3D effect, Multiple exposures' and 'Uneven surface'. It is also possible to create and save your own presets.

Why

The three included presets represent the most common combination of settings and can be used as starting points to make your own.

How

1. Software: Tap the preset button 'Choose preset'
2. Select one of the options
3. Change parameters
4. Preset name indicates current preset is '(modified)'
5. Save as a new preset by tapping the preset button, and choose 'Preset options...'
6. Name your new preset and tap Save



3D SURFACE EFFECT

What

HD Apeiron/42 offers an option to scan with a '3D surface effect'. When enabled, the scan will temporarily include separate light information from each lamp. After scanning and before closing the file, you can choose how much light from each lamp you wish to include in your final file.

Why

With the 3D effect enabled, all the small differences and variations in the original's surface will stand out, making a copy look more interesting and lifelike.







A scanning with both lamps in the up position and the 3D effect disabled results in minimum visible surface differences.



A scanning with both lamps in the down position and the 3D effect set to +100 results in maximum visible surface differences.

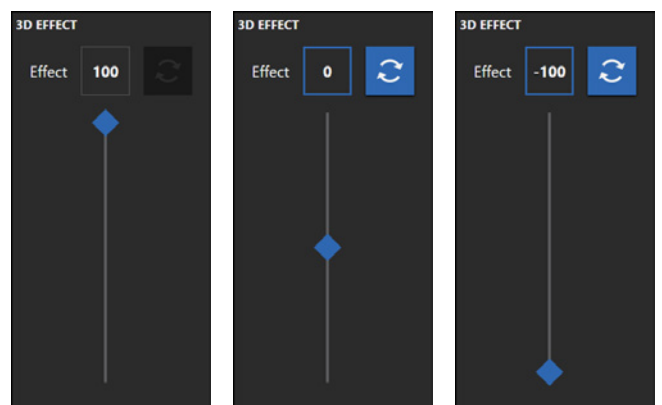
How

1. Software: Tap Illumination  select 'Uneven surface' and enable the 3D effect option
2. Tap the 3D effect button 
3. Slide to the wanted effect (default is 100)
4. Tap Scan 
5. If needed, adjust the 3D effect by repeating steps 2 and 3
6. Save any changes 

Note that once the scan is closed, the 3D effect locks, and the ability to further adjust it is no longer an option.



3



5

SAVING A SCAN IN MULTIPLE VERSIONS

What






You can save the same scan in multiple versions after changes in the settings.

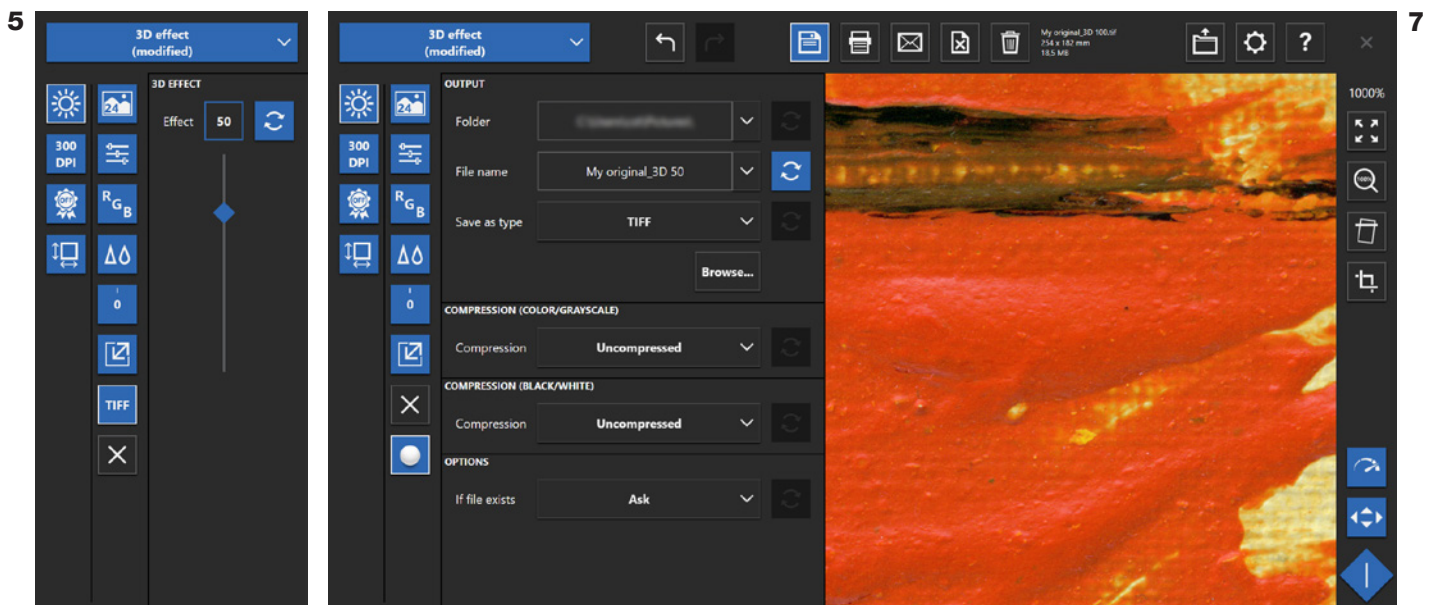
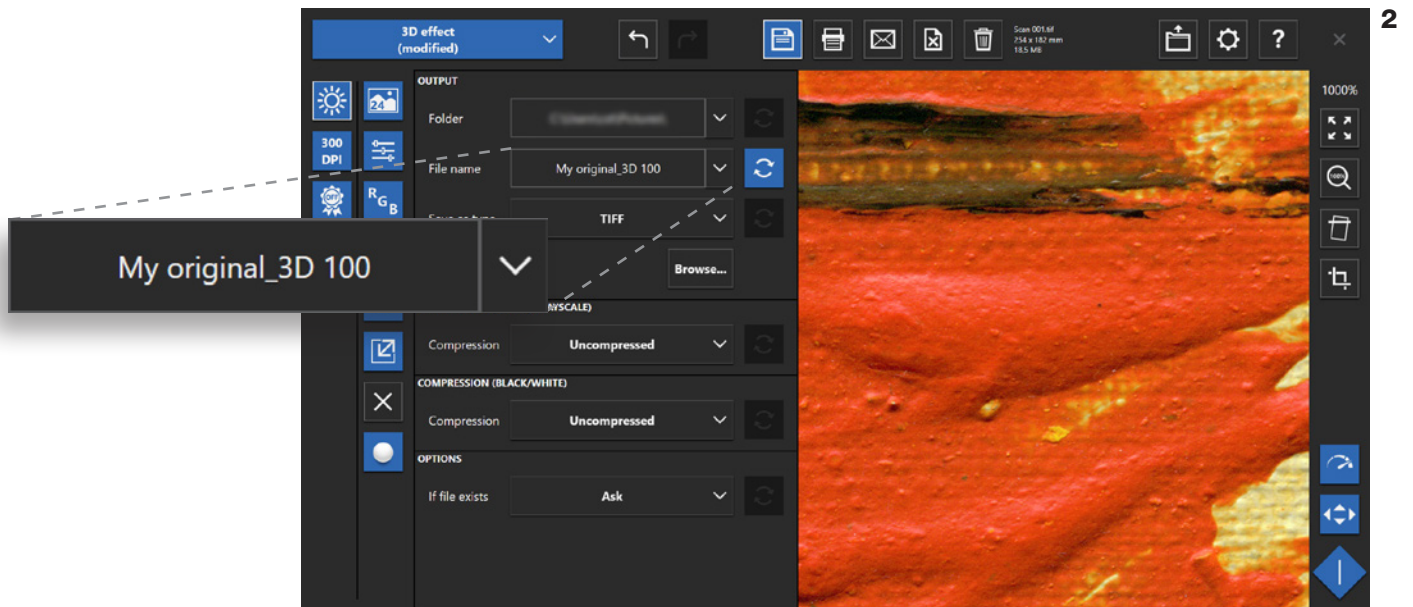
Why

This will save time and ensure that the saved images are exact 'copies' of the scan.

In this example, a scan with 3D effect is renamed and saved in two versions. The original was scanned with the 3D effect set to +100, but a version with +50 is also needed.

How

1. Software: Tap Output 
2. Change File name, for example to mirror the settings: 'My original_3D 100'
3. Tap Save  (notice the file name change)
4. Tap 3D effect 
5. Move the slider to +50
6. Tap Output 
7. Change File name, for example to mirror the settings: 'My original_3D 50'
8. Tap Save  (notice the file name change)



ALIGNING ORIGINALS

What

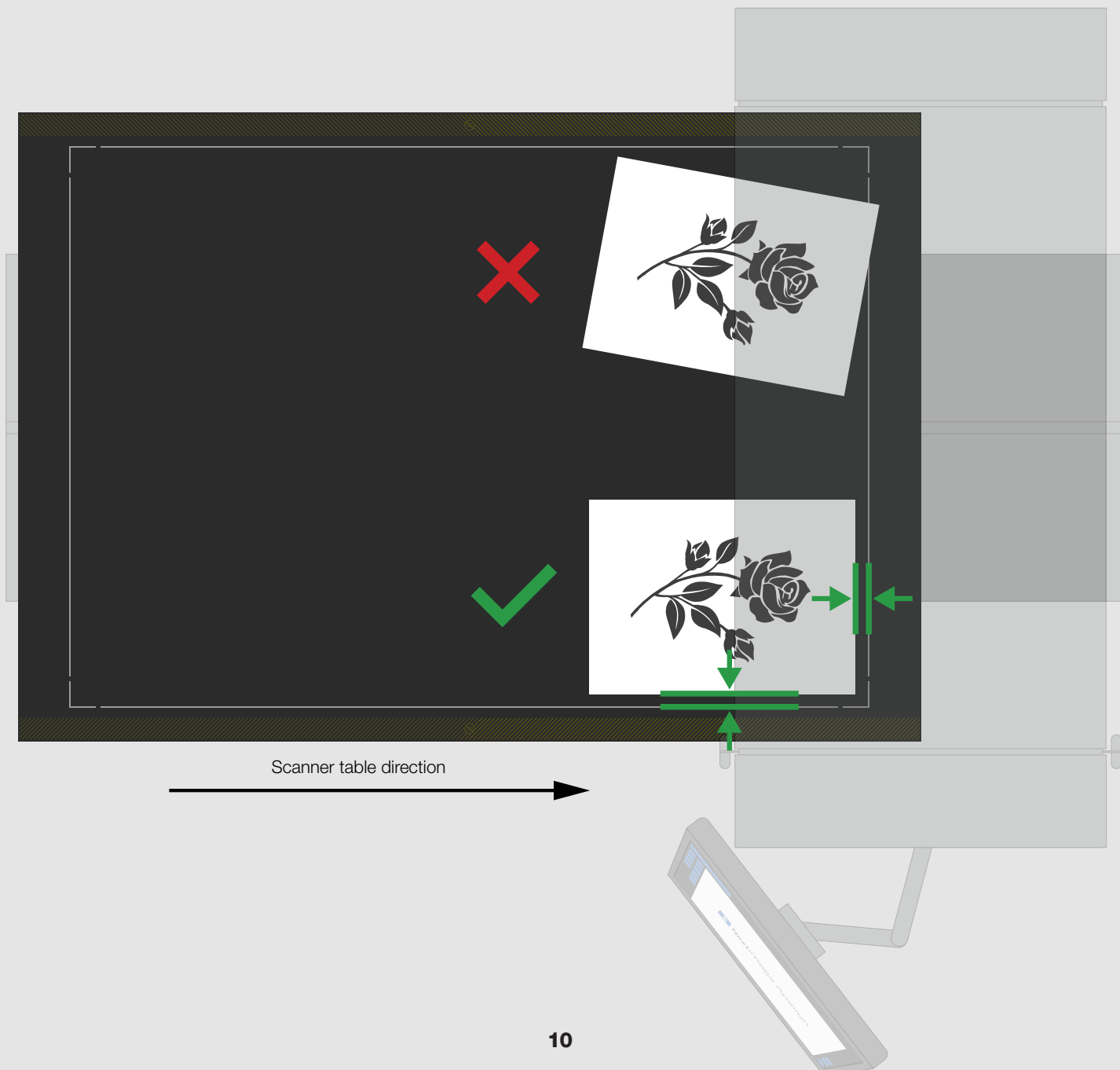
Arrange your original on the table exactly as you wish it to be displayed. For most artworks the top of your original should align with the printed gray square on the table, which also marks the maximum scan area.

Why

By aligning the original, you can avoid unwanted artifacts and save time on post-scanning re-alignments, which may also lead to unnecessary pixel interpolation. Moreover, if you have opted for the 3D effect, the end-result will be better.

How

1. Align the original to the printed gray square as shown below



SMALL ORIGINALS


What

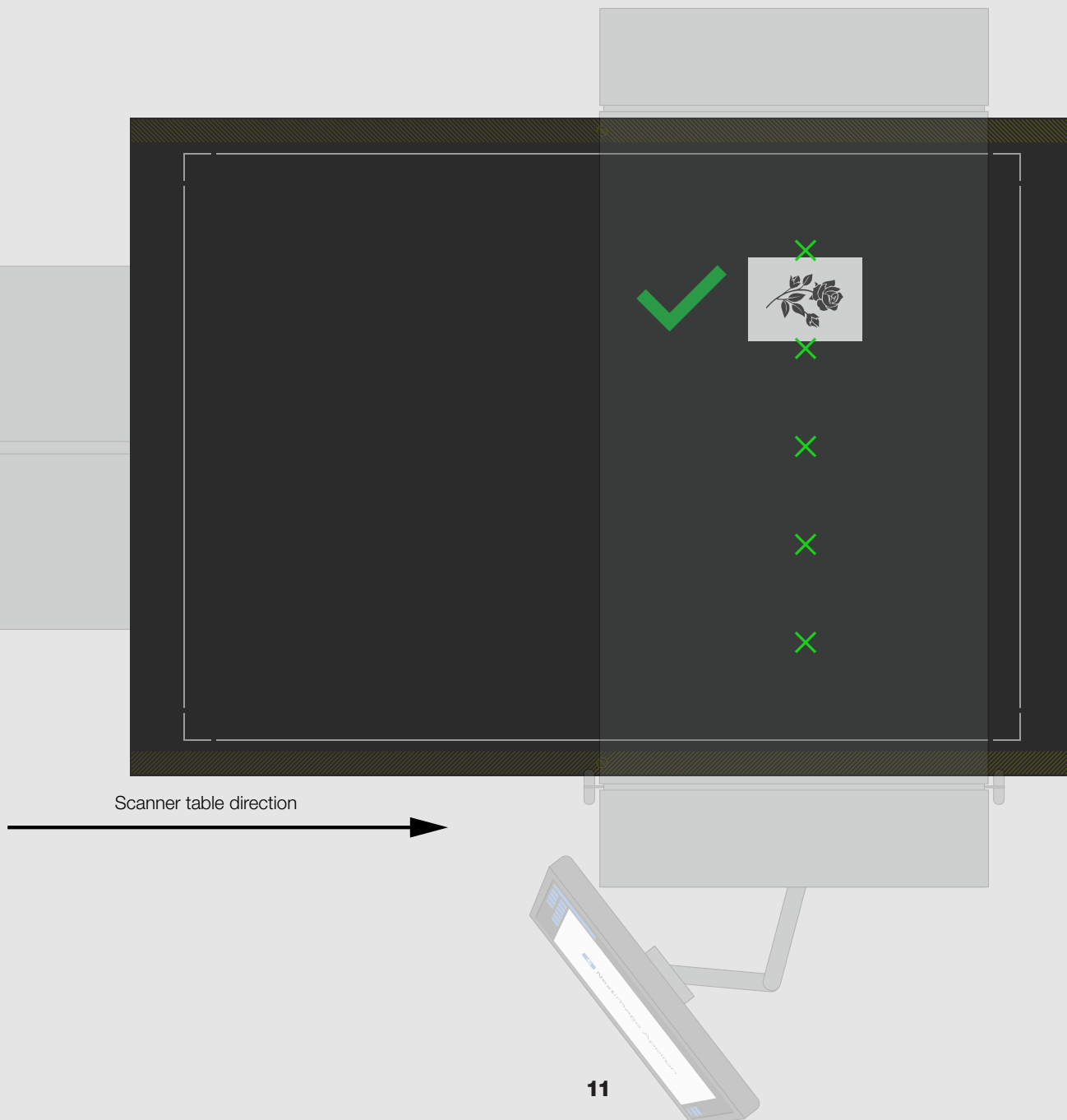
Originals which will fit under one camera only are considered 'small originals' and should be placed between two lasers (X) during scanning.

Why

The five lasers mark the overlap of the six cameras. By placing your original between the lasers, there is no need for the software to stitch two adjacent cameras. This ensures an absolute optimal scan.

How

1. Software: Select Position  to activate the lasers
2. Place the original under one of the lasers
3. Adjust the height of the scan module to ensure focus
4. Move the original so that it is placed between two lasers



DIFFERENCE IN SURFACE HEIGHT


What

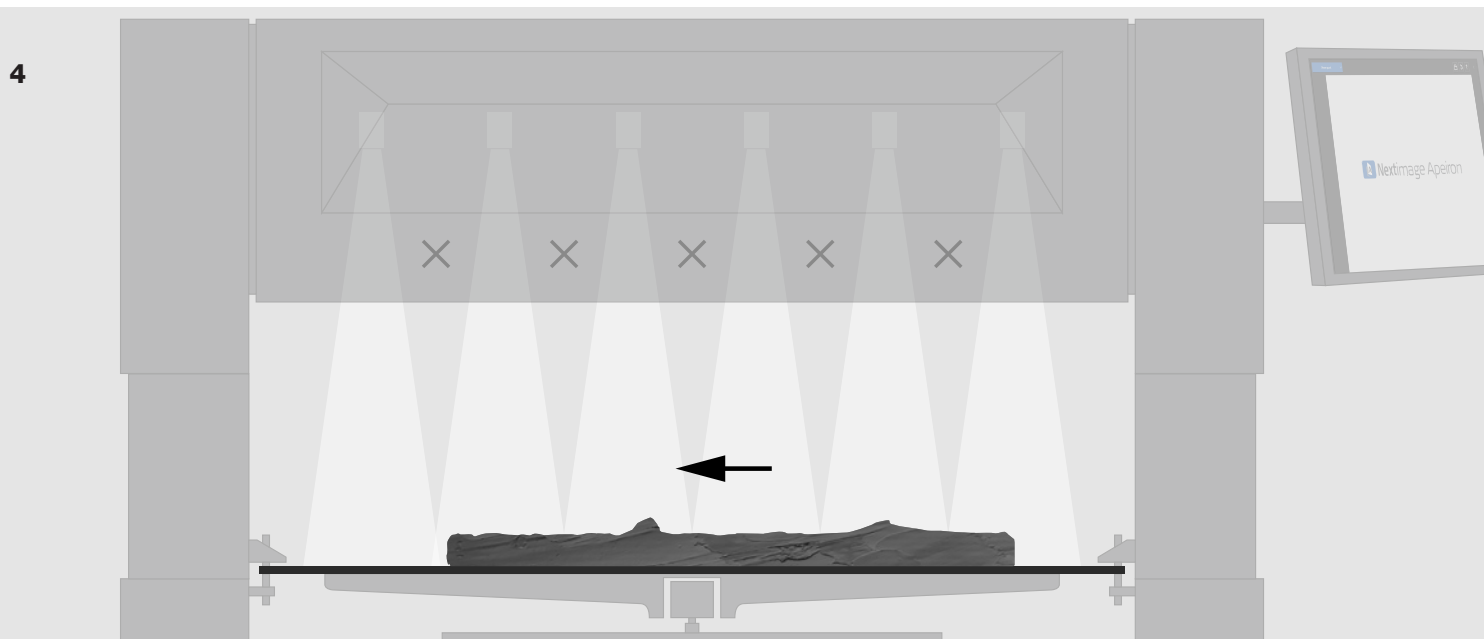
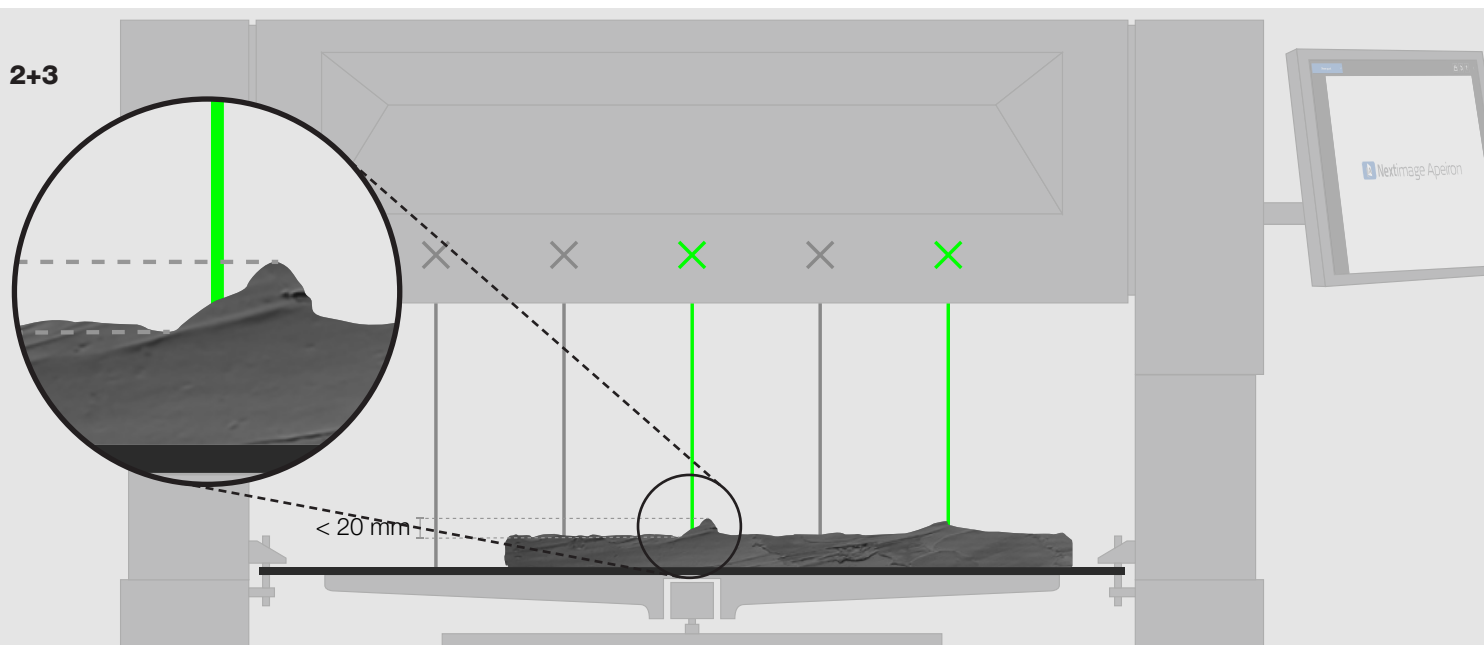
When adjusting the scan module to ensure focus, the laser(s) should hit a spot somewhere between the lowest parts and the highest parts of the surface. Note that HD Apeiron/42 scans with a focus depth of +/- 10 mm with the best focus at 0 mm.

Why

Scanning originals that span multiple cameras requires stitching, and it is important that the greatest variations in surface elevation are not located along the stitching lines.

How

1. Software: Select Position  to activate the lasers
2. Place the original so that one or more lasers point at a spot in between the lowest and the highest parts of the surface
3. Adjust the height of the scan module so that the lasers at the selected spot(s) are in focus
4. Move the original towards or away from you, so that the parts with the biggest height differences are placed between two lasers while scanning, not under
5. If necessary, repeat until best result is obtained



LEVELING ORIGINALS

What

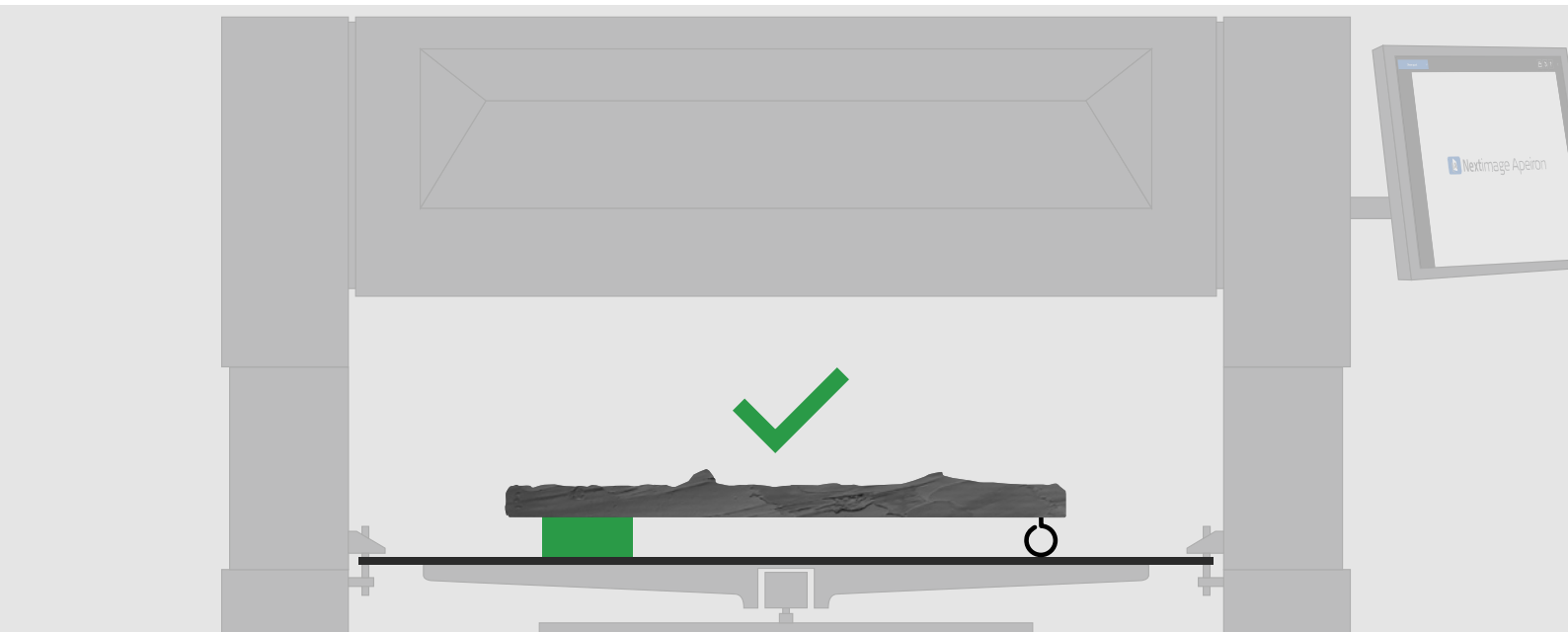
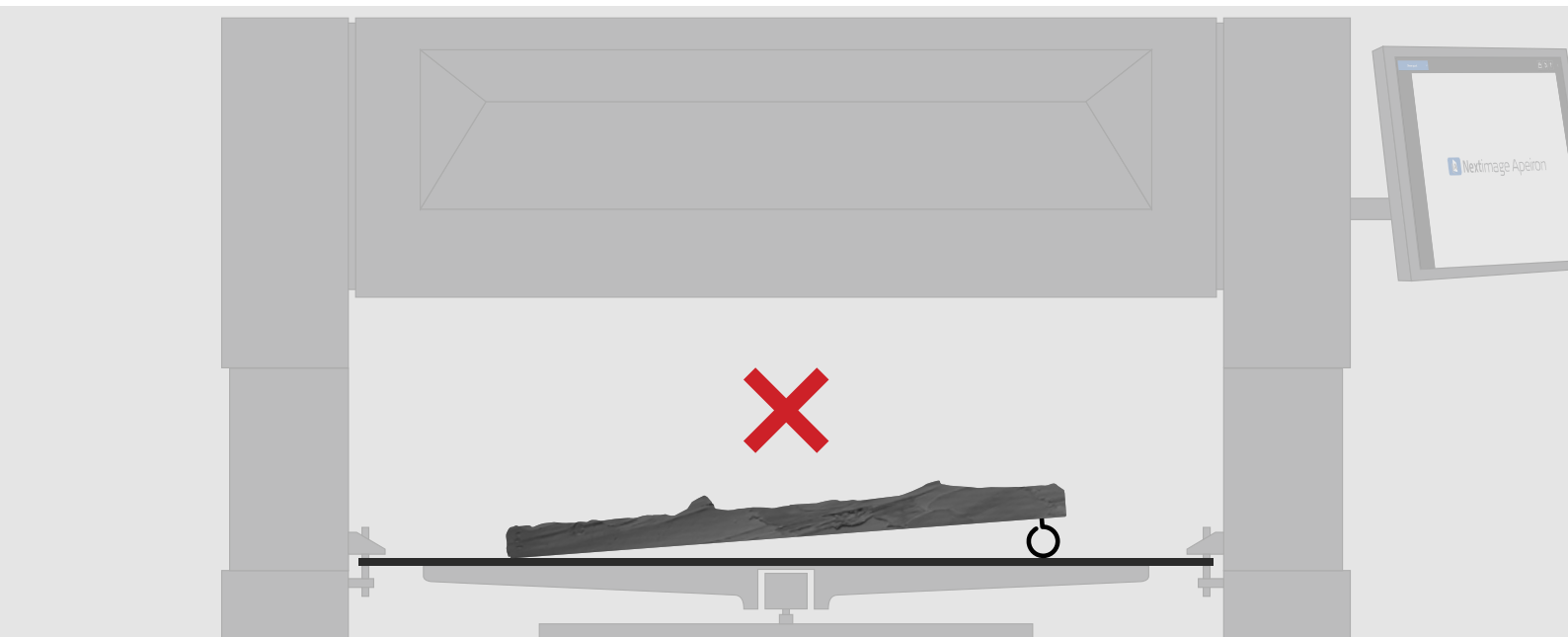
Some originals are not automatically leveled when placed on the table. An example of this could be a hook in the frame of a painting making it tilt. However, when scanning, the surface should be as leveled as possible.

Why

HD Apeiron/42 scans with a focus depth of +/- 10 mm. Leveling ensures the best overall focus.

How

1. Compensate any difference in level





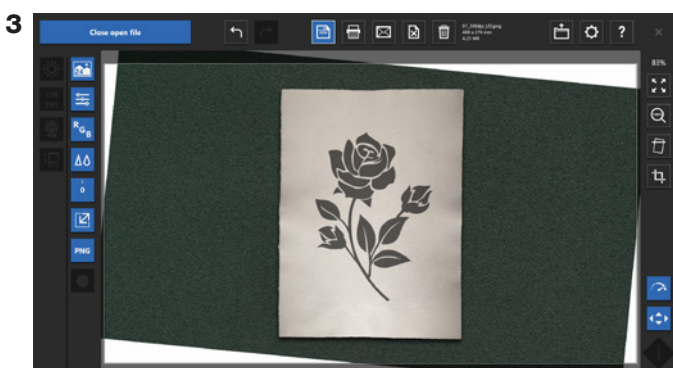
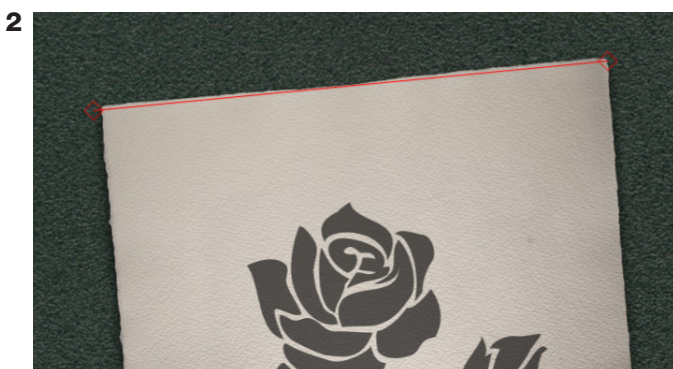
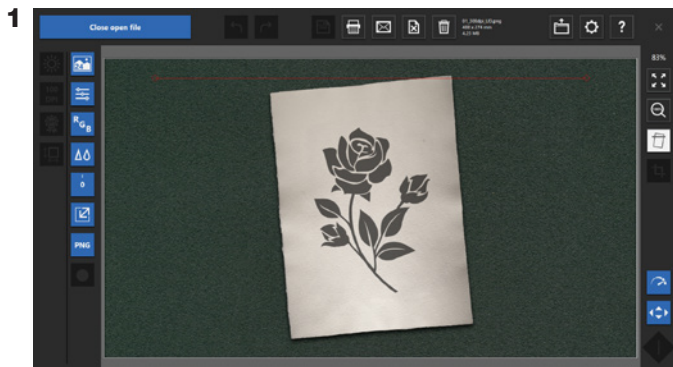
ALIGN AND CROP

Align

Use the align option on originals that were not aligned with the print line on the table during scanning. Avoid aligning images scanned with 3D effect, as the new alignment may interfere with the highlights and shadows in unwanted ways.

How to align

1. Software: Tap Align  to activate alignment
2. Move the two handles  so that the red line aligns with something in the image that you want to be horizontal
3. Tap Align again to confirm the adjustment

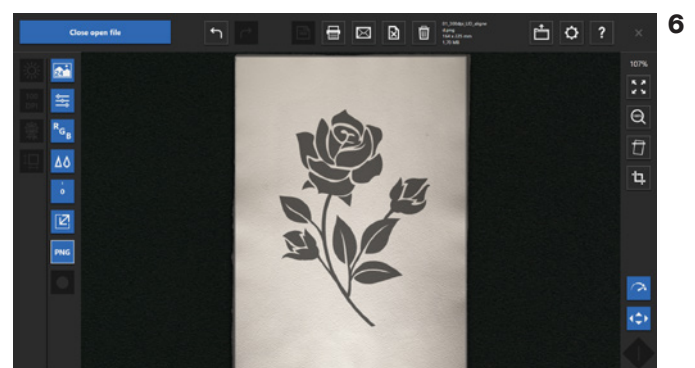
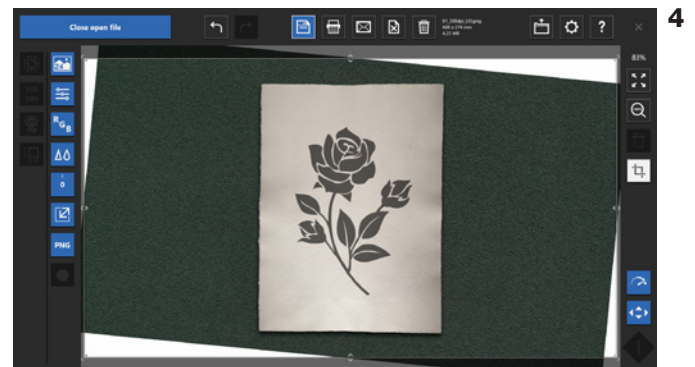


Crop

Use crop if the input size was incorrect, or if your original needs cropping for other reasons.

How to crop

4. Software: Tap Crop  to activate cropping
5. Move the handles on the sides, top, bottom and/or corners to the desired positions
6. Tap Crop again to confirm the adjustment



CLOSED LOOP CALIBRATION (CLC)


What

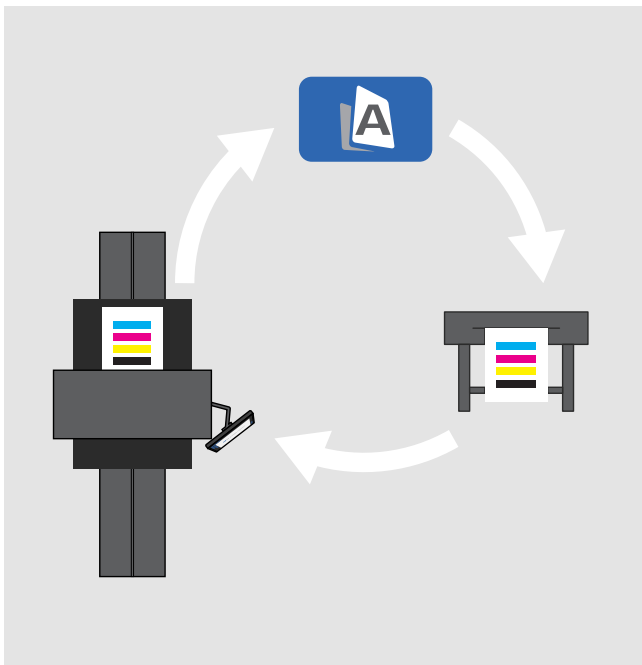
HD Apeiron includes a closed loop calibration (CLC) wizard which creates a perfect match between the scanner and a large format printer.

Why

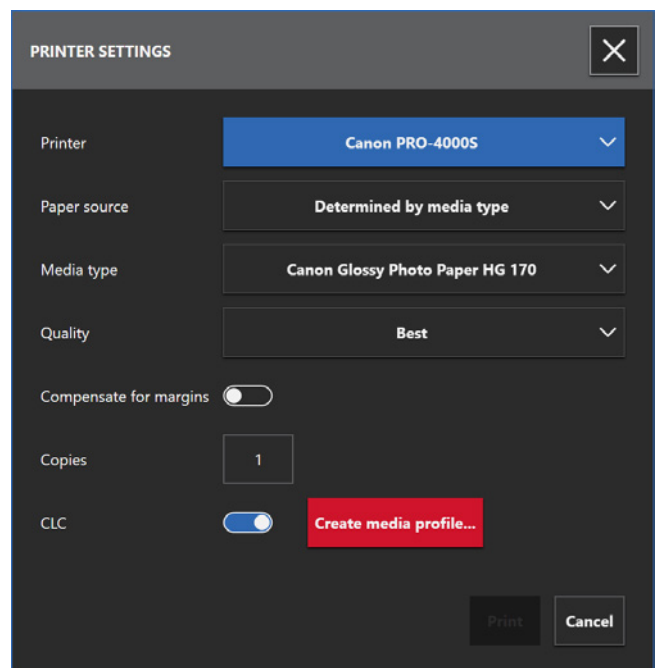
By making a unique CLC media profile you ensure that your printer output is aligned with your scanner input. This will create the best possible color matched copy of your original.

How

1. With a file open: Select Print 
2. Select Printer, Paper source, Media type and Quality
3. Enable CLC
4. Tap the 'Create media profile...' button
5. Print the color test print
6. Tap button: Move table
7. Follow the instructions in the software guide
8. Repeat for each printer/paper/quality combination



Closed loop calibration between HD Apeiron/42 and a specific printer.



OPTIMIZE FOR SPEED OR QUALITY



What

Optimize for 'Speed' if you need faster scanning.
Optimize for 'Quality' to reduce image noise by scanning each line multiple times.

Why

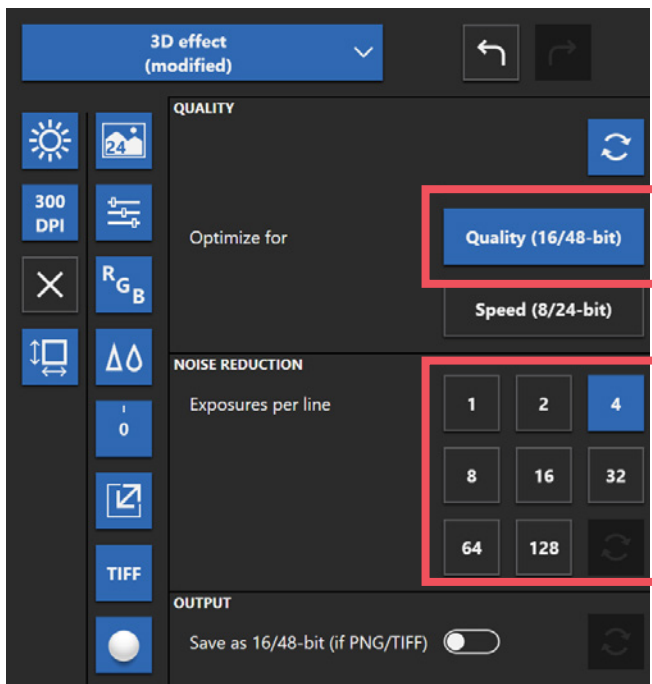
Reducing image noise and ensuring more accurate colors is crucial for complying with various image guidelines and standards.

How to optimize for quality

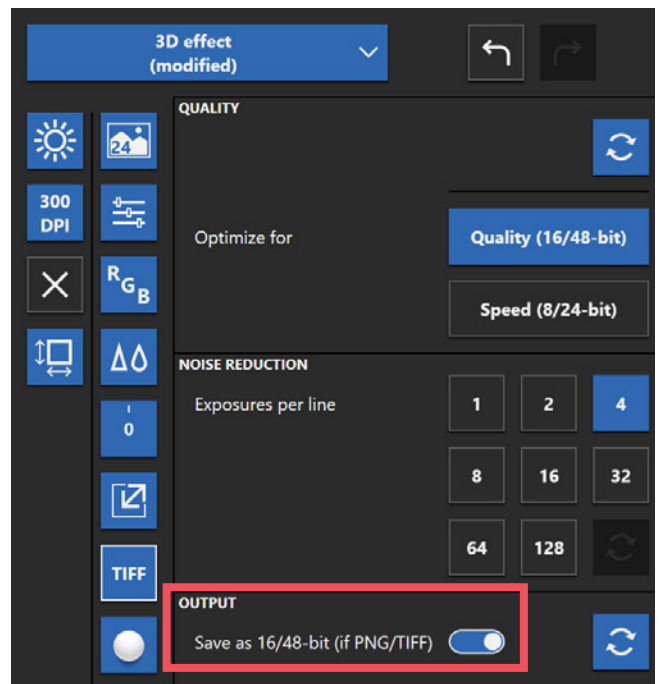
1. Software: Select Quality 
2. Choose 'Quality (16/48-bit)'
3. Change 'Exposures per line', if required*
4. Optional: Enable 'Output' to save images in 16/48-bit as PNG or TIFF files
5. Software now shows the number of exposures in the Quality icon 

* Note that each time you double the number of exposures per scan line, the total scanning time also doubles. Default noise reduction is 4 exposures per scan line, which also is part of the FADGI 4-star preset.

2+3



4



If you need output in 16/48-bit, but no additional image noise reduction, you should set "Exposures per Line" to 1 to keep the scanning time short.

5



CALIBRATION

What

Nextimage Apeiron includes two options for calibration: Calibration of camera stitching and alignment only, or include calibration of camera light profiles and colors.




Why

If the scanner seems to perform below expectations, this issue may be resolved through calibration.

Calibrating the camera stitching and alignment ensures that the cameras are correctly stitched and aligned.

Including a calibration of light profiles and colors will further ensure optimal color accuracy.

How

1. Software: Open Settings 
2. Select Calibration...
3. Choose calibration option:
 - A: Calibrate camera stitching and alignment 
 - B: Calibrate camera stitching and alignment, and include camera light profiles and colors 
4. Tap button: Move table
5. Follow the instructions in the software guide
6. Repeat for each lamp position combination

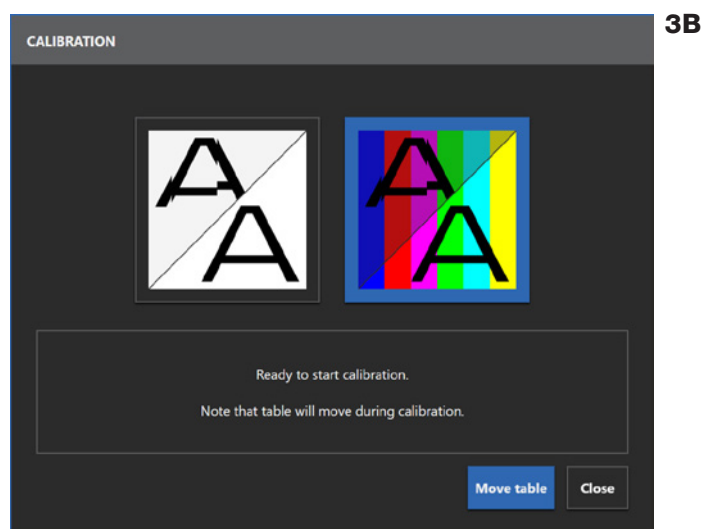
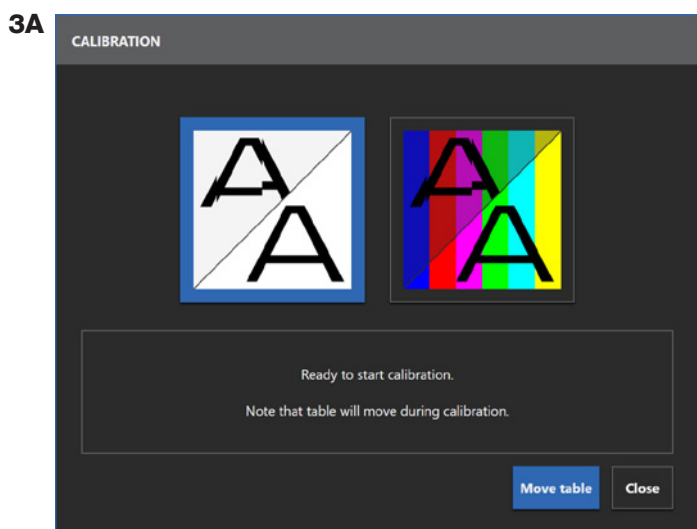
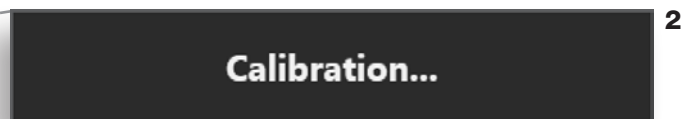
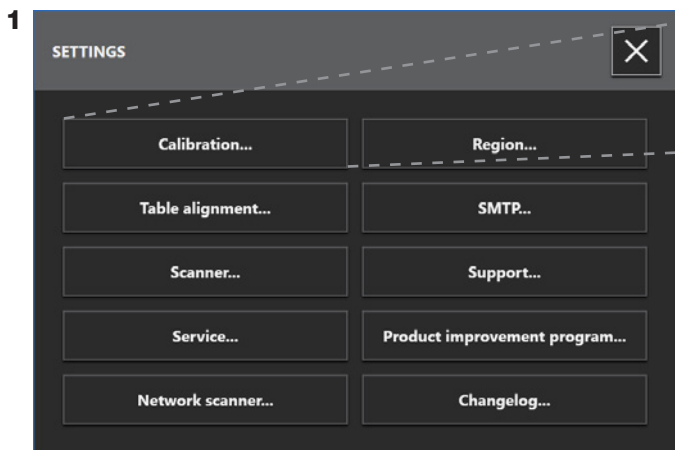


TABLE ALIGNMENT


What

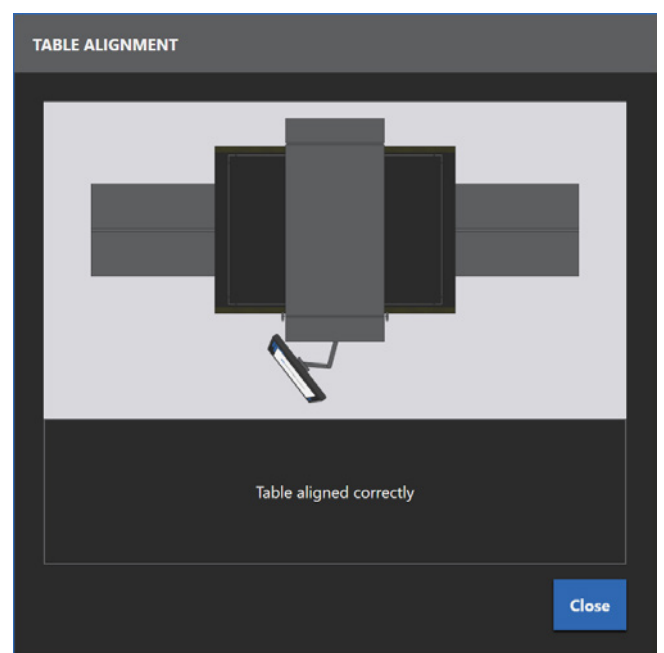
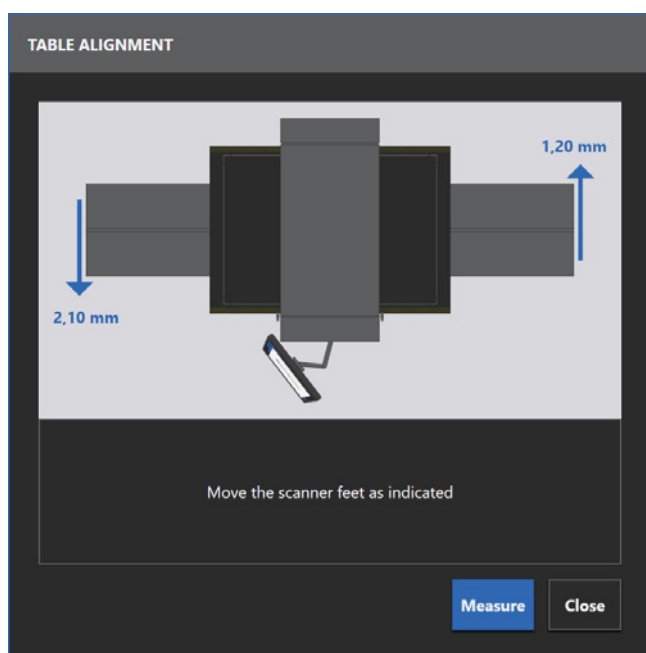
Aligning the table is essential to ensure that the table rail is perpendicular to the scan module.

Why

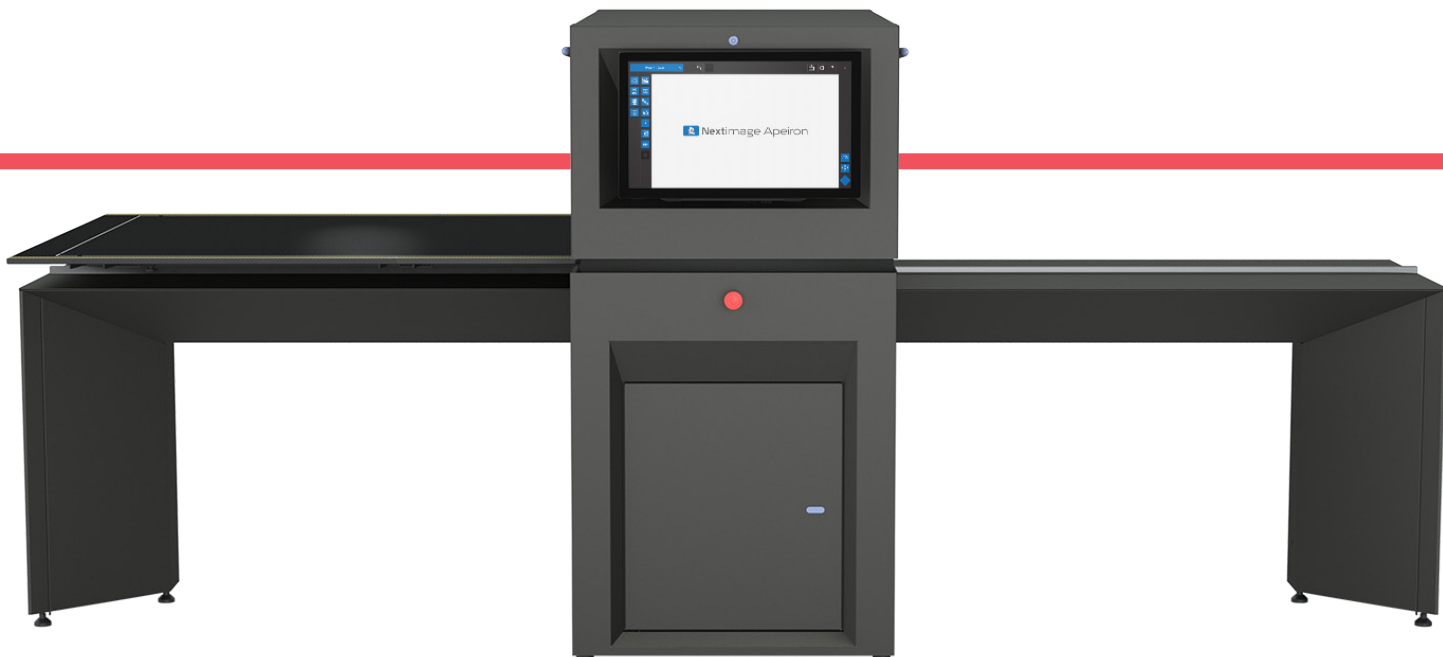
If the angle between the rail and the scan module is not correct, then every scanned line will be slightly angled relative to the original, leading to scanning results that may not meet expectations.

How

1. Software: Open Settings 
2. Select Table alignment...
3. Follow the instructions in the software guide



HD Apeiron/42



Experience a transformative leap in digitization with HD Apeiron/42, the pinnacle of contact-free large format scanning. This remarkable innovation is not just a scanner; it's the key to unlocking unprecedented results.

Discover how HD Apeiron/42 redefines digitization.

SEE MORE: contex.com/hdapeiron



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WHEN IMAGING MATTERS