



CRH8508 DOUELE UNIT CCD

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Introduction

The main function of this program is to utilize a single set of CCD to identify the presence of ICs, and to transmit the results back to the Handler. This program communicates with the Handler using the LSI3101 card to trigger imaging and I/O to return the recognition results.

Basic function

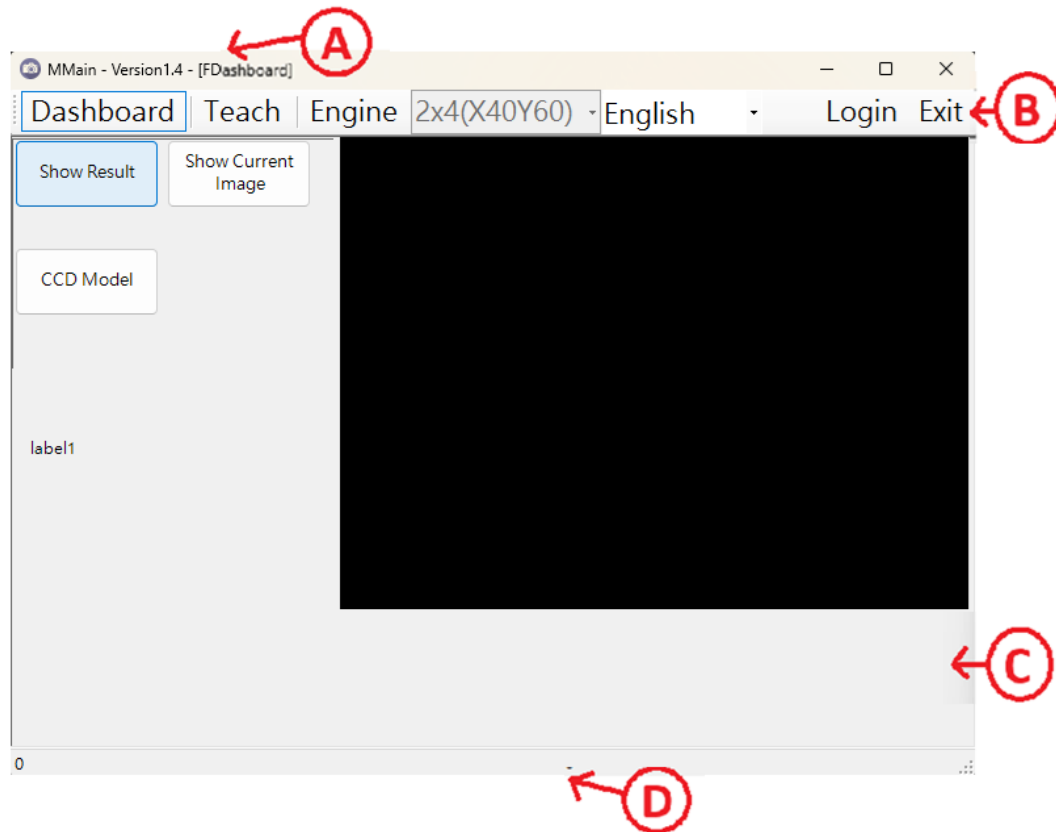
- Identify the presence of ICs.
- CCD parameters can be set by the program. For example: [Exposure Time](#), [OffsetY](#), [ReverseX](#) and [ReverseY](#).
- Recognition parameters can be set by the program. For example: [Color Difference](#), [Matching Ratio](#), [Stitching images pixel](#), [Grabbing images Position](#), [Recognition Area](#), [Sample Position](#), and [Sample Size](#).
- [Create a new profile/Switch profile](#) using Modbus protocol.
- [Language switch](#).
- [I/O Settings](#) (SOTP 、SOTN 、EOT 、OK 、NG)

MMain Form description

Upon entering the program, the main interface is as follows, which can be divided into 4 areas:

- A. Title Bar: Includes the window name and the current page window.
- B. Main Function Bar: [Socket-based types](#), [Language Selection](#), Dashboard page, Teach page, Engine page, Login page.

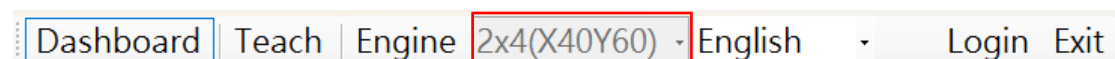
- C. Page Content Display Area: Includes Dashboard page content, Teach page content, Engine page content, Login page content.
- D. Status Bar: Displays current engine point, image recognition processing time, and image recognition results.



Main Function Bar operation DESCRIPTION

Socket-based types

Switching socket base types. X40 indicates a 40mm spacing between each socket in the horizontal axis, and Y60 indicates a 60mm spacing between each socket in the vertical axis.



Language switch

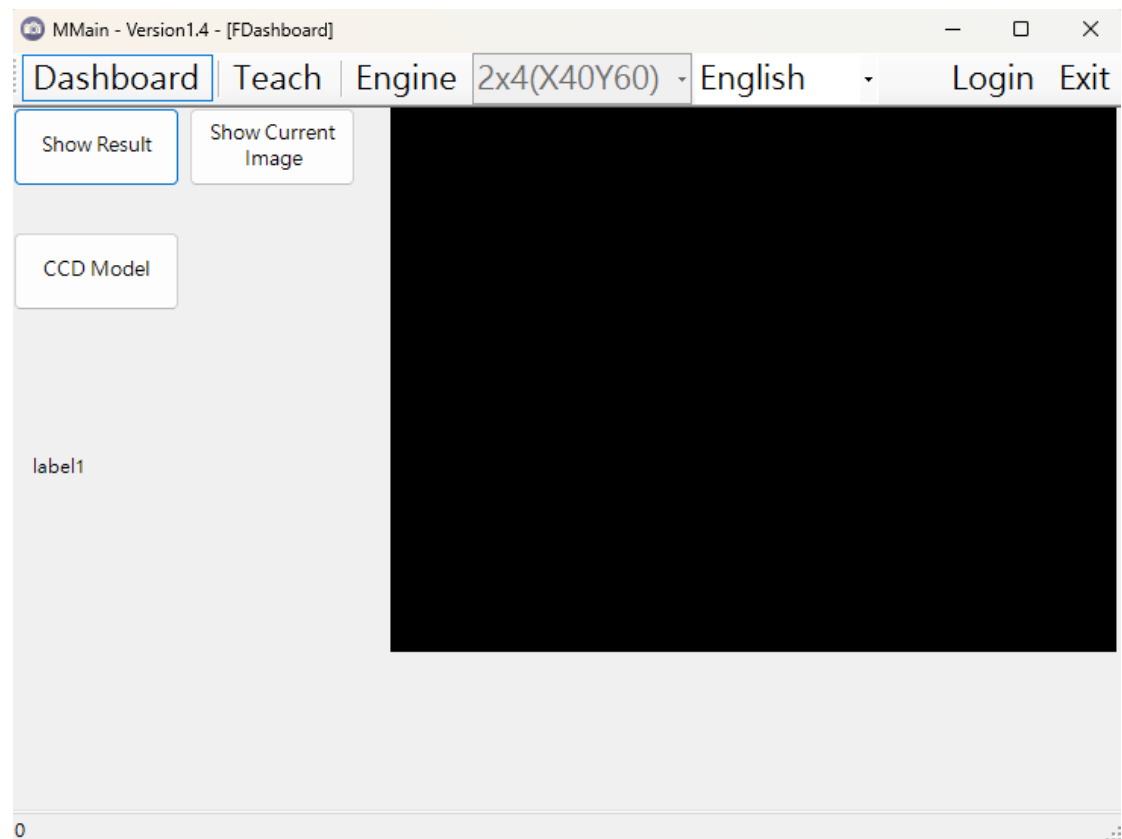
Dashboard | Teach | Engine 2x4(X40Y60) | English | Login | Exit

Page Content Display Area operation

DESCRIPTION

Dashboard page

Includes the CCD model selection window, displays the image and recognition results.



Teach page

Includes the [CCD settings](#) window, [adjusts the recognition area, sample areas, image recognition parameter settings](#), Zoom out.

MMain - version1.8 - 2x4(X40Y60) - [FTeach]

Dashboard **Teach** Engine 1x4(X40) English Login Exit

Reset Training Settings
Reset training settings, Please click to enter the training area after reset.

Image Stitch Train Area CV Parameter

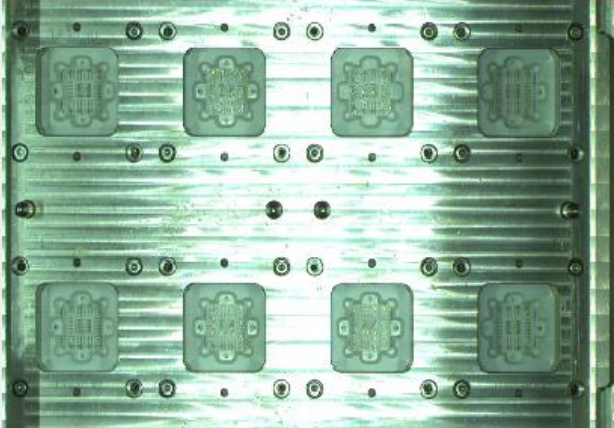
CCD Settings
CCD parameters setting, includes exposure time, offsetY, reverseX, reverseY

Stitching Pixels: 245

Number of pixels to stitch each image
shuttle1to2: 4900 62500

Set the start/end grabbing point, and the image will be taken between 4900~62500

Save Images Show Processing Time
Ihint2



0

MMain - version1.8 - 2x4(X40Y60) - [FTeach]

Dashboard **Teach** Engine 1x4(X40) English Login Exit

Reset Training Settings
Reset training settings, Please click to enter the training area after reset.

Image Stitch Train Area CV Parameter

Sites Number: 4

The number of identified sites, Please set how many SITES you want to recognize before selecting the training area.

Auto Train Perform automatic sample selection

Show Training Area Save Training Settings

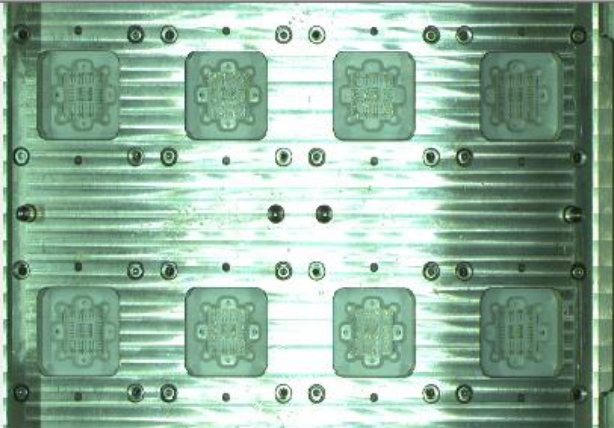
Click to select training area

sample size: 50 50

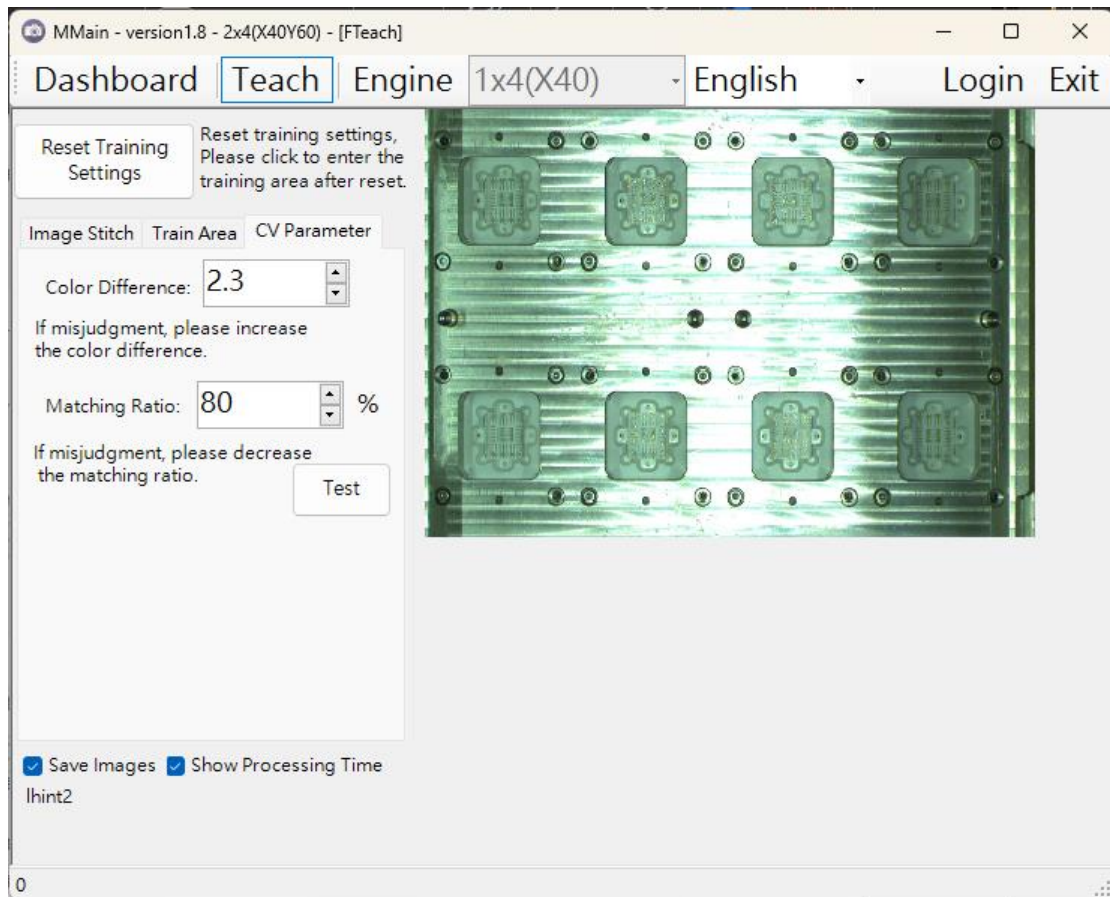
Set sample width, Set sample height
Zoom In Zoom Out

Current image ratio: 100%

Save Images Show Processing Time
Ihint2



0

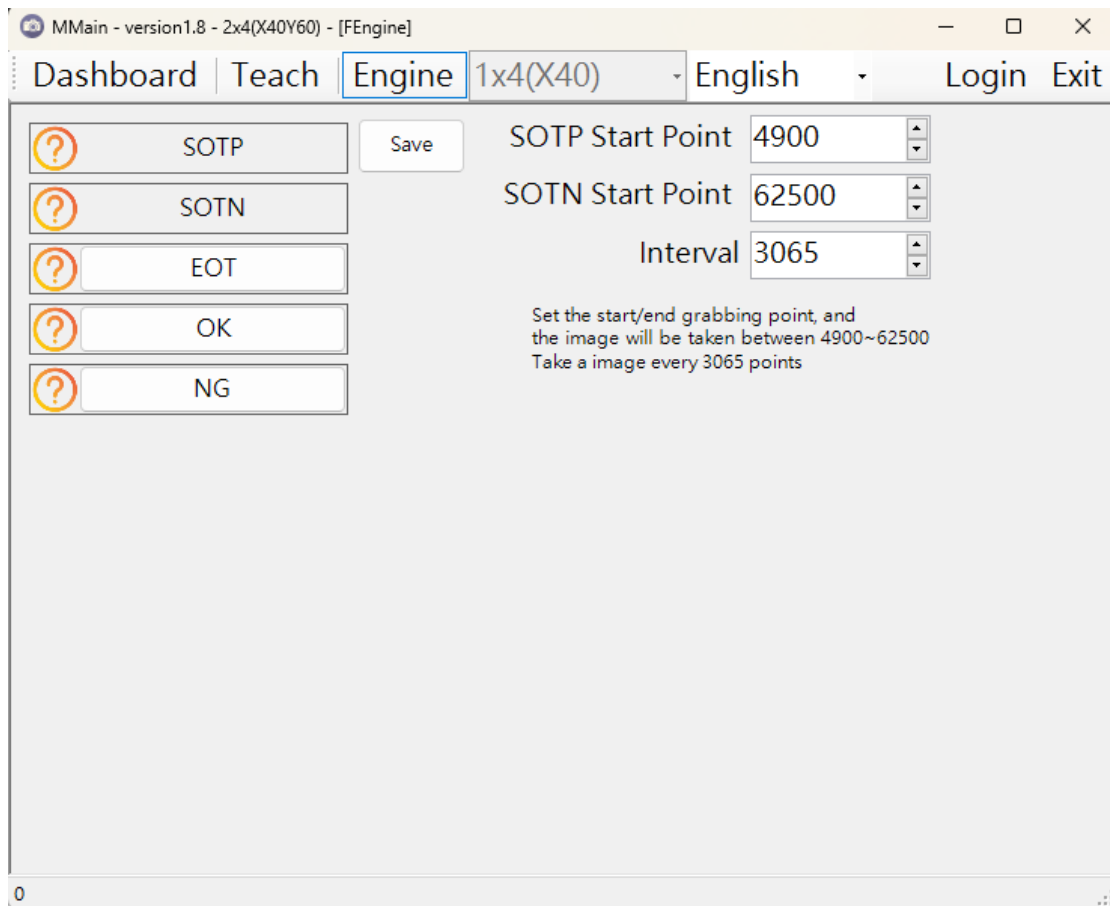


Engine page

Includes the I/O settings (SOTP, SOTN, EOT, OK, NG), SOTP/SOTN start point settings, and grabbing images interval.

*Take the following picture as an example, The CCD will take the images between 4900~62500 point.

1. SOTP ON -> Grab images starting at 4900 point -> Grab one image every 3065 point -> Grab images until 62500 point -> Image processing -> OK/NG -> EOT (Take approximately $(62500-4900)/3065 = 19$ images, and no error will be reported if the number of images taken is within 19 ± 3)
2. SOTN ON -> Grab images starting at 62500 point -> Grab one image every -3065 point -> Grab images until 4900 point -> Image processing -> OK/NG -> EOT (Take approximately $(62500-4900)/3065 = 19$ images, and no error will be reported if the number of images taken is within 19 ± 3)



Login page

Login interface, with Engineer and Admin permissions.

Engineer password:39

Admin password:16552978

(Please refrain from logging in as Admin unless necessary.)

MMain - Version1.4 - [Login]

Dashboard | Teach | Engine 2x4(X40Y60) | English | Login | Exit

Account: Engineer

password: **

Login Cancel

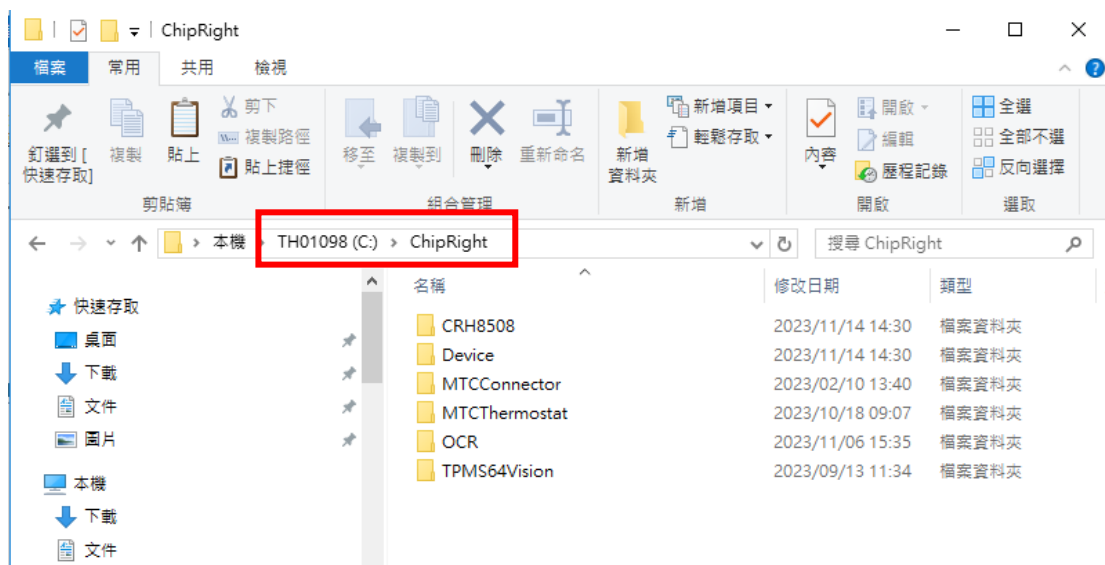
0

CRH8508 SocketVision Training Step

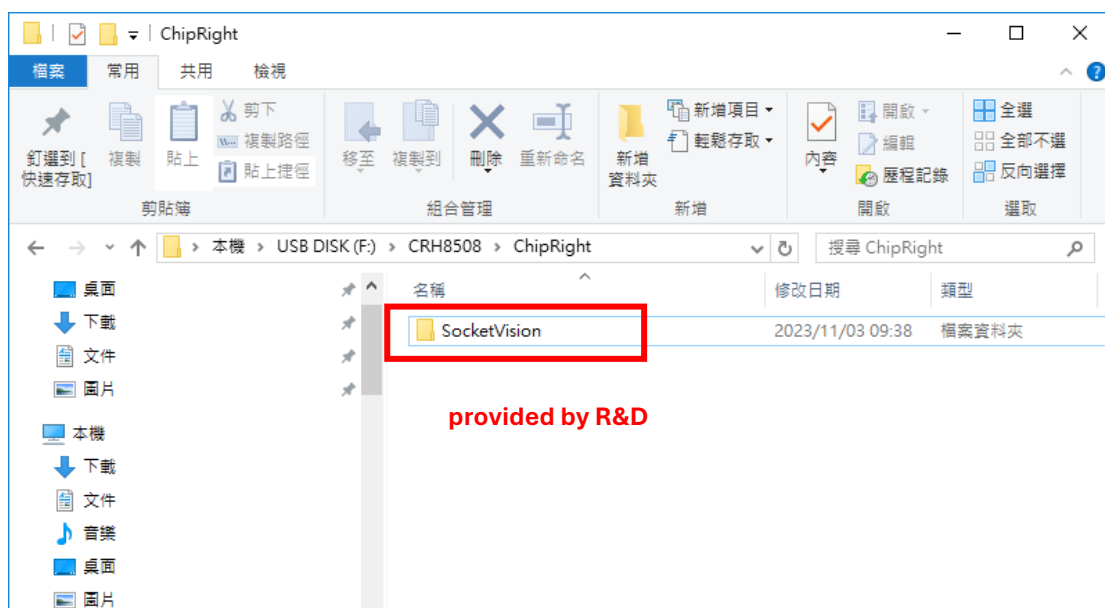
First time using CCD recognition software.

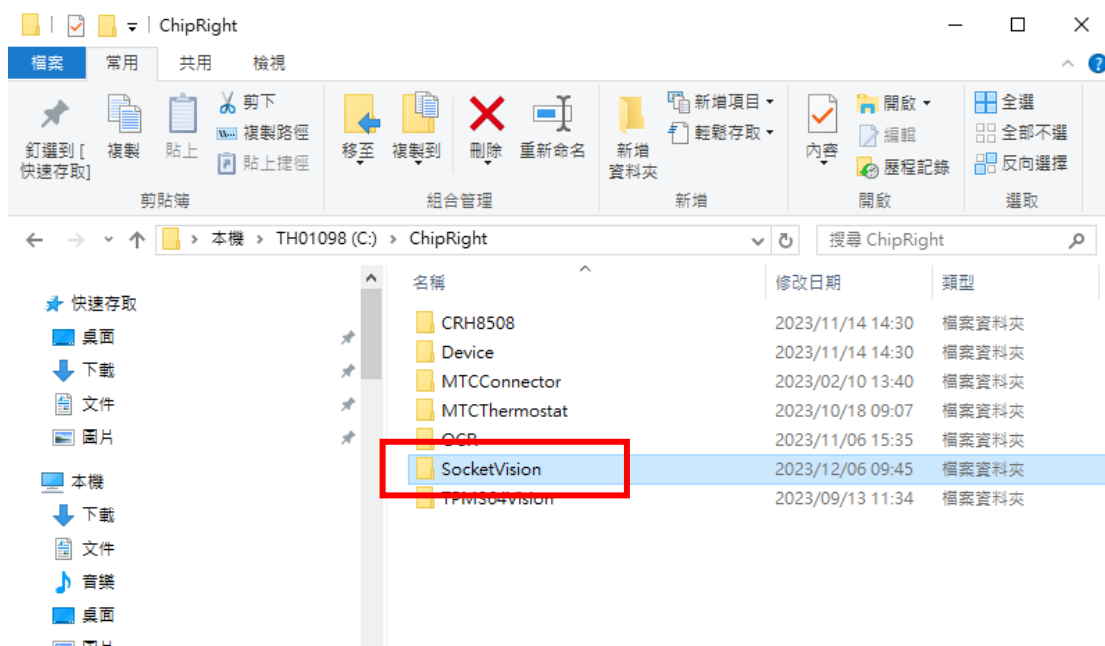
1. Create a folder in C:/ and name it "ChipRight".

If it already have one here, please skip this step.



2. Copy the folder provided by R&D to C:/ChipRight



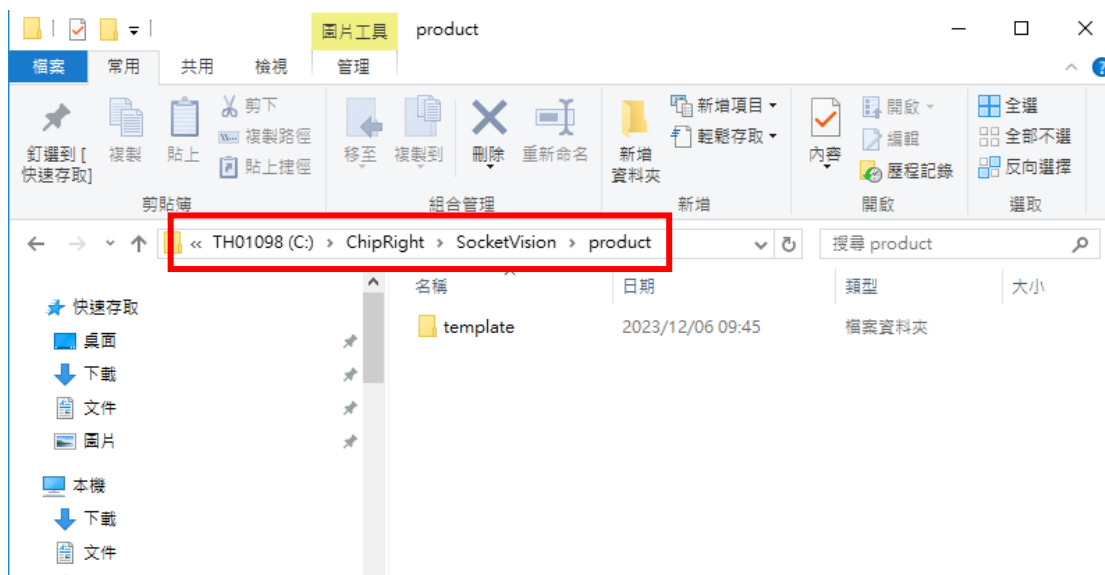


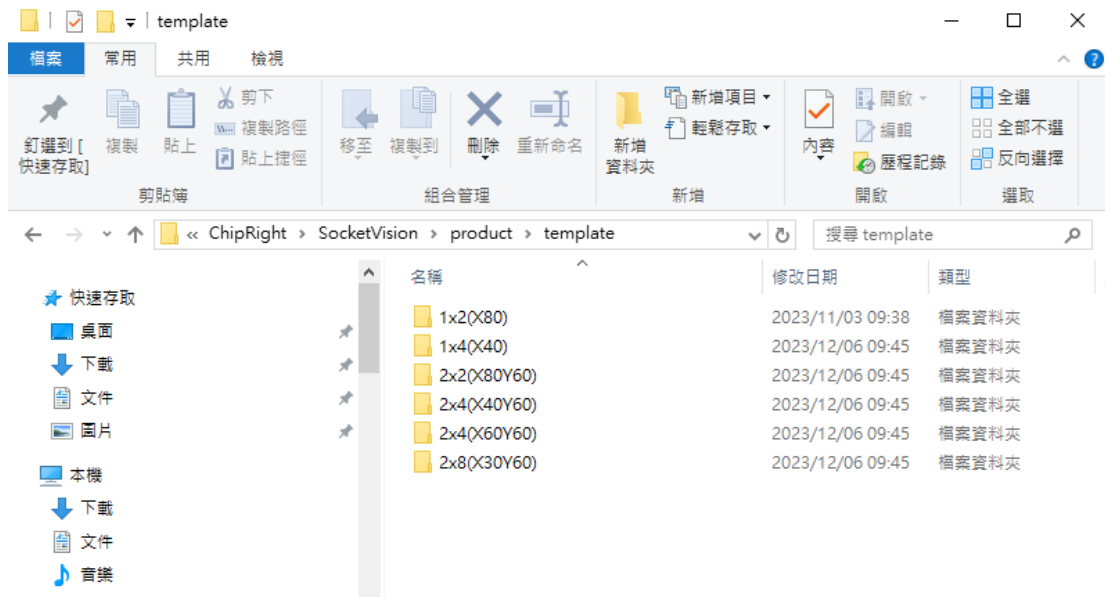
3. Create a new profile, there are two ways to create profile

I. Copy the profile in the template folder

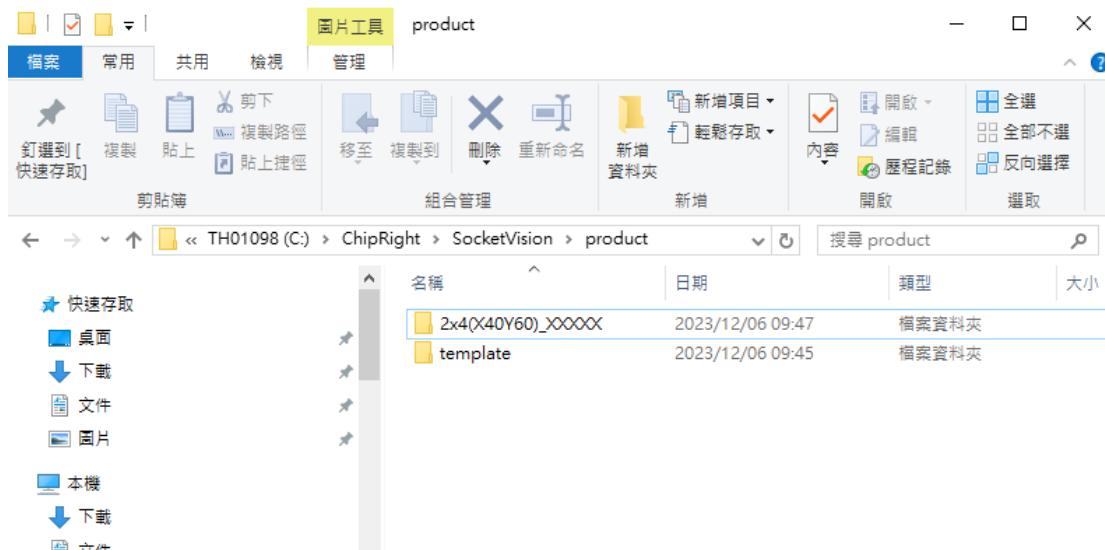
Enter the C:\ChipRight\SocketVision\product folder and there is a template folder.

When you want to train, you can copy several profile files to the product folder. **DO NOT** modify the data in the Template folder.

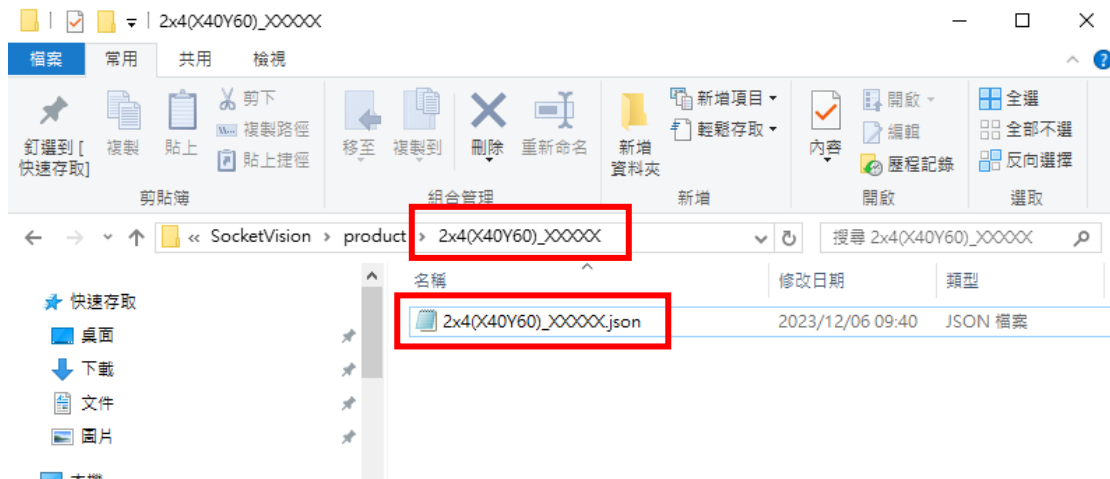
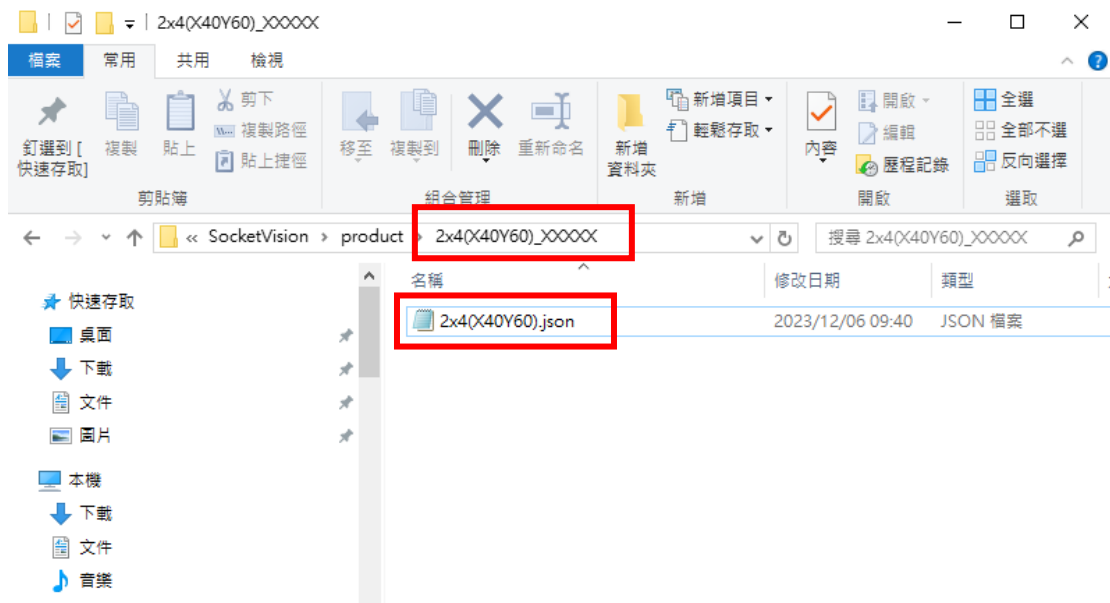




- i. Copy the model(folder) you want to train and mark which product it corresponds to later to facilitate switching profile files later. Here the brackets are the actual spacing between sockets (unit: mm)



- ii. Enter the profile folder and modify the JSON file name to be the same as the folder name.



iii. Open the JSON file and modify the path



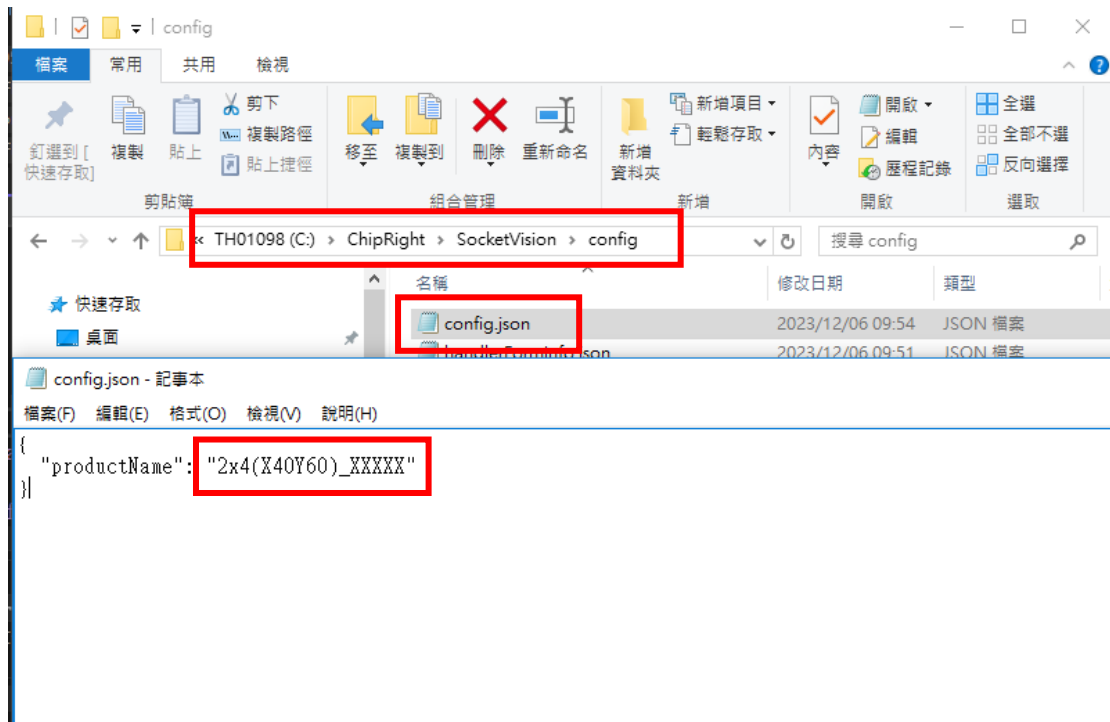
```
2x4(X40Y60)_XXXXX.json - 記事本
檔案(F) 編輯(E) 格式(O) 檢視(V) 說明(H)

{
  "pStart": 5000,
  "pEnd": 60200,
  "nStart": 60200,
  "nEnd": 5000,
  "intervalbit": 3065,
  "socketIndex": "2x4(X40Y60)",
  "cvFileName": "C:\\ChipRight\\SocketVision\\product\\2x4(X40Y60)_XXXXX\\SW_Setting.txt",
  "pixels12FileName": "C:\\ChipRight\\SocketVision\\product\\2x4(X40Y60)_XXXXX\\ListPixel1to2.txt",
  "pixels21FileName": "C:\\ChipRight\\SocketVision\\product\\2x4(X40Y60)_XXXXX\\ListPixel2to1.txt",
  "failImagesPath": "D:\\",
  "fixsitesNum": 8,
  "sampleWidthsiteSize": 48,
  "sampleHeightsiteSize": 48,
  "threshold": 0.85,
  "exposureTime": 500,
  "offsetY": 520,
  "coloratio": 8.5,
  "GrayPixels": 254
}
```

- iv. Enter C:\ChipRight\SocketVision\config, open the config.json file, and change productName to the name of the working file just now

The screenshot shows a Windows File Explorer window with the address bar set to C:\TH01098 (C:) > ChipRight > SocketVision > config. The file list shows three files: config.json (modified 2023/11/03 09:38), handlerFormInfo.json (modified 2023/12/06 09:51), and socketRatioInfo.json (modified 2023/11/03 09:32). Below the explorer, a Notepad window titled 'config.json - 記事本' shows the following JSON content:

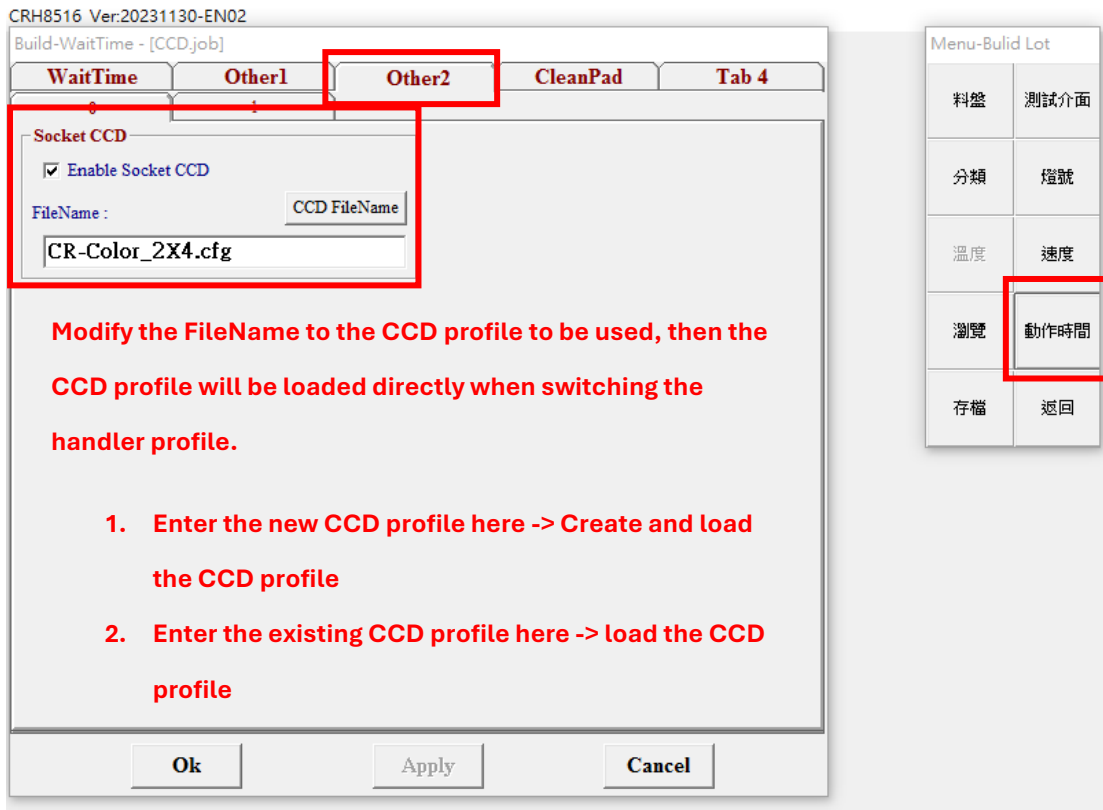
```
{
  "productName": "2x4(X40Y60)"
}
```



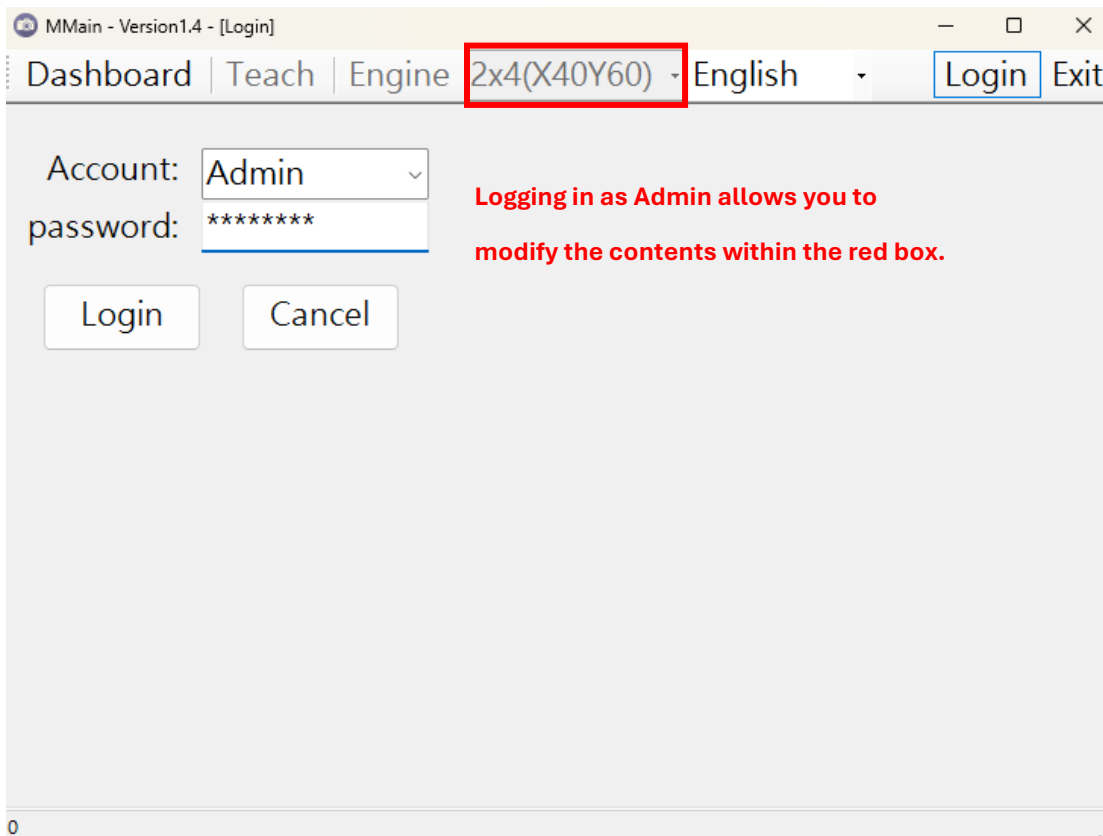
II. Create a new profile in handler

i. Enter in the handler, directly enter the new profile file name

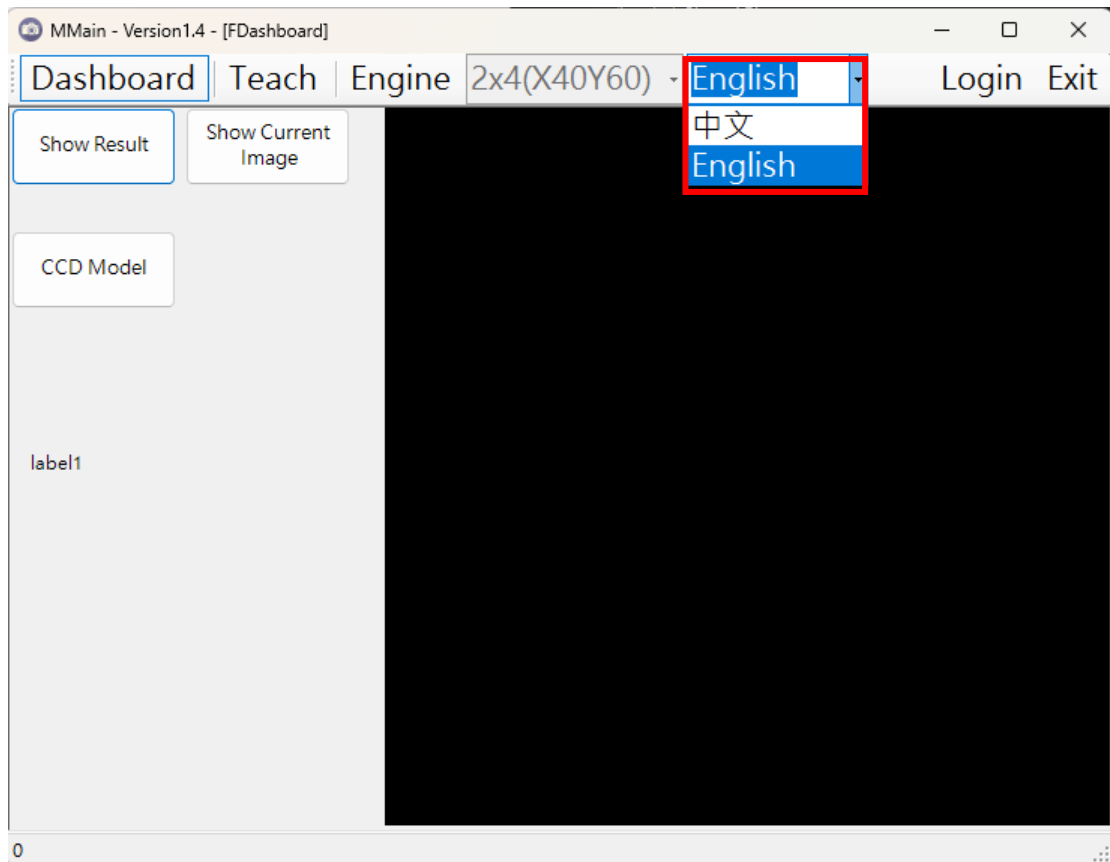




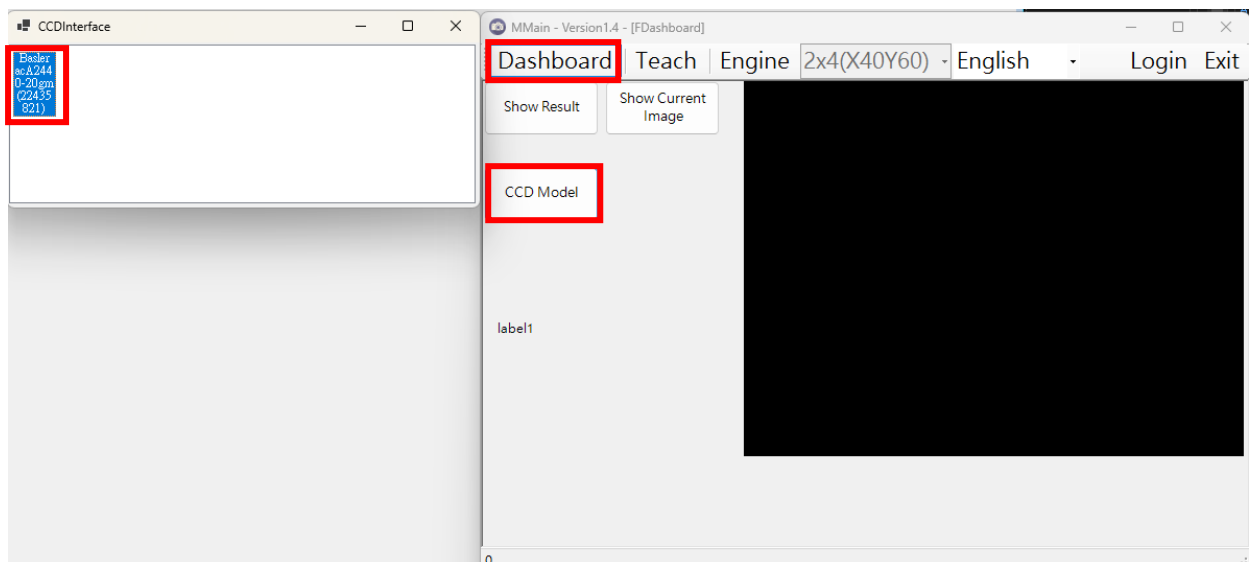
ii. Open the CCD vision software, modify the socket-based type



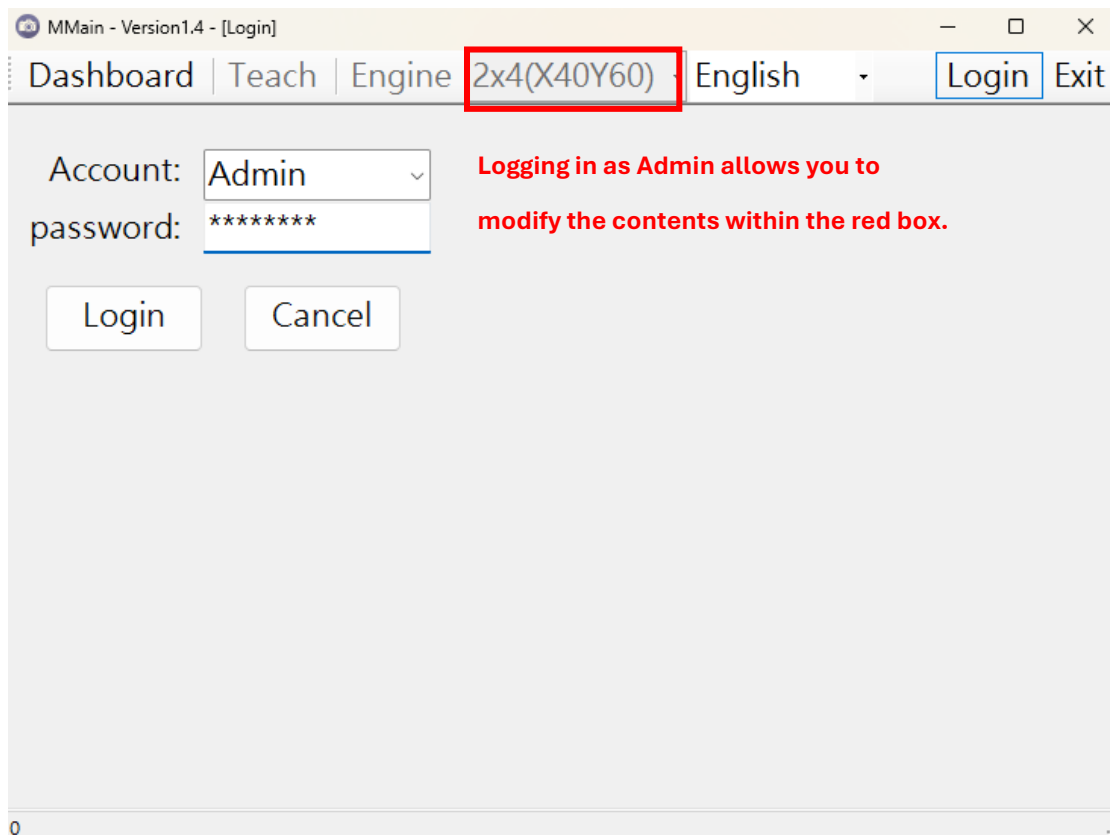
4. Open the CCD vision software and switch the language first.



5. Connect the corresponding CCD model.



- You need to log in first. Two levels of authority are set here: Engineer and Admin.



- Enter the handler and modify the linked CCD profile file



Build-WaitTime - [CCD.job]

WaitTime	Other1	Other2	CleanPad	Tab 4
0	1			

Socket CCD

Enable Socket CCD

FileName :

Ok Apply Cancel

料盤	測試介面
分類	燈號
溫度	速度
瀏覽	動作時間
存檔	返回

Build-WaitTime - [CCD.job]

WaitTime	Other1	Other2	CleanPad	Tab 4
0	1			

Socket CCD

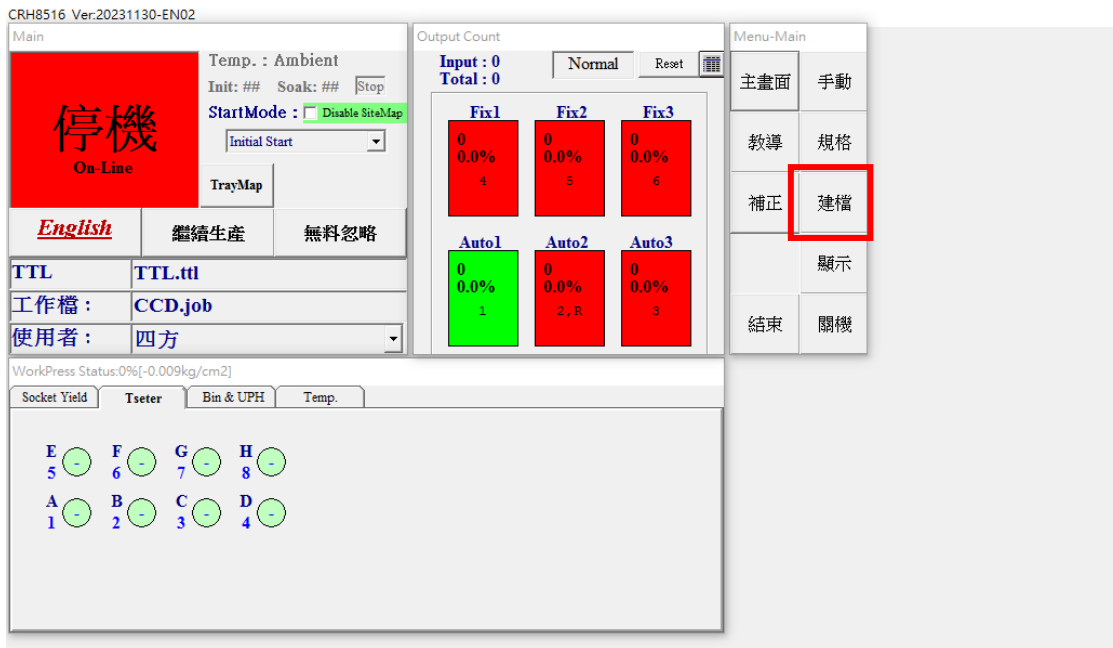
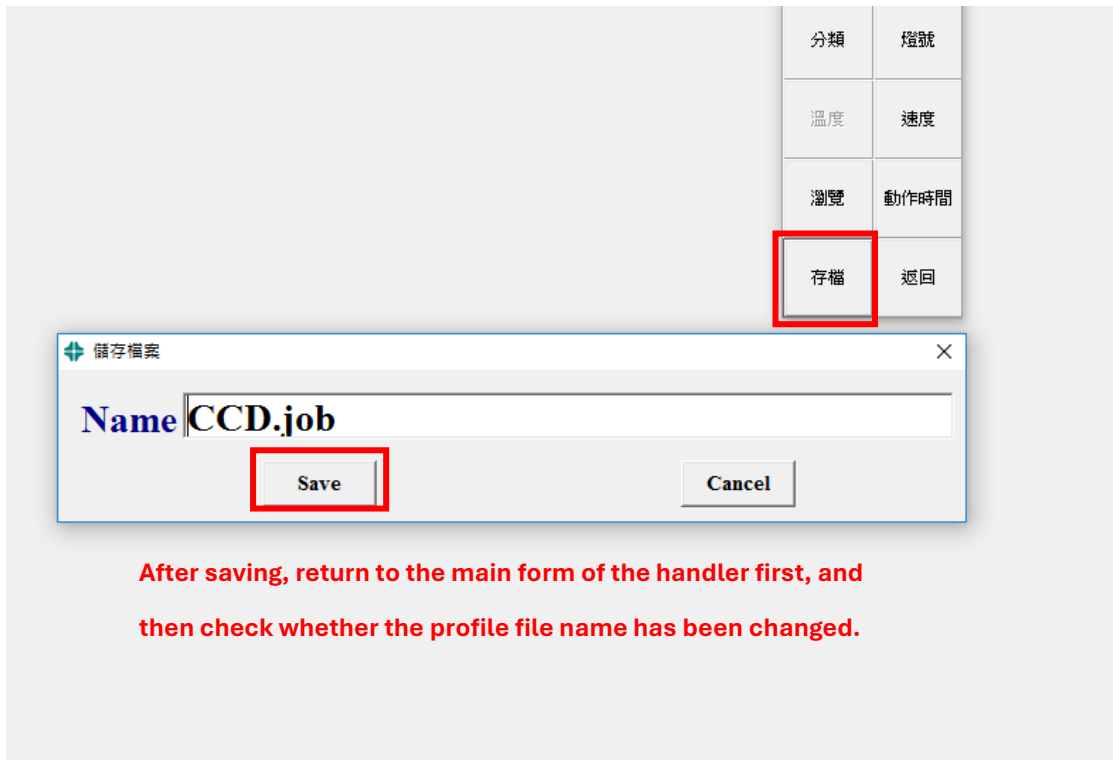
Enable Socket CCD

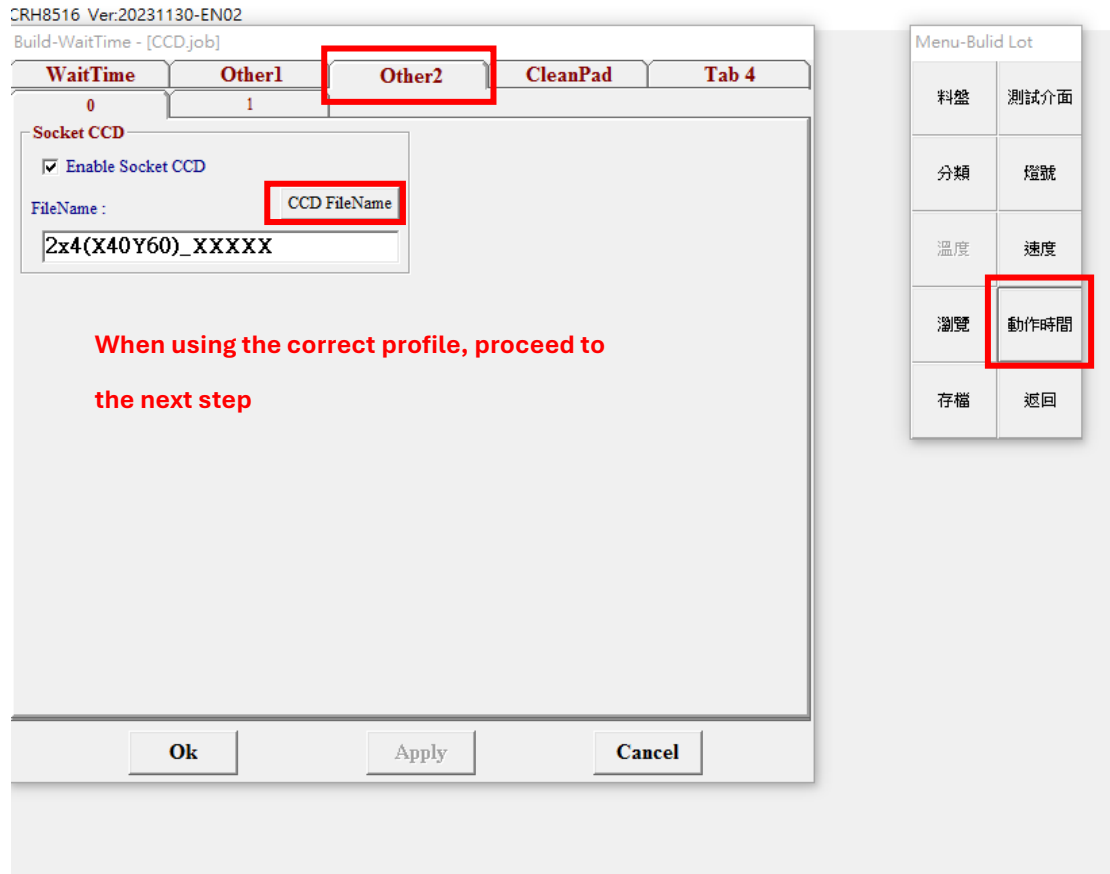
FileName :

**Modify to the CCD profile file to be used,
and then the CCD profile file will be loaded
directly when switching the handler profile
file.**

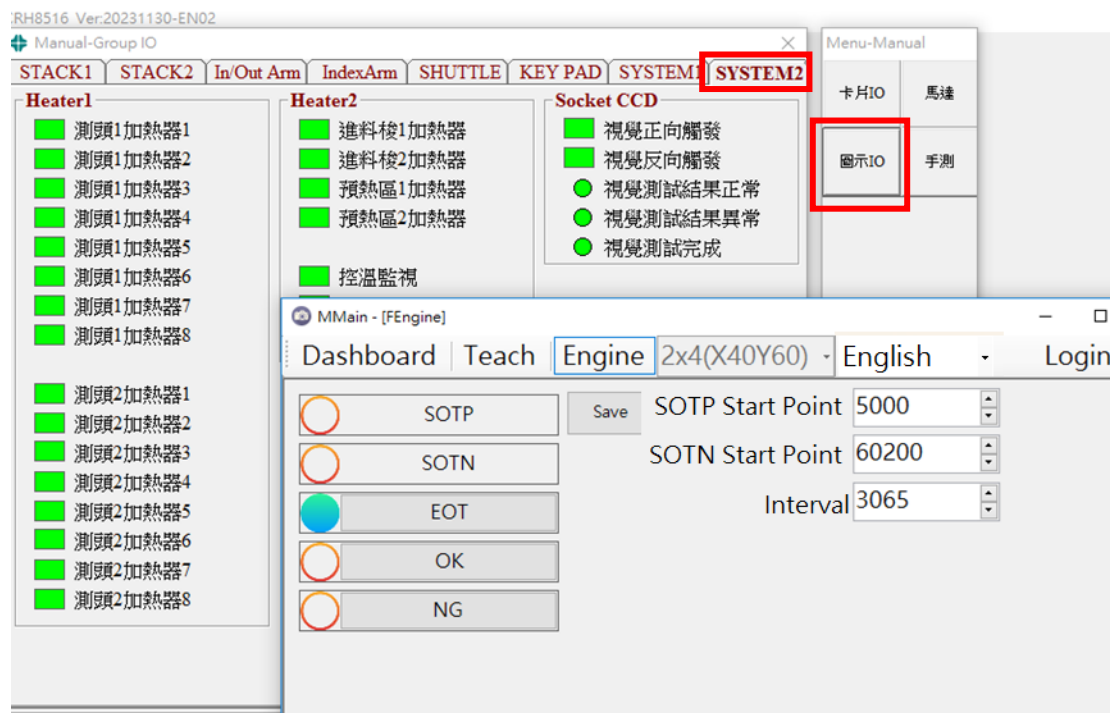
Ok Apply Cancel

料盤	測試介面
分類	燈號
溫度	速度
瀏覽	動作時間
存檔	返回





8. Check whether the I/O settings are correct



Manual-Group IO

STACK1 STACK2 In/Out Arm IndexArm SHUTTLE KEY PAD SYSTEM1 SYSTEM2

Heater1

- 測頭1加熱器1
- 測頭1加熱器2
- 測頭1加熱器3
- 測頭1加熱器4
- 測頭1加熱器5
- 測頭1加熱器6
- 測頭1加熱器7
- 測頭1加熱器8

Heater2

- 進料梭1加熱器
- 進料梭2加熱器
- 預熱區1加熱器
- 預熱區2加熱器
- 控溫監視

Socket CCD

- 視覺正向觸發
- 視覺反向觸發
- 視覺測試結果正常
- 視覺測試結果異常
- 視覺測試完成

Menu-Manual

卡片IO	馬達
圖示IO	手測

MMain - [FEngine]

Dashboard | Teach Engine 2x4(X40Y60) - English Login

SOTP Start Point 5000

SOTN Start Point 60200

Interval 3065

SOTP

SOTN

EOT

OK

NG

Manual-Group IO

STACK1 STACK2 In/Out Arm IndexArm SHUTTLE KEY PAD SYSTEM1 SYSTEM2

Heater1

- 測頭1加熱器1
- 測頭1加熱器2
- 測頭1加熱器3
- 測頭1加熱器4
- 測頭1加熱器5
- 測頭1加熱器6
- 測頭1加熱器7
- 測頭1加熱器8

Heater2

- 進料梭1加熱器
- 進料梭2加熱器
- 預熱區1加熱器
- 預熱區2加熱器
- 控溫監視

Socket CCD

- 視覺正向觸發
- 視覺反向觸發
- 視覺測試結果正常
- 視覺測試結果異常
- 視覺測試完成

Menu-Manual

卡片IO	馬達
圖示IO	手測

MMain - [FEngine]

Dashboard | Teach Engine 2x4(X40Y60) - English Login

SOTP Start Point 5000

SOTN Start Point 60200

Interval 3065

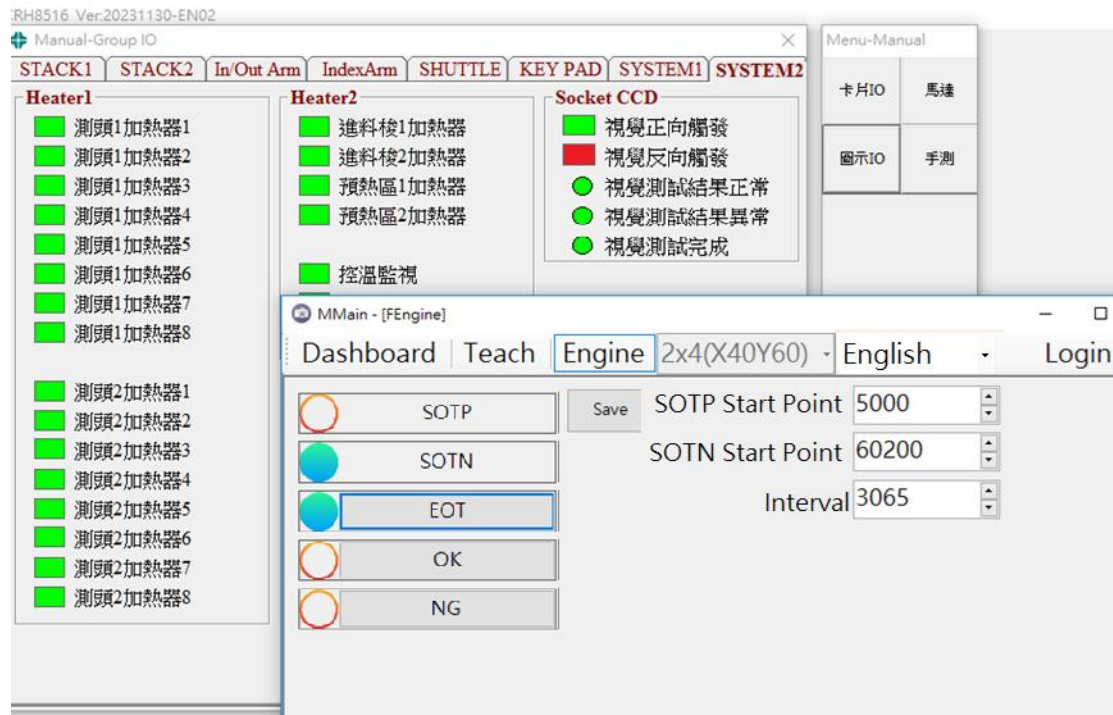
SOTP

SOTN

EOT

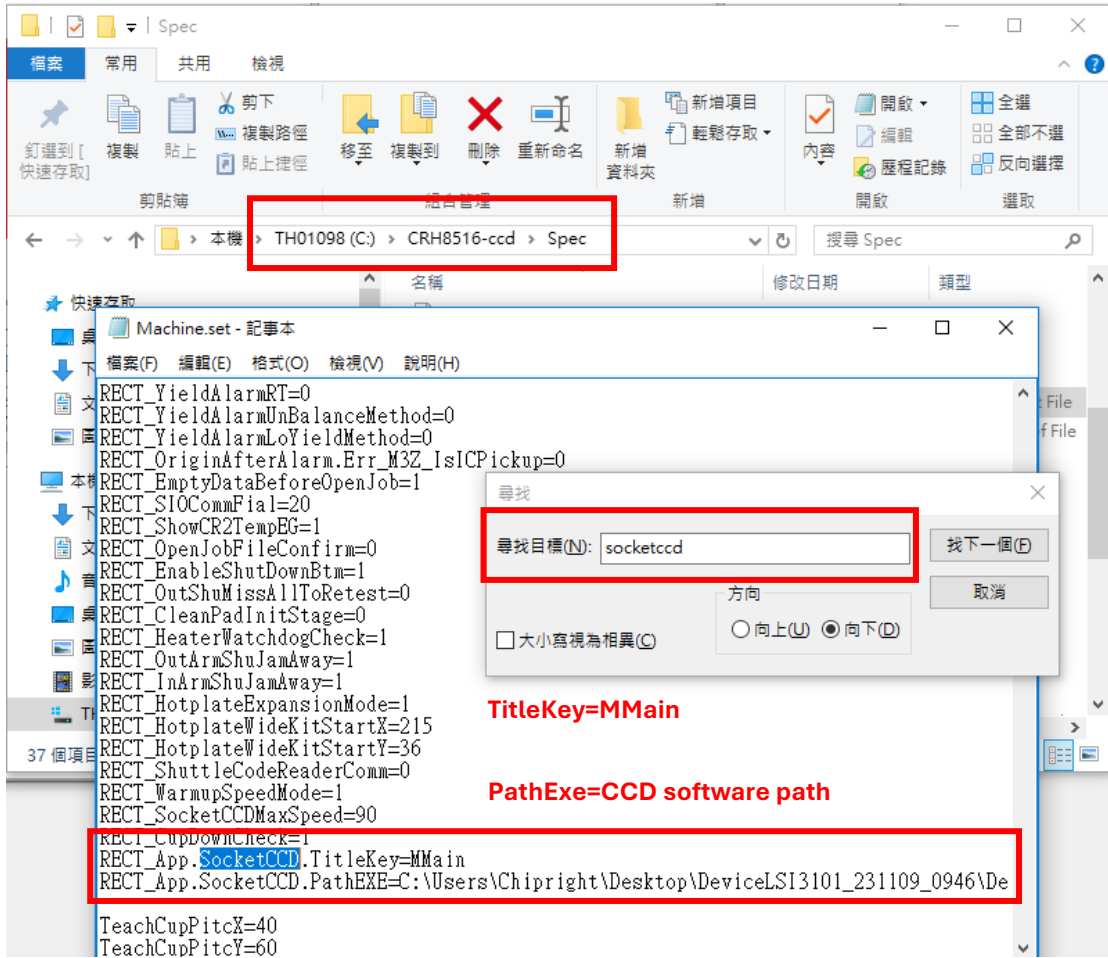
OK

NG



9. Confirm whether the Handler's CCD button is connected to the correct path.

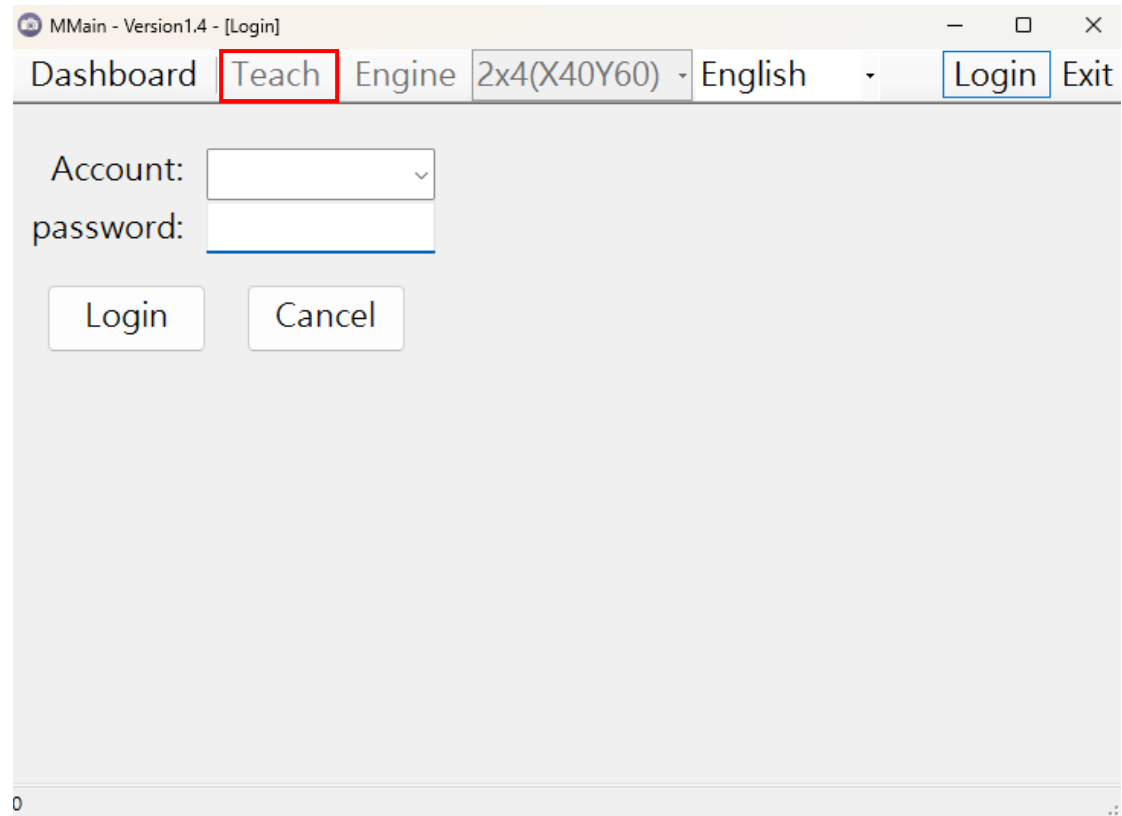
(Note: If there are any changes here, you need to restart the handler)



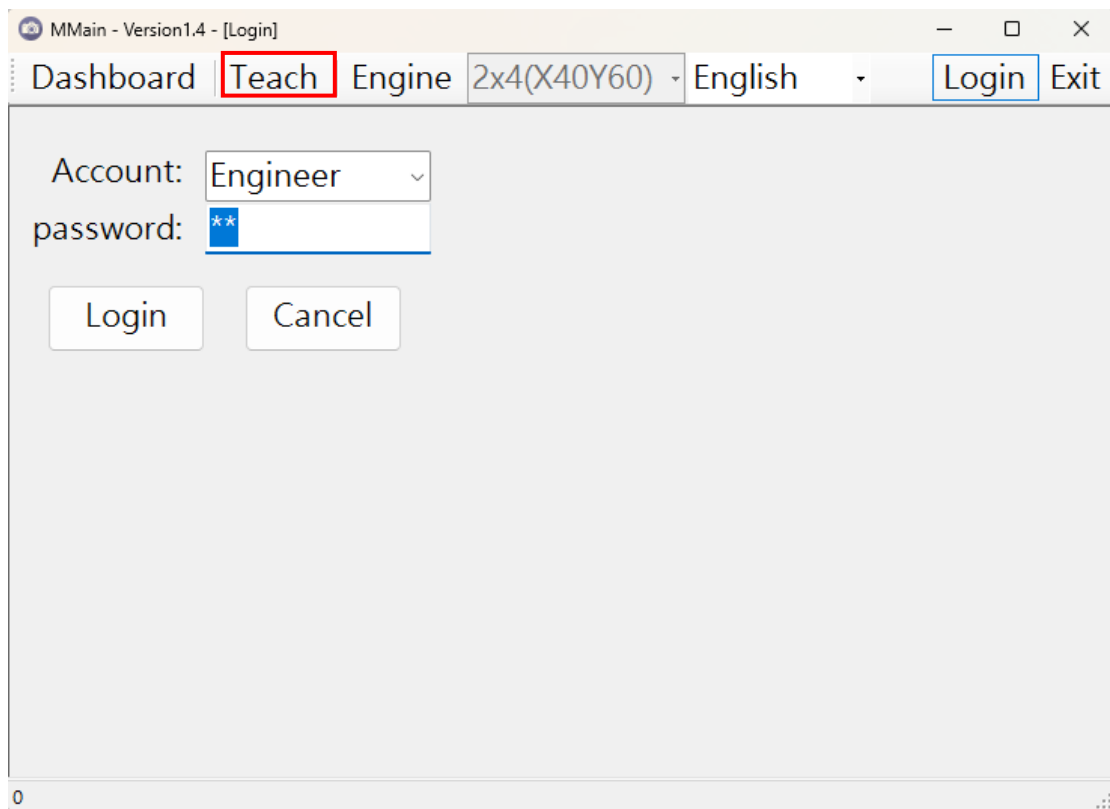
Training Step

log in

You need to log in first to have the permission to access the training interface.

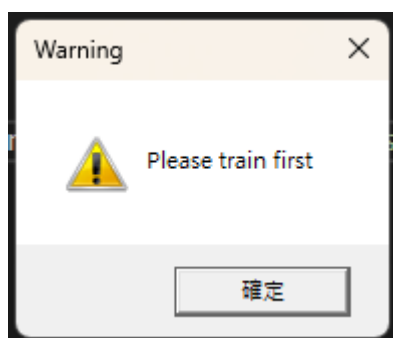


The screenshot shows a window titled "MMain - Version1.4 - [Login]". The window has a menu bar with the following items: "Dashboard", "Teach" (highlighted with a red box), "Engine", "2x4(X40Y60)", "English", and "Login" (highlighted with a blue box). There is also an "Exit" button. Below the menu bar, there are two input fields: "Account:" with a dropdown arrow and "password:". Below these fields are two buttons: "Login" and "Cancel".

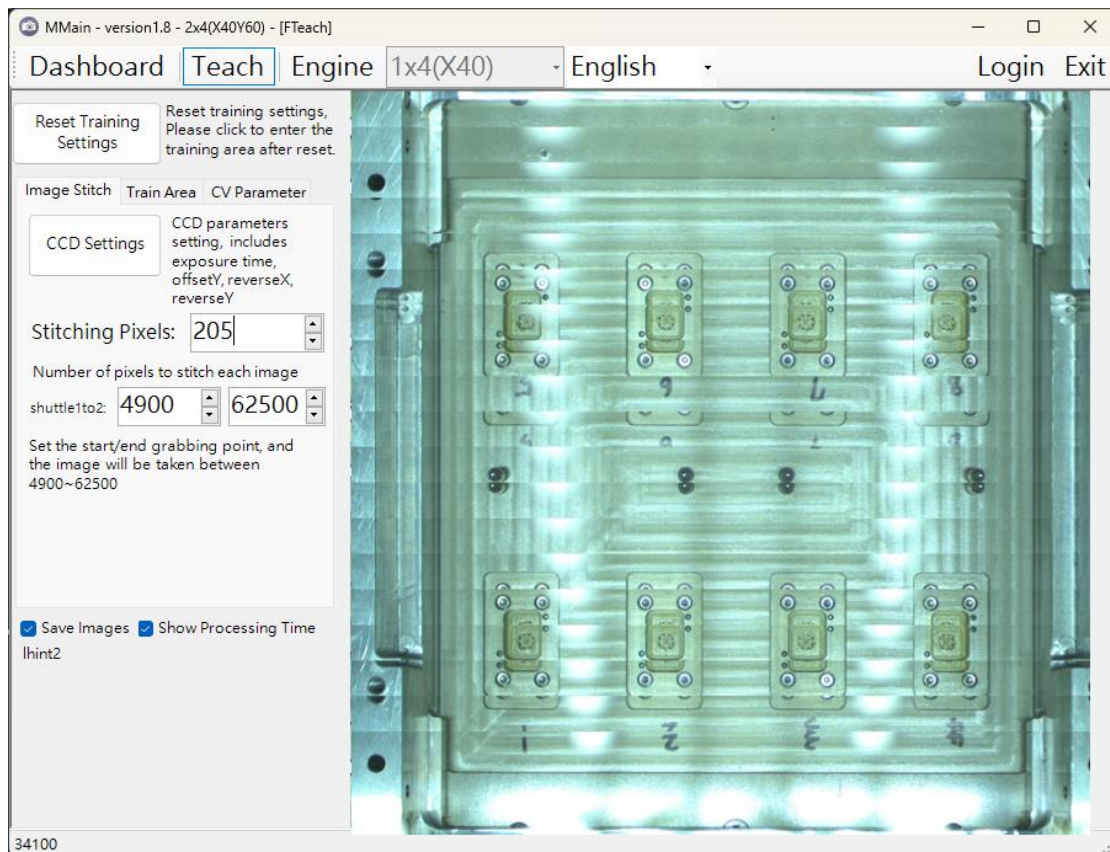


Training with CCD Recognition Software

- I. Move the shuttle first.



- II. Close the warning window before seeing the stitching image.



III. Image Stitching Settings

- i. You can see that the proportion of the result is incorrect. Adjust the "Stitching Pixels"

You can see the stitching results immediately

MMain - version1.8 - 2x4(X40Y60) - [FTeach]

Dashboard **Teach** Engine 1x4(X40) English Login Exit

Reset Training Settings
Reset training settings, Please click to enter the training area after reset.

Image Stitch Train Area CV Parameter

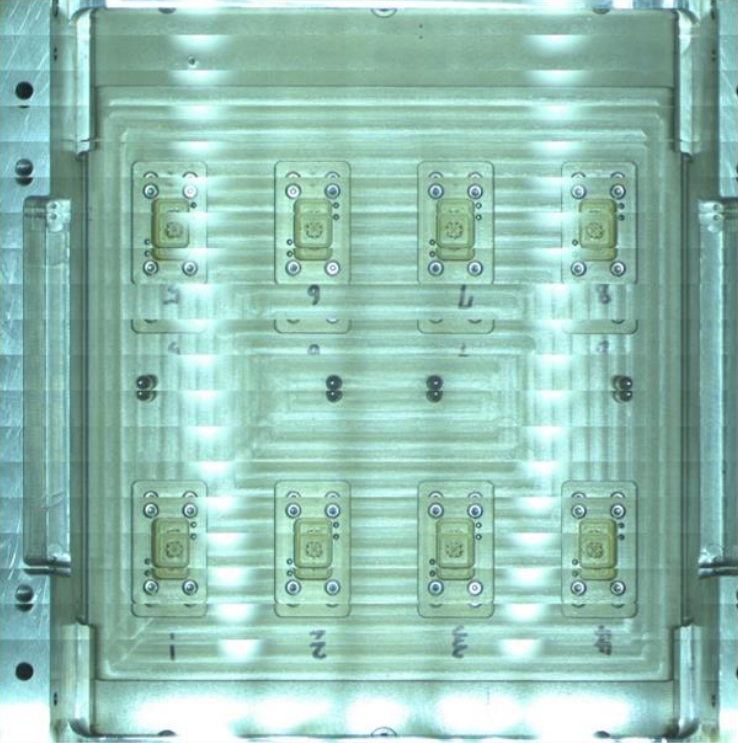
CCD Settings
CCD parameters setting, includes exposure time, offsetY, reverseX, reverseY

Stitching Pixels: 205

Number of pixels to stitch each image
shuttle1to2: 4900 62500

Set the start/end grabbing point, and the image will be taken between 4900~62500

Save Images Show Processing Time
Ihint2



34100

MMain - version1.8 - 2x4(X40Y60) - [FTeach]

Dashboard **Teach** Engine 1x4(X40) English Login Exit

Reset Training Settings
Reset training settings, Please click to enter the training area after reset.

Image Stitch Train Area CV Parameter

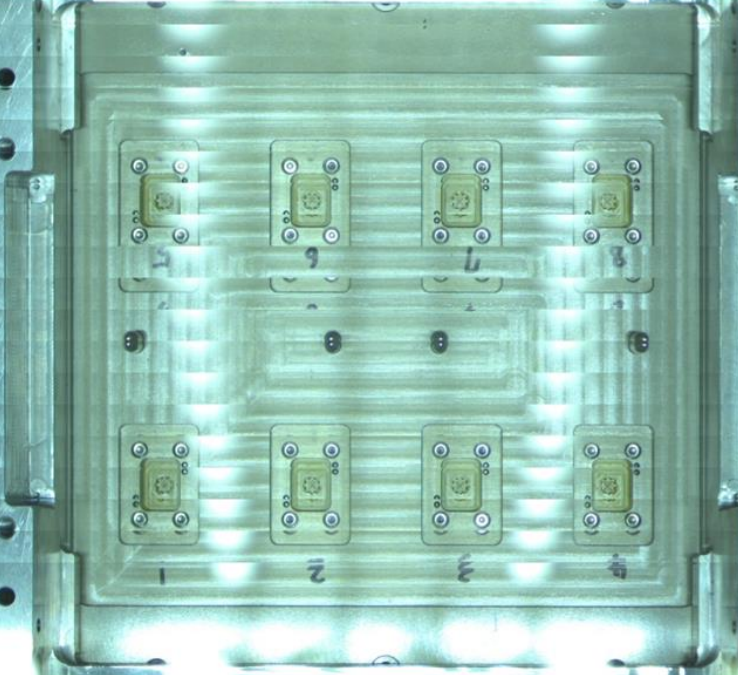
CCD Settings
CCD parameters setting, includes exposure time, offsetY, reverseX, reverseY

Stitching Pixels: 220

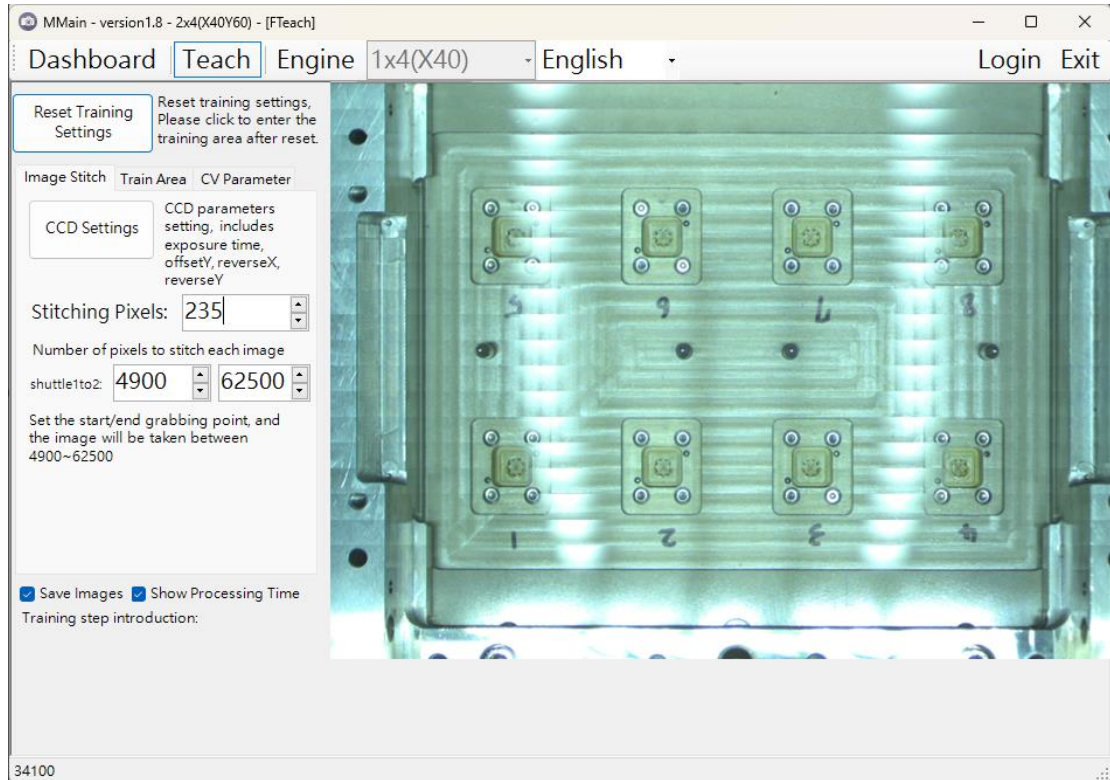
Number of pixels to stitch each image
shuttle1to2: 4900 62500

Set the start/end grabbing point, and the image will be taken between 4900~62500

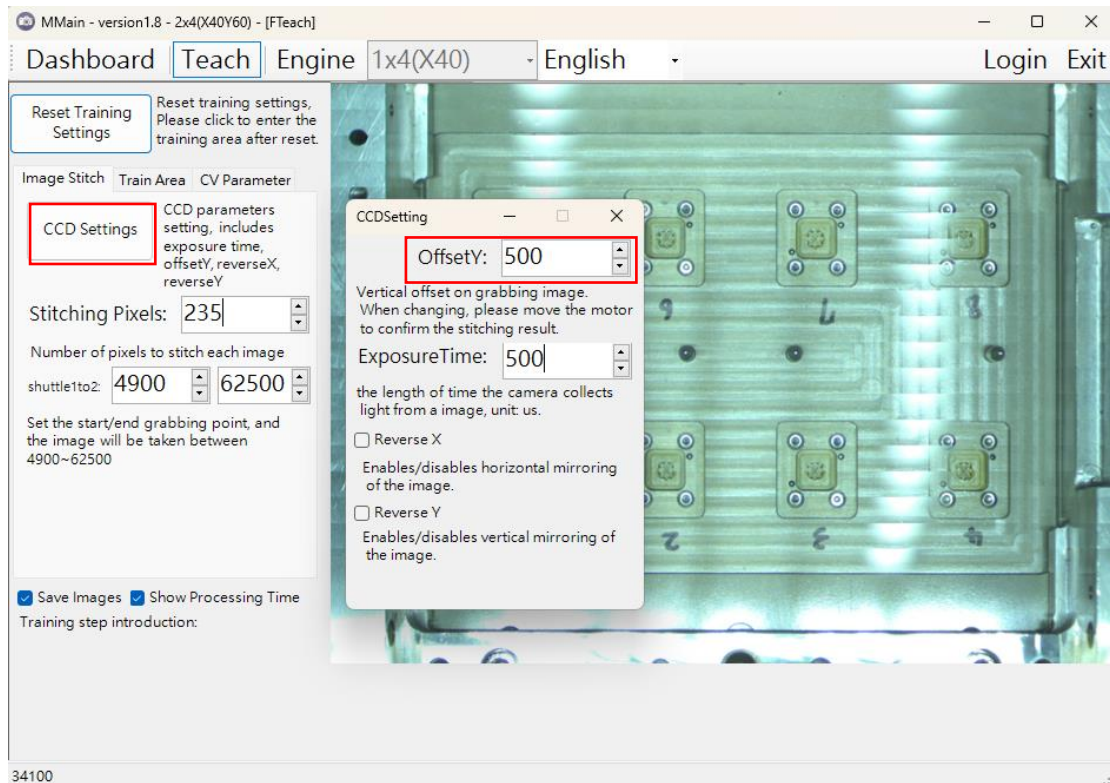
Save Images Show Processing Time
Ihint2

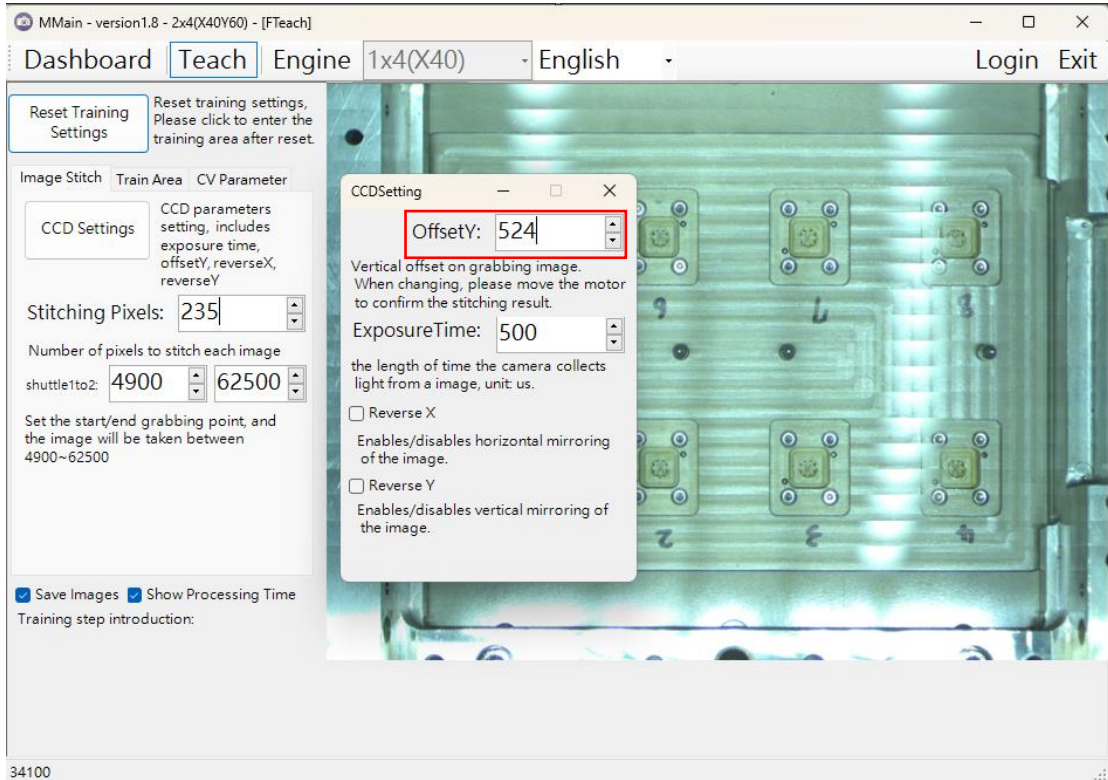


34100

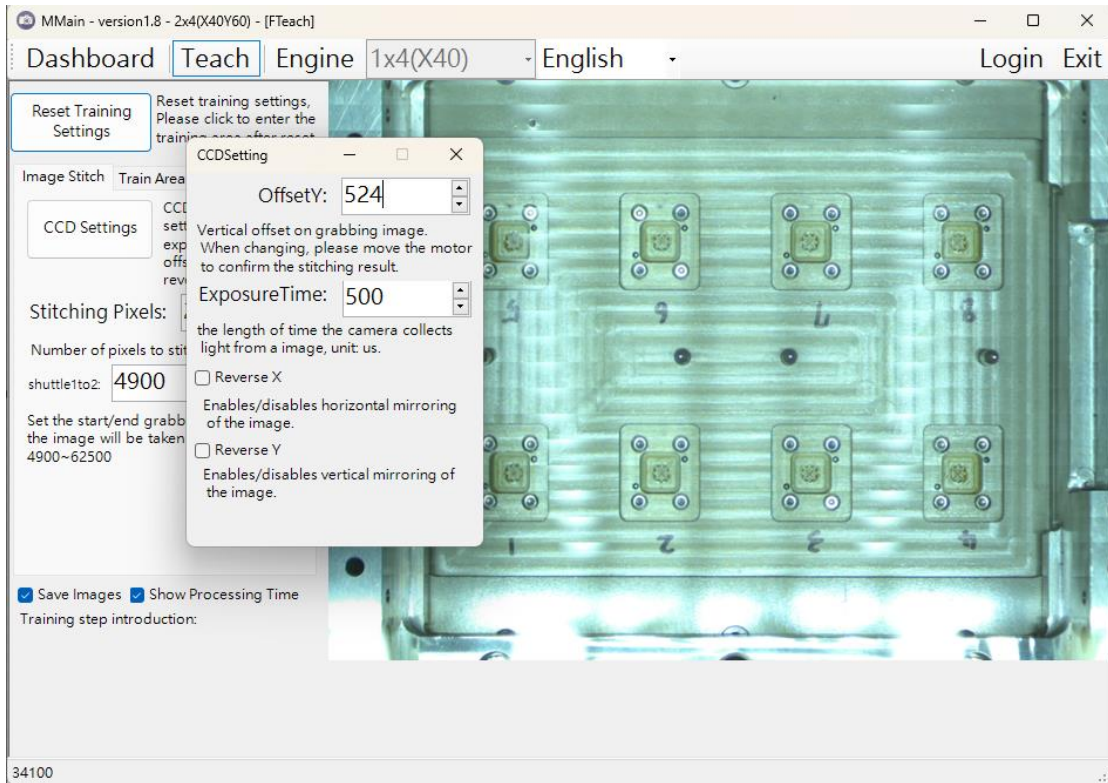


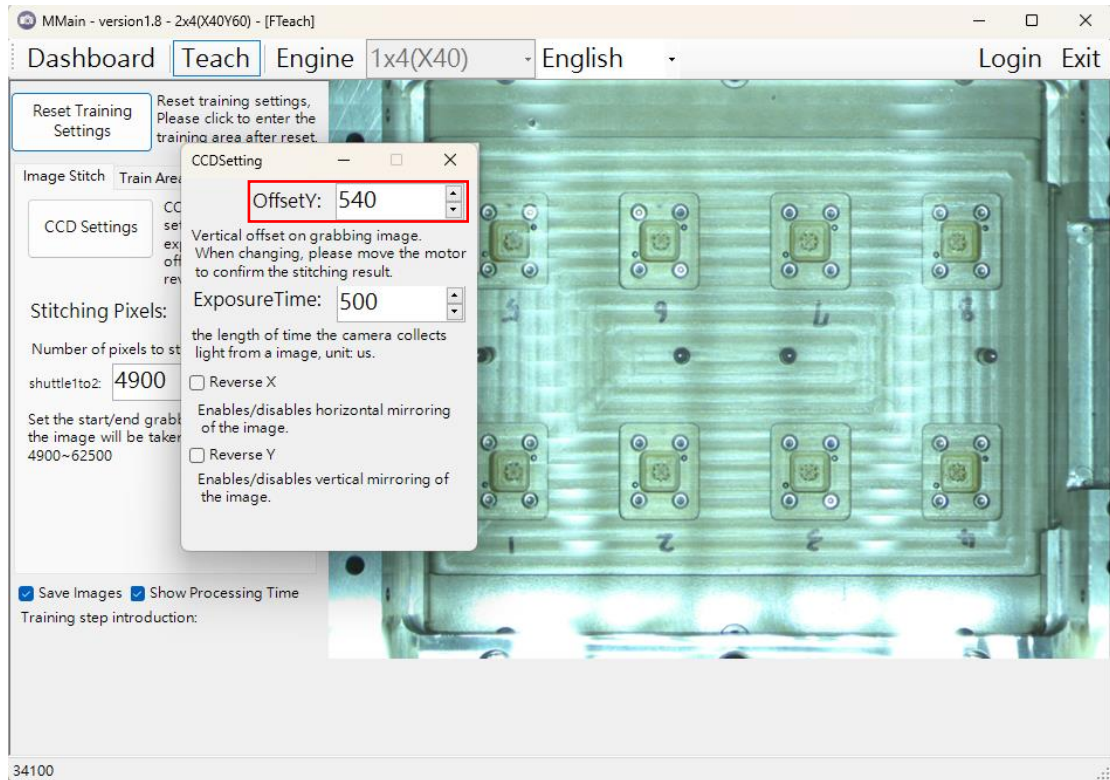
- ii. You can clearly see that there are splicing lines one by one. Adjust the OffsetY here to try to make the lighting in the middle of the image.



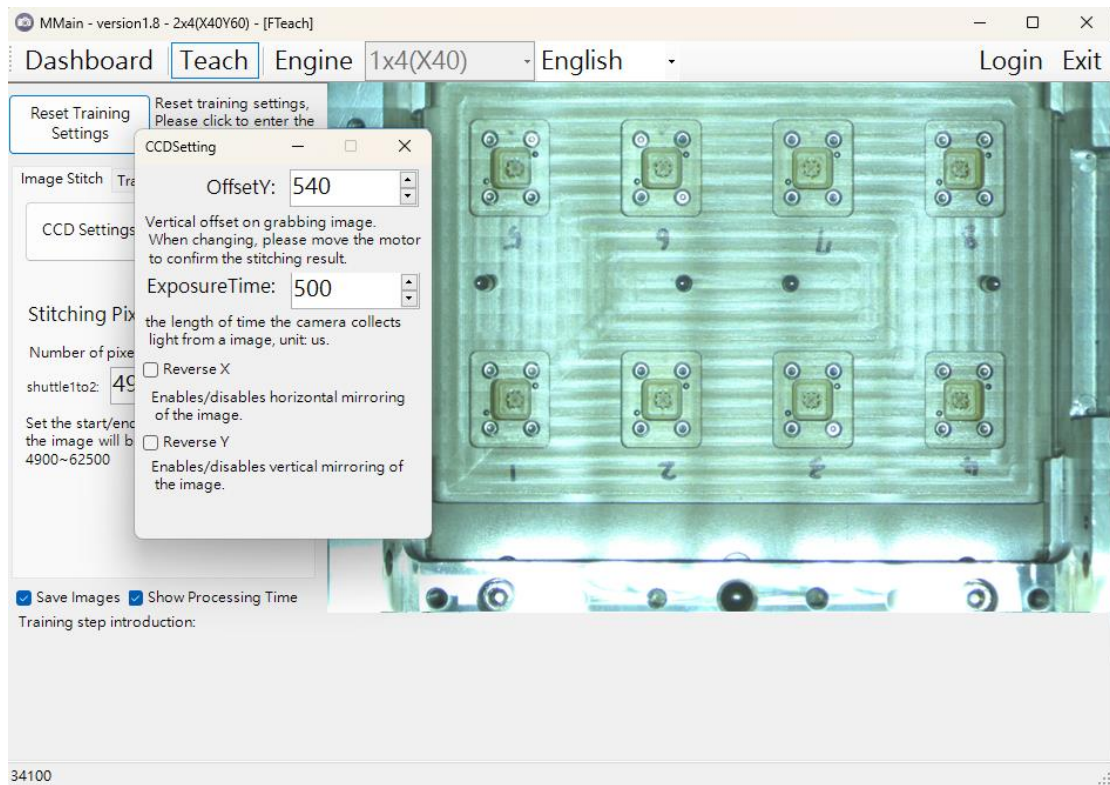


Move the shuttle and see the stitching image result

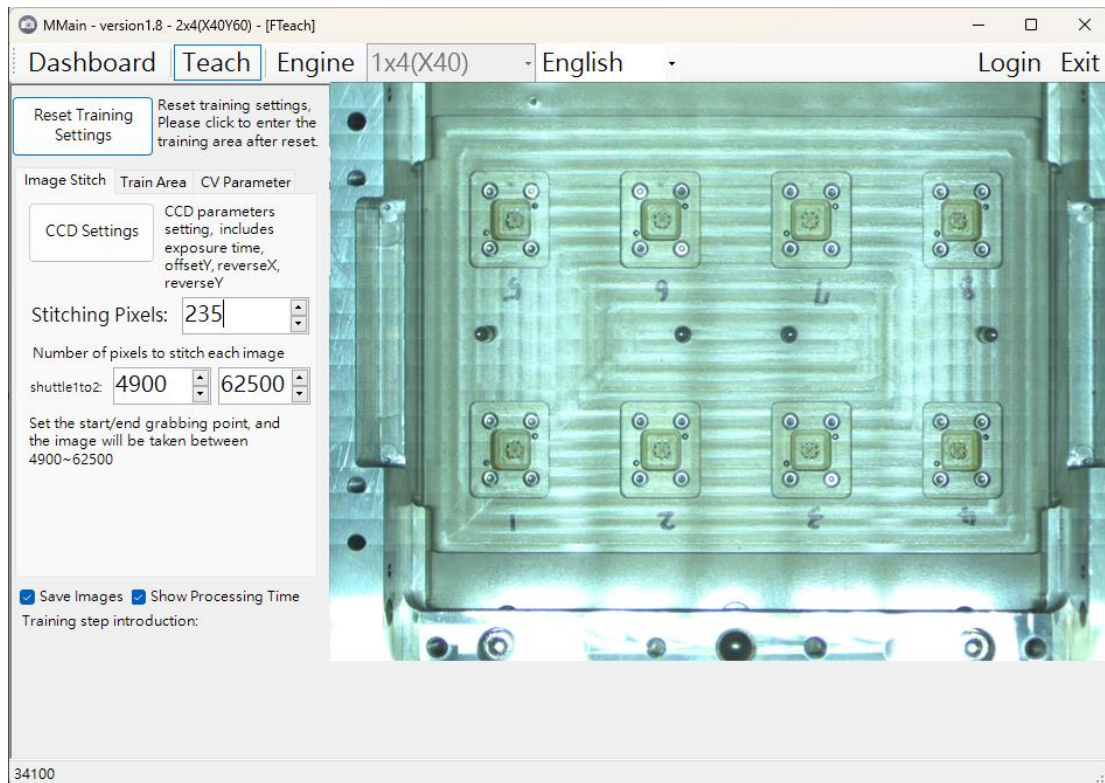




Move the shuttle and see the stitching image result



You can move the shuttle several times to confirm whether it is covered by the machine.



IV. Training Area Settings

- i. Click "Show Training Area" to proceed with the training.

click "Reset Training Settings" to reset all training area configurations.

MMain - version1.8 - 2x4(X40Y60) - [FTeach] - □ ×

Dashboard **Teach** Engine 2x4(X40Y60) - English Login Exit

Reset Training Settings Reset training settings, Please click to enter the training area after reset.

Image Stitch **Train Area** CV Parameter

Sites Number:

The number of identified sites, Please set how many SITES you want to recognize before selecting the training area.

Perform automatic sample selection

Click to select training area

sample size:

Set sample width, Set sample height

Current image ratio: 35%

Save Images Show Processing Time

Training step introduction:

0 Without-IC:0 No-Detect:0 With-IC:2

MMain - version1.8 - 2x4(X40Y60) - [FTeach] - □ ×

Dashboard **Teach** Engine 2x4(X40Y60) - English Login Exit

Reset Training Settings Reset training settings, Please click to enter the training area after reset.

Image Stitch **Train Area** CV Parameter

Sites Number:

The number of identified sites, Please set how many SITES you want to recognize before selecting the training area.

Perform automatic sample selection

Click to select training area

sample size:

Set sample width, Set sample height

Current image ratio: 35%

Save Images Show Processing Time

Training step introduction:
Please select the detection area first (need to include 8 detection area)

0 Without-IC:0 No-Detect:0 With-IC:2

MMain - version1.8 - 2x4(X40Y60) - [FTeach] - □ ×

Dashboard **Teach** Engine 2x4(X40Y60) English Login Exit

Reset Training Settings Reset training settings. Please click to enter the training area after reset.

Image Stitch **Train Area** CV Parameter

Sites Number:

The number of identified sites. Please set how many SITES you want to recognize before selecting the training area.

Perform automatic sample selection

Click to select training area

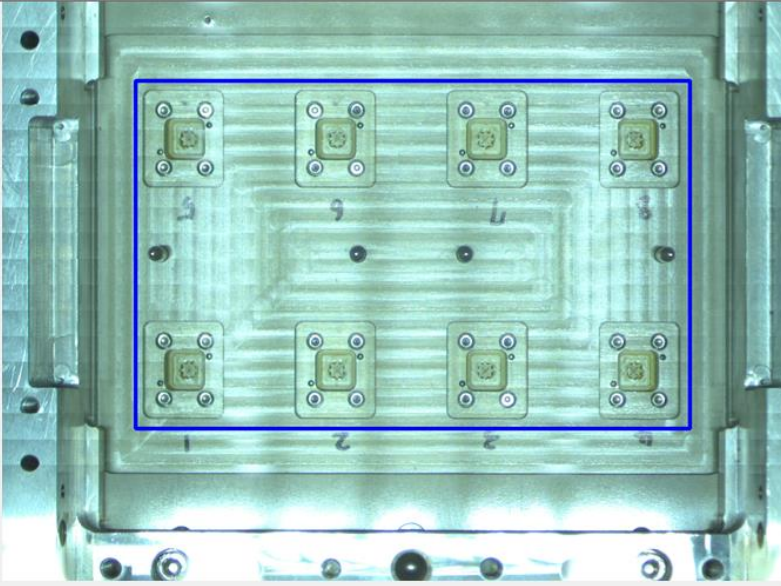
sample size:

Set sample width. Set sample height

Current image ratio: 35%

Save Images Show Processing Time

Training step introduction:
Please select the detection area first
(need to include 8 detection area)



0 Without-IC:0 No-Detect:0 With-IC:2

ii. After adjusting, click "Save Training Setting".

MMain - version1.8 - 2x4(X40Y60) - [FTeach] - □ ×

Dashboard **Teach** Engine 2x4(X40Y60) English Login Exit

Reset Training Settings Reset training settings. Please click to enter the training area after reset.

Image Stitch **Train Area** CV Parameter

Sites Number:

The number of identified sites. Please set how many SITES you want to recognize before selecting the training area.

Perform automatic sample selection

Click to select training area

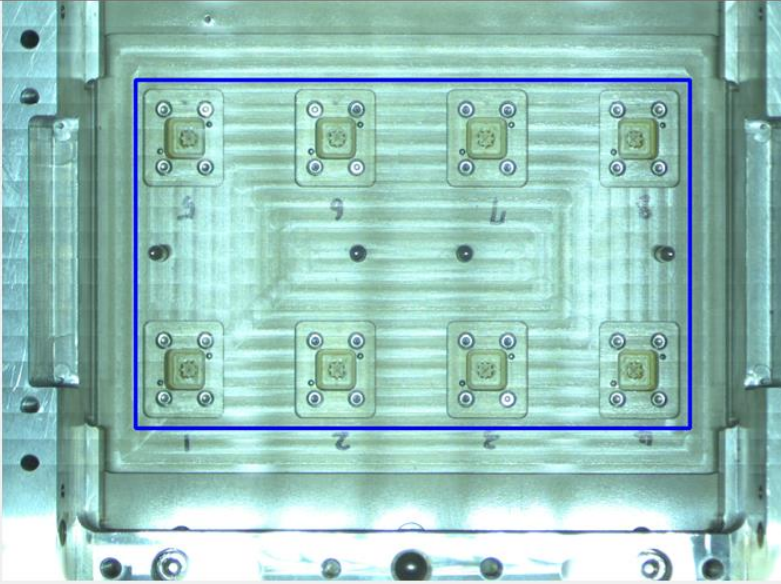
sample size:

Set sample width. Set sample height

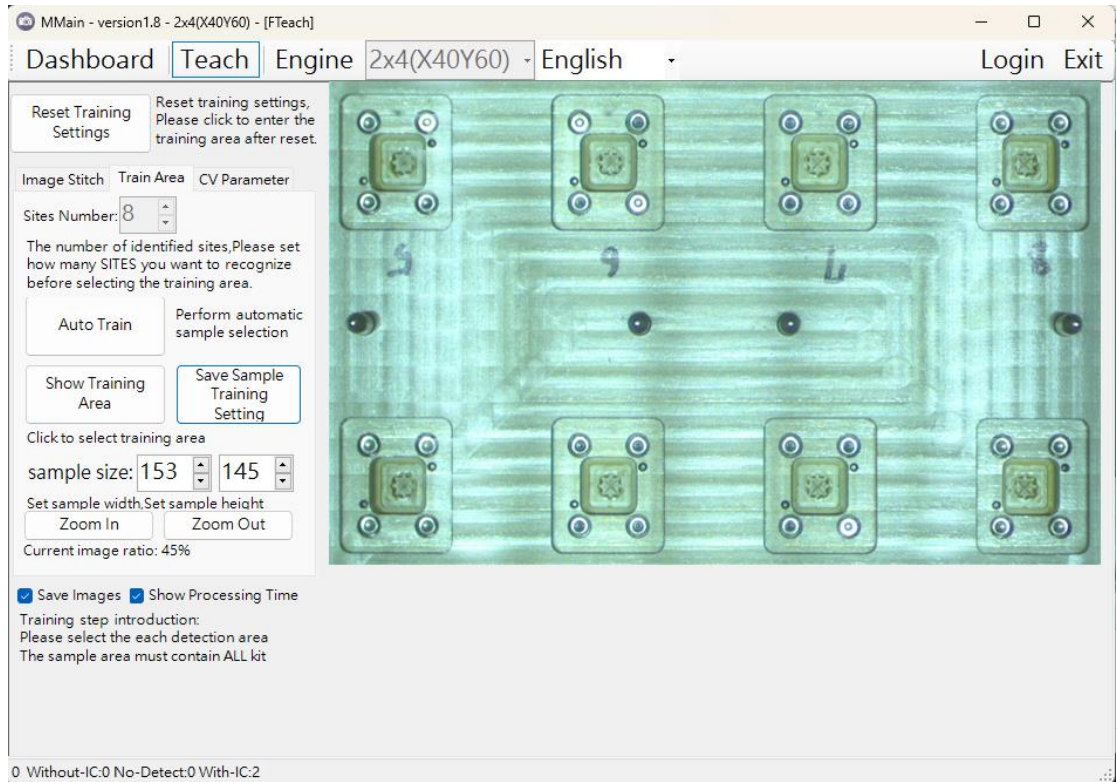
Current image ratio: 35%

Save Images Show Processing Time

Training step introduction:
Please select the detection area first
(need to include 8 detection area)

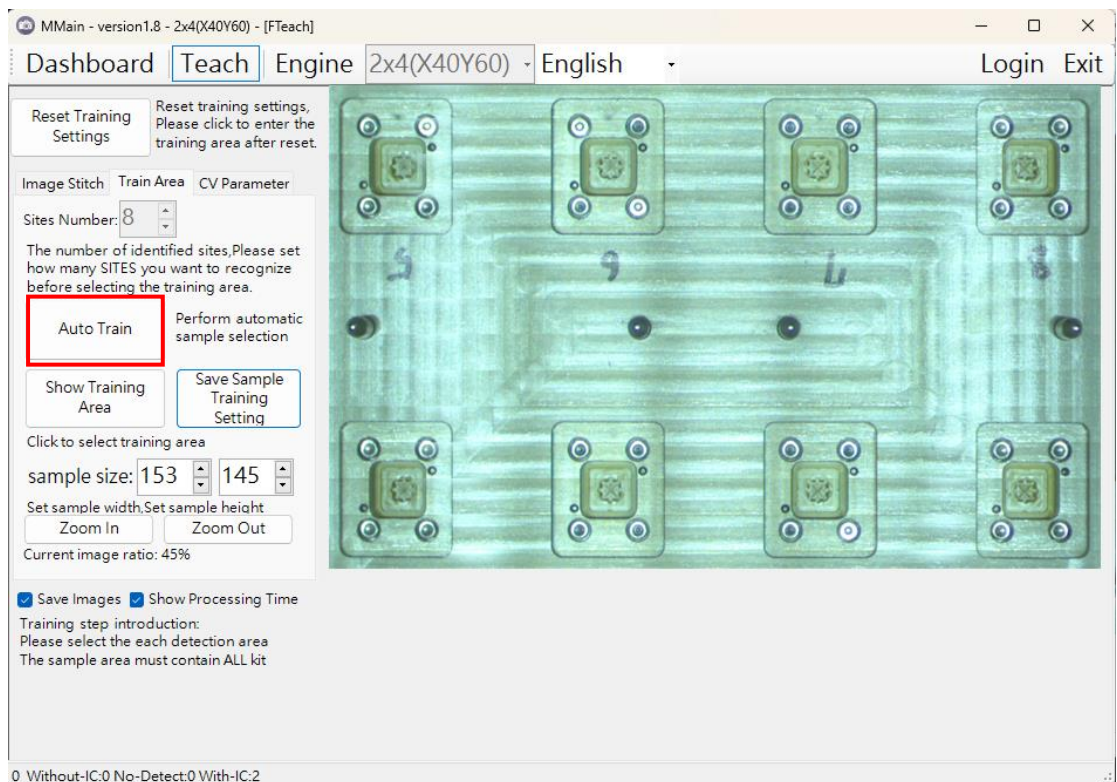


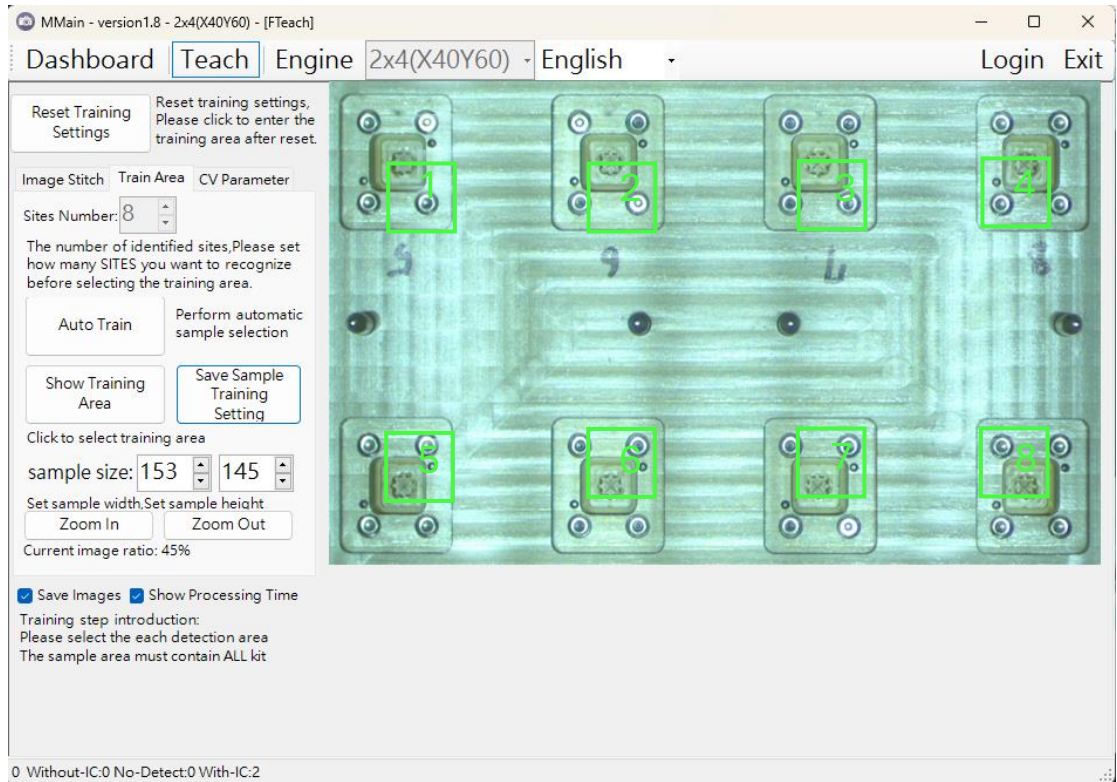
0 Without-IC:0 No-Detect:0 With-IC:2



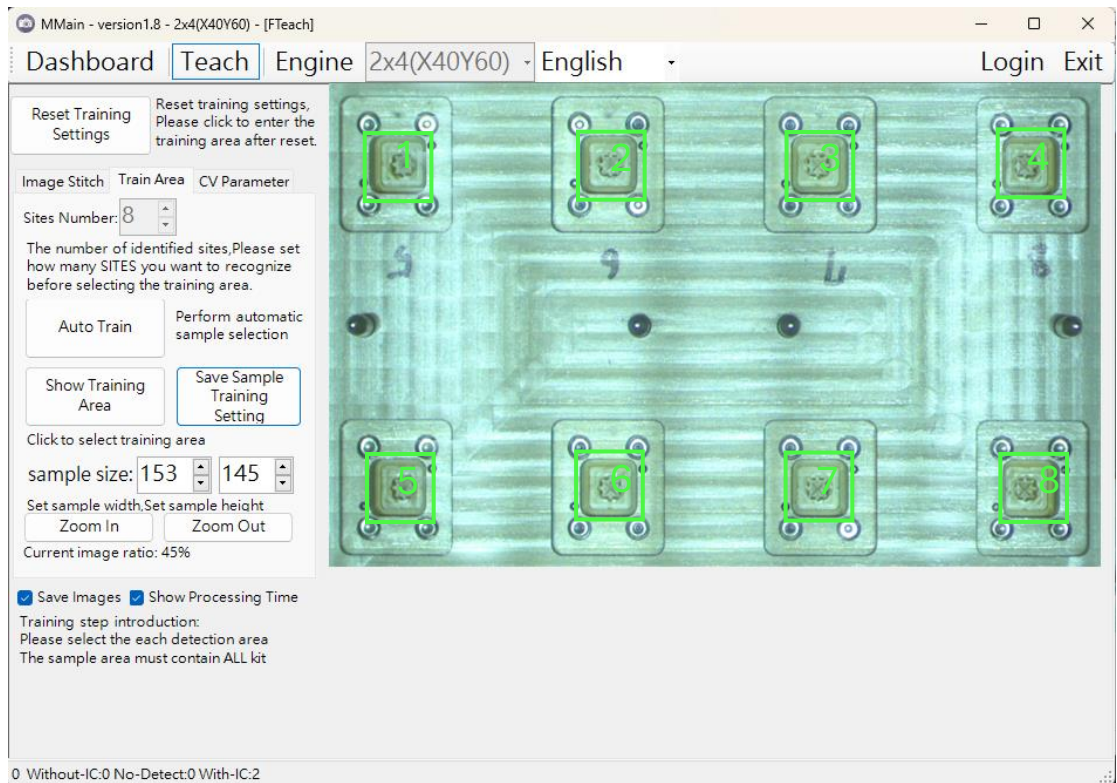
iii. Select the sample training area.

1. AutoTrain

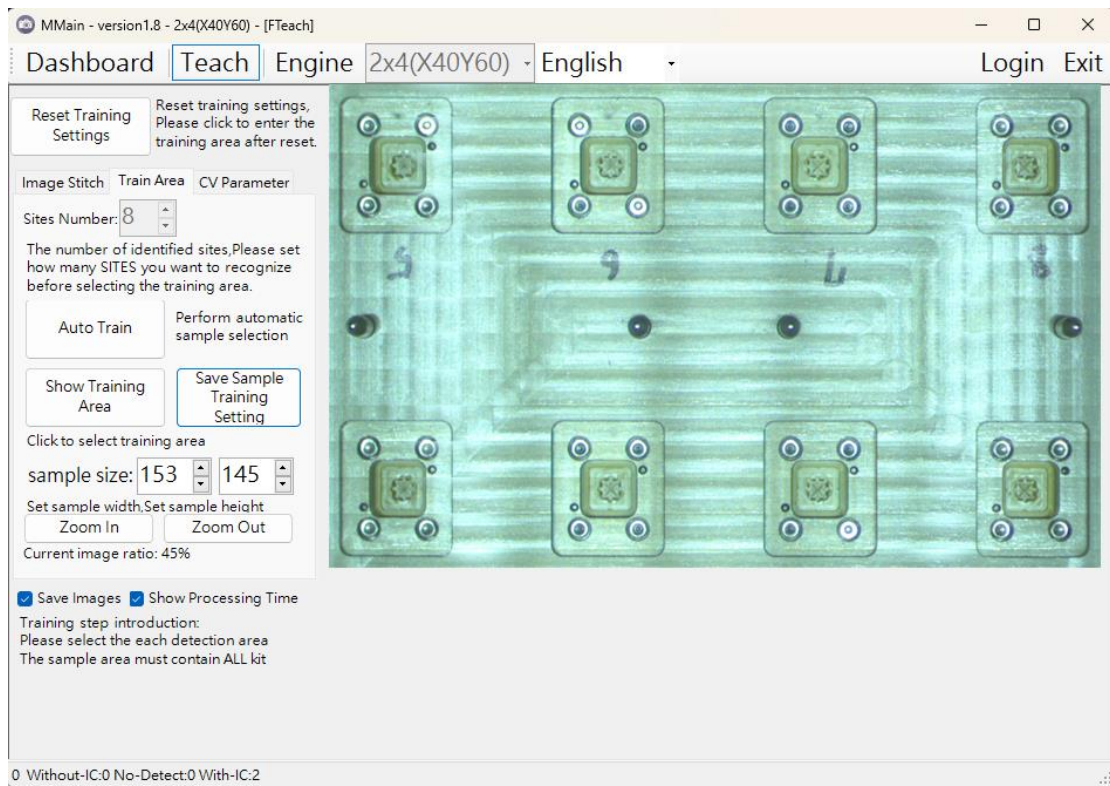




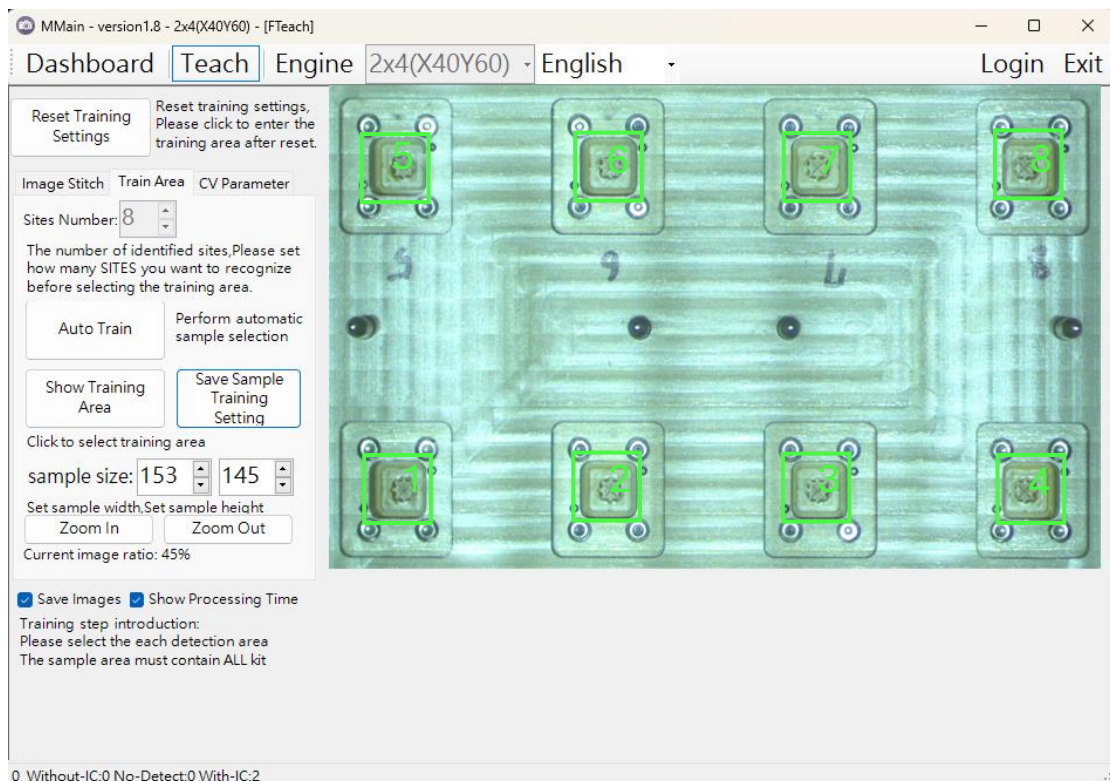
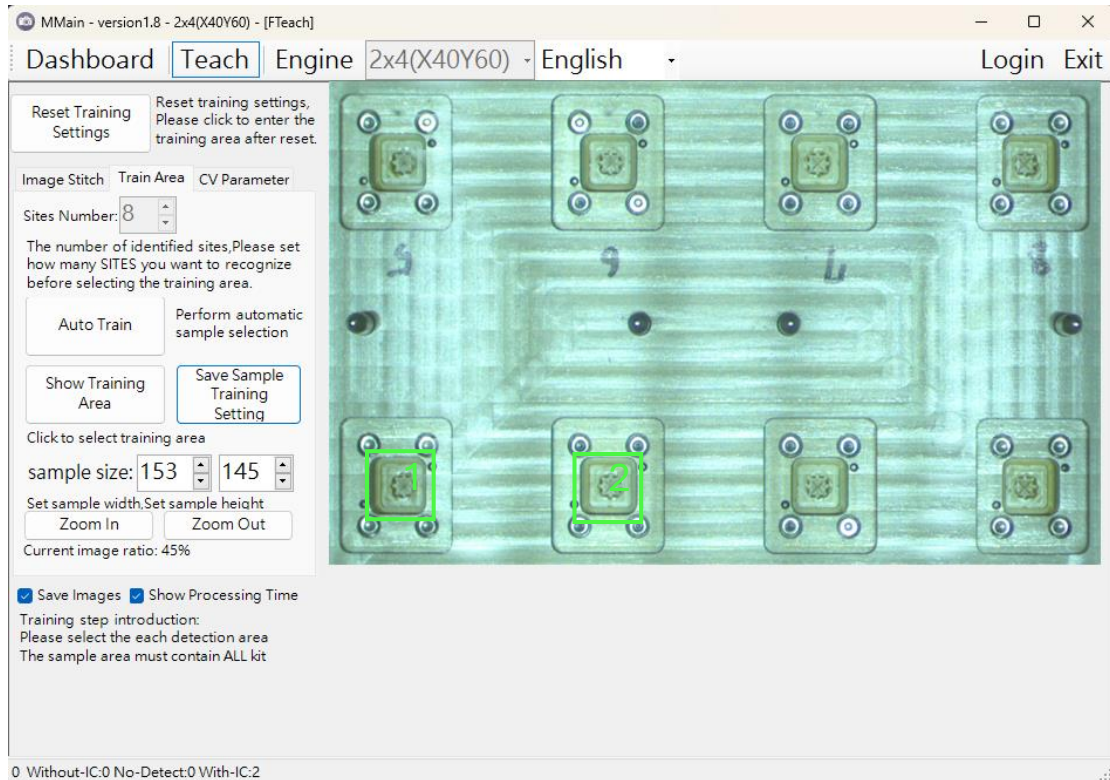
Move the small green boxes over the samples.



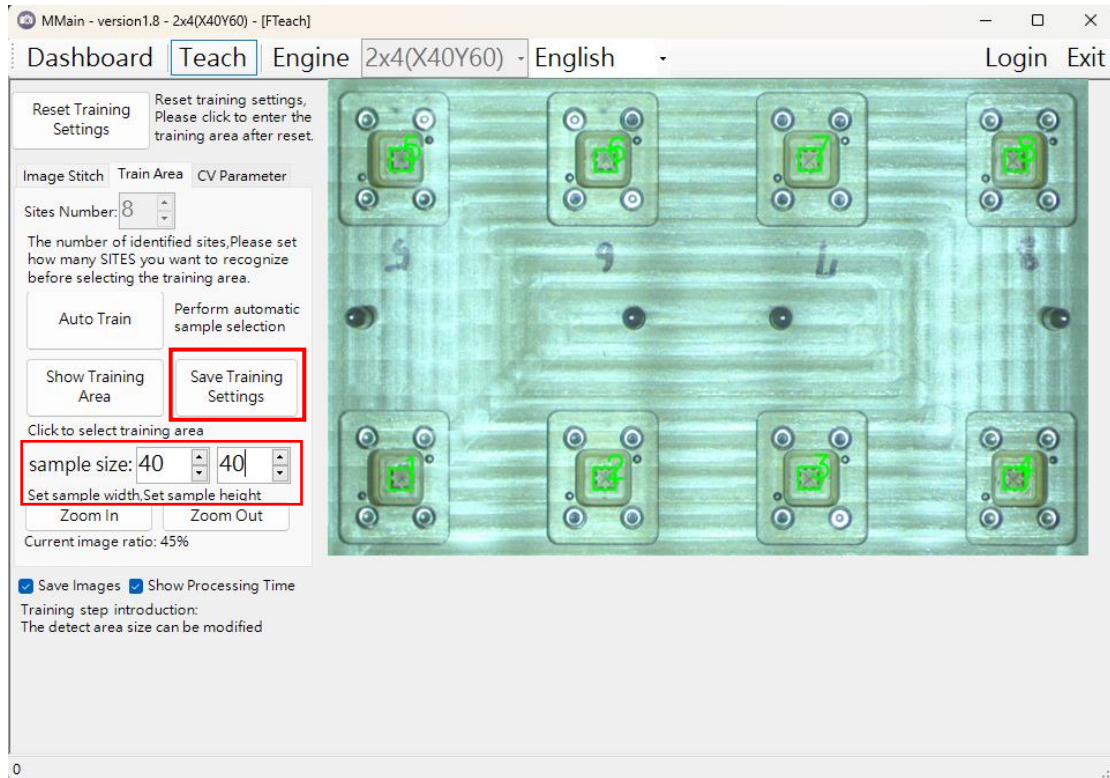
2. Manually select samples.



Click on the center of samples.



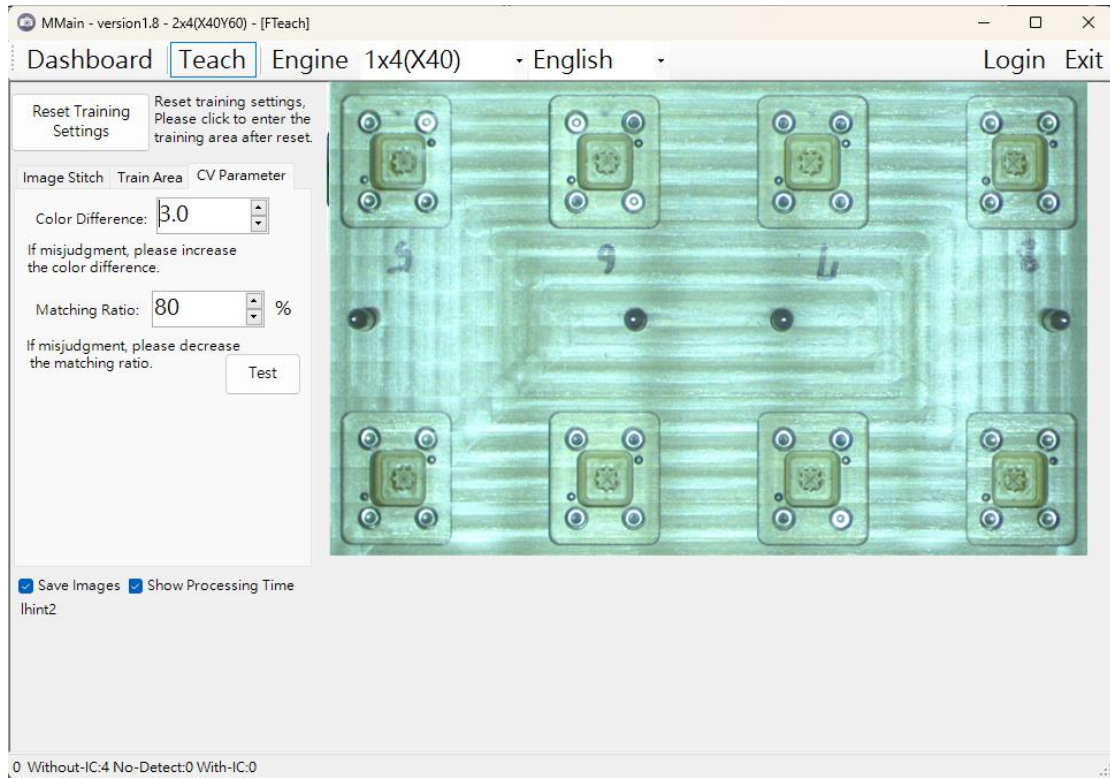
- iv. Adjust the size of the sample, and after adjusting, click "Save Sample Training Setting" or "Save Training Settings".



V. Image recognition parameter settings – Color Difference \ Matching Ratio

“Matching Ratio” - Match the grabbed image with the sample, the result lower than set value (**Matching Ratio**) will be filtered out. Ratio that are too high or too low may lead to false positives.

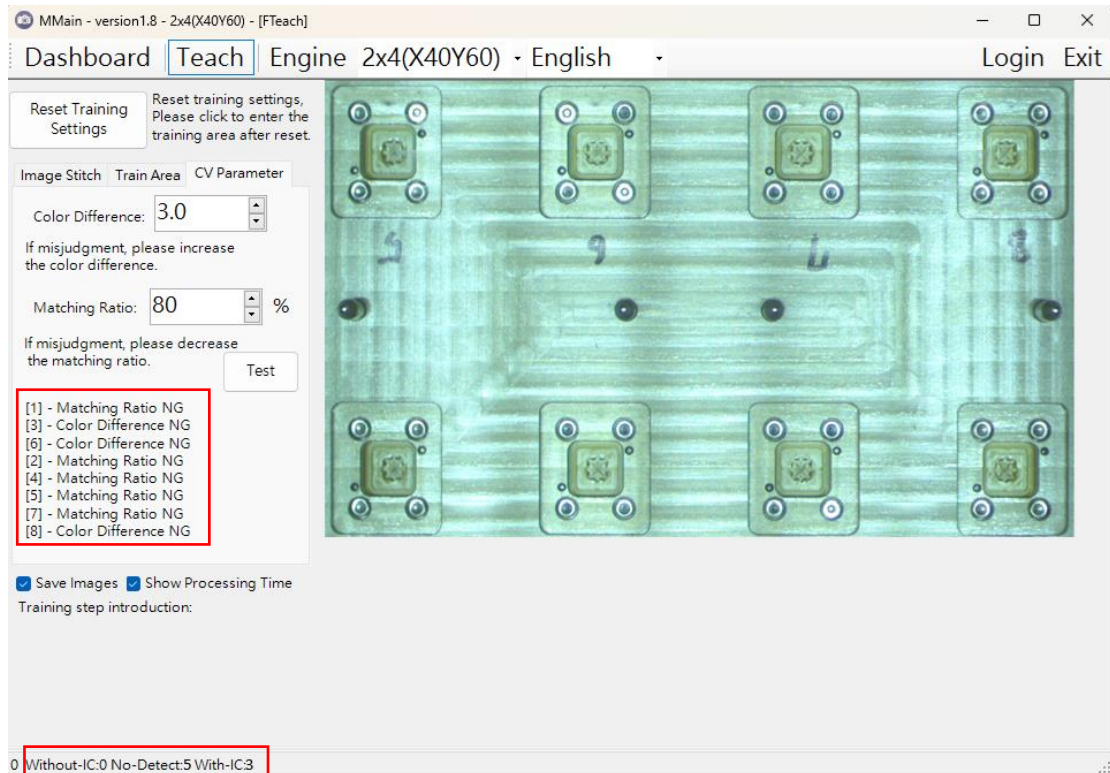
“Color Difference” - Compare the total color difference between the grabbed image and the sample. If the total amount of color difference compared is higher than the set value (**Color Difference**), it means there is IC; if the total amount of color difference compared is lower than the set value (**Color Difference**), it means there is no IC.



i. Move the shuttle, and check which parameters lead to NG.

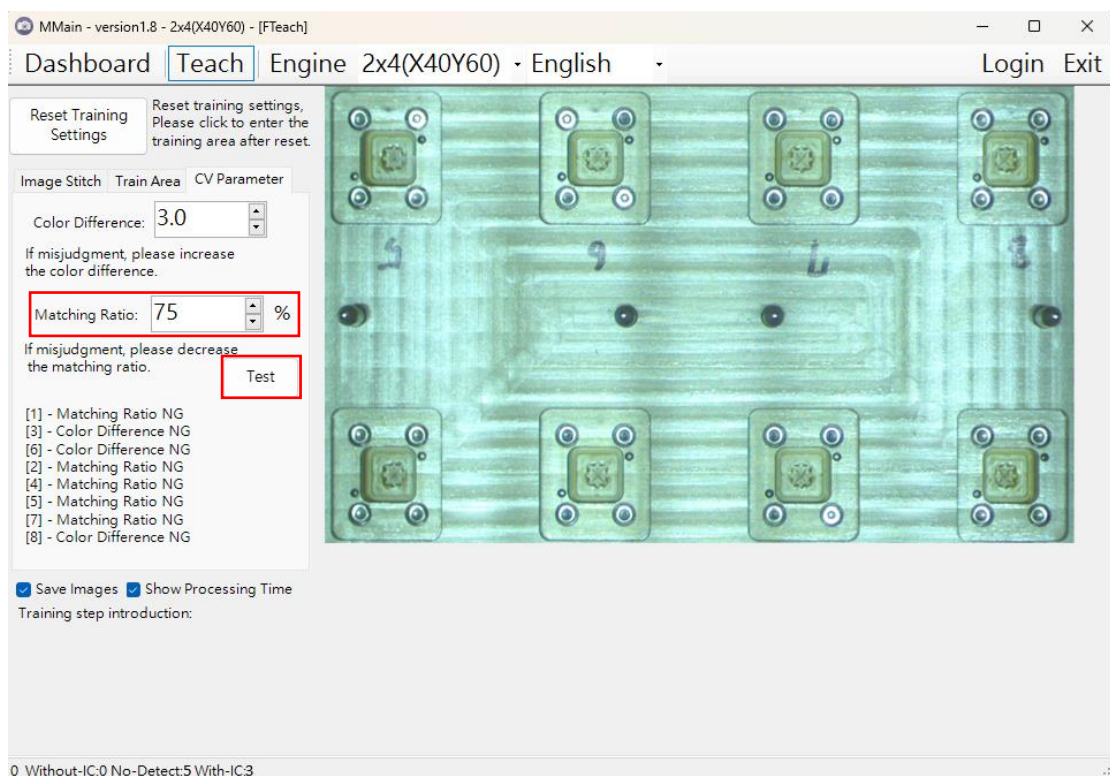
1. Matching Ratio NG, decrease the setting value (**Matching Ratio**).

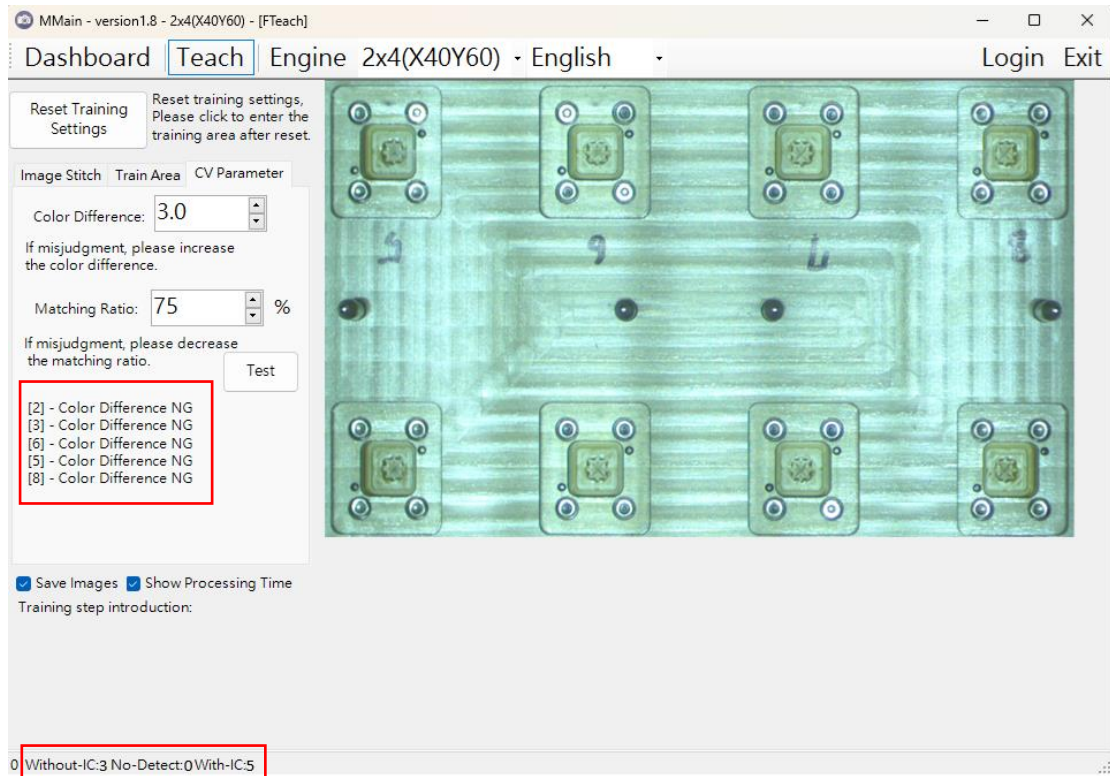
(If these parameters are set too high, it will become overly sensitive in recognition, leading to false positives)



Decrease the set value (**Matching Ratio**), the following are two methods to verify the setting value.

- Click the "Test" button





- Move the shuttle

Move the shuttle and verify if the recognition count in the status bar below matches the DUT.

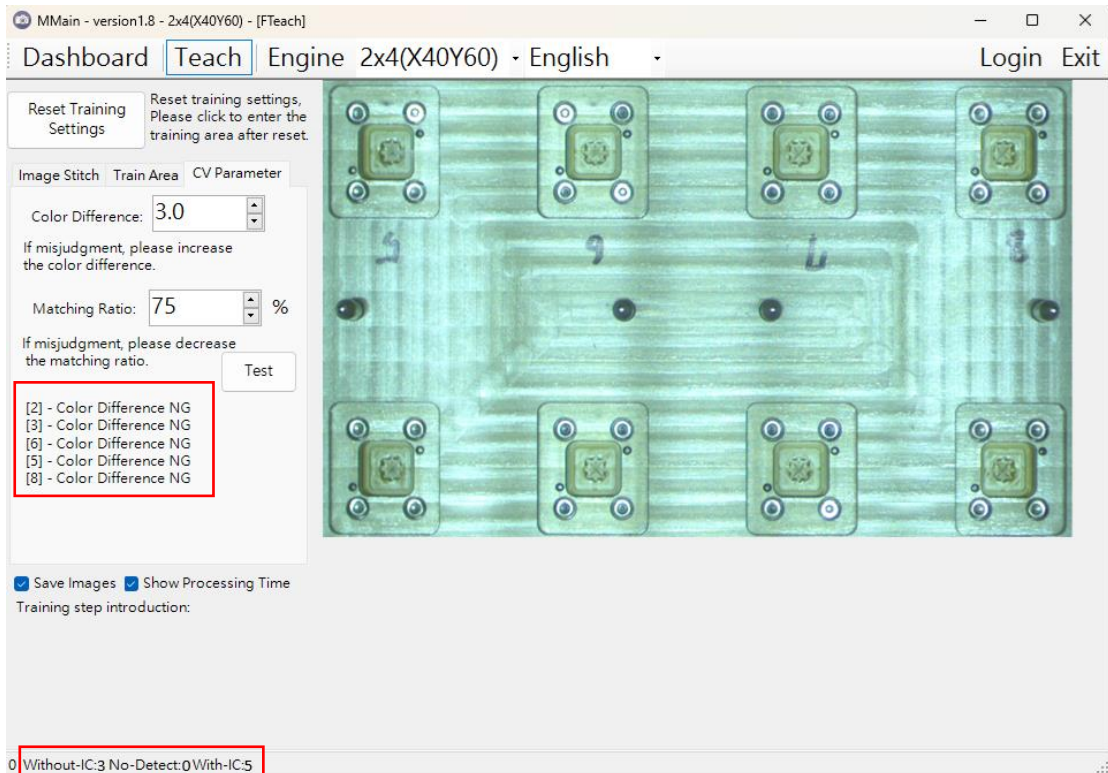


If “**Without-IC**” is inconsistent, decrease the Matching Ratio and move the shuttle again until the “**Without-IC**” count in the status bar below matches the DUT.

If “**Without-IC**” is consistent, then increase the matching ratio until reaching the threshold of inconsistency.

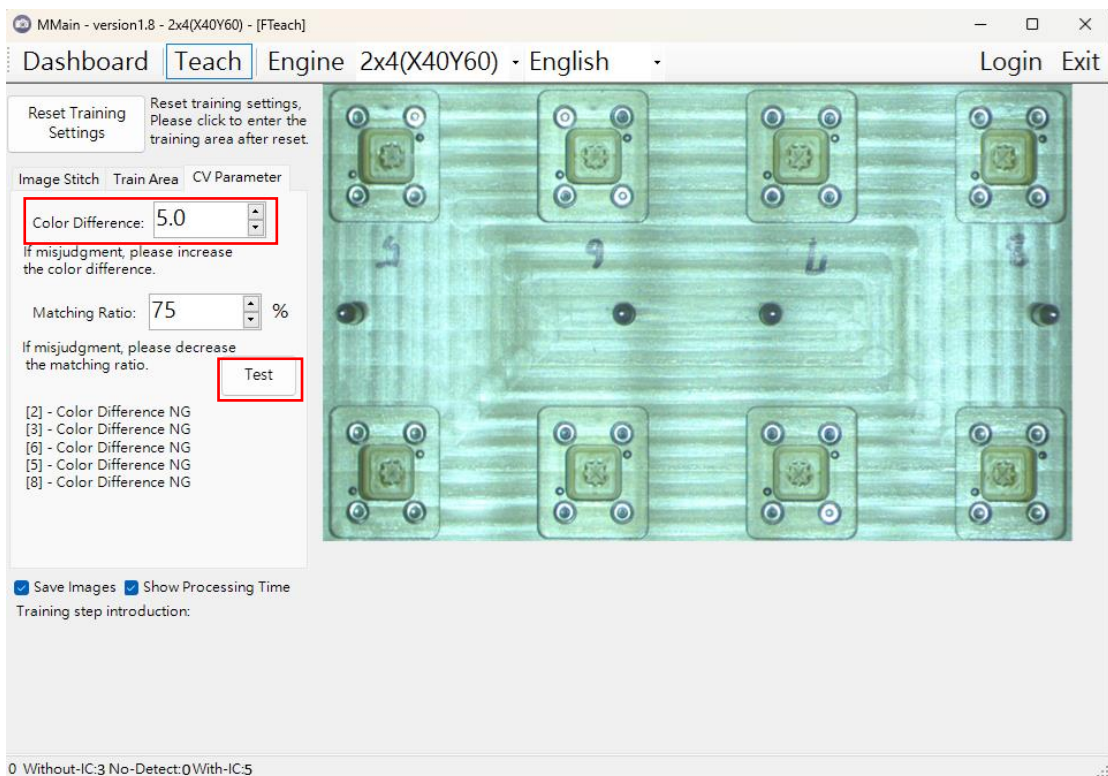
2. Color Difference NG, increase the setting value (**Color Difference**).

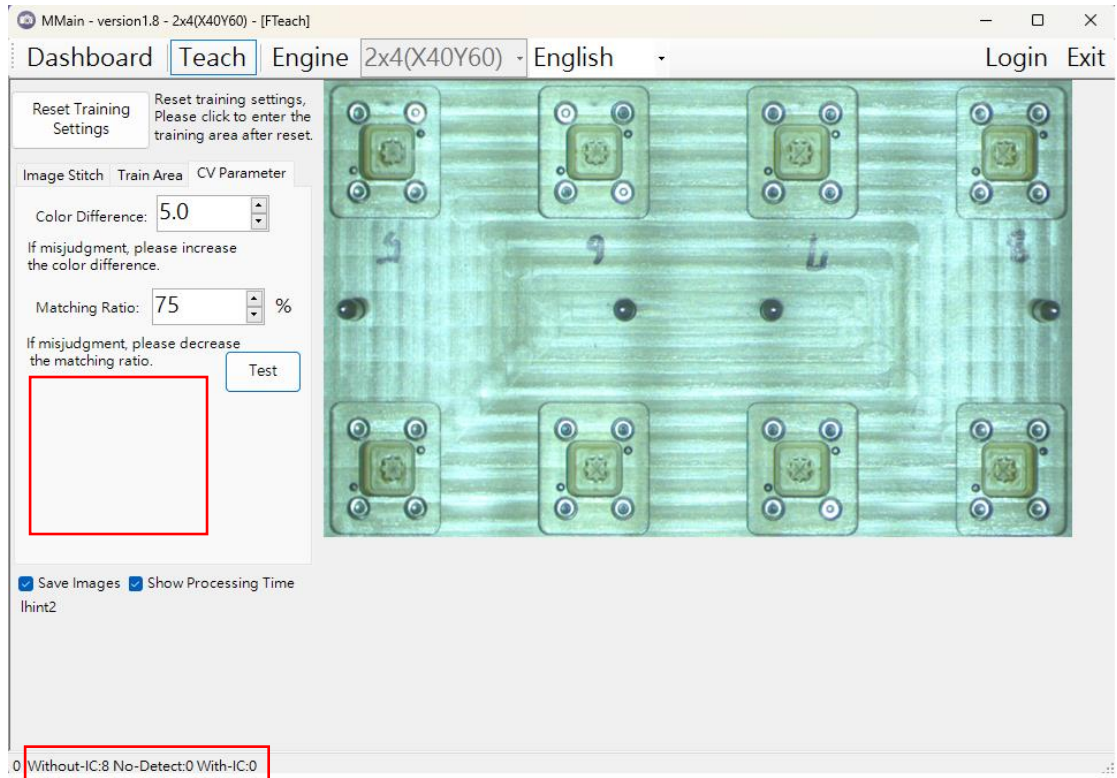
(If these parameters are set too low, it will become overly sensitive in recognition, leading to false positives)



Decrease the set value (**Color Difference**), the following are two methods to verify the setting value.

- Click the "Test" button





- Move the shuttle

Move the shuttle and verify if the recognition count in the status bar below matches the DUT.



If “**Without-IC**” is inconsistent, increase the Color Difference and move the shuttle again until the “**Without-IC**” count in the status bar below matches the DUT.

If “**Without-IC**” is consistent, then decrease the Color Difference until reaching the threshold of inconsistency.

- ii. Move the shuttle, and there is no NG
 1. Increase the setting value (**Matching Ratio**)

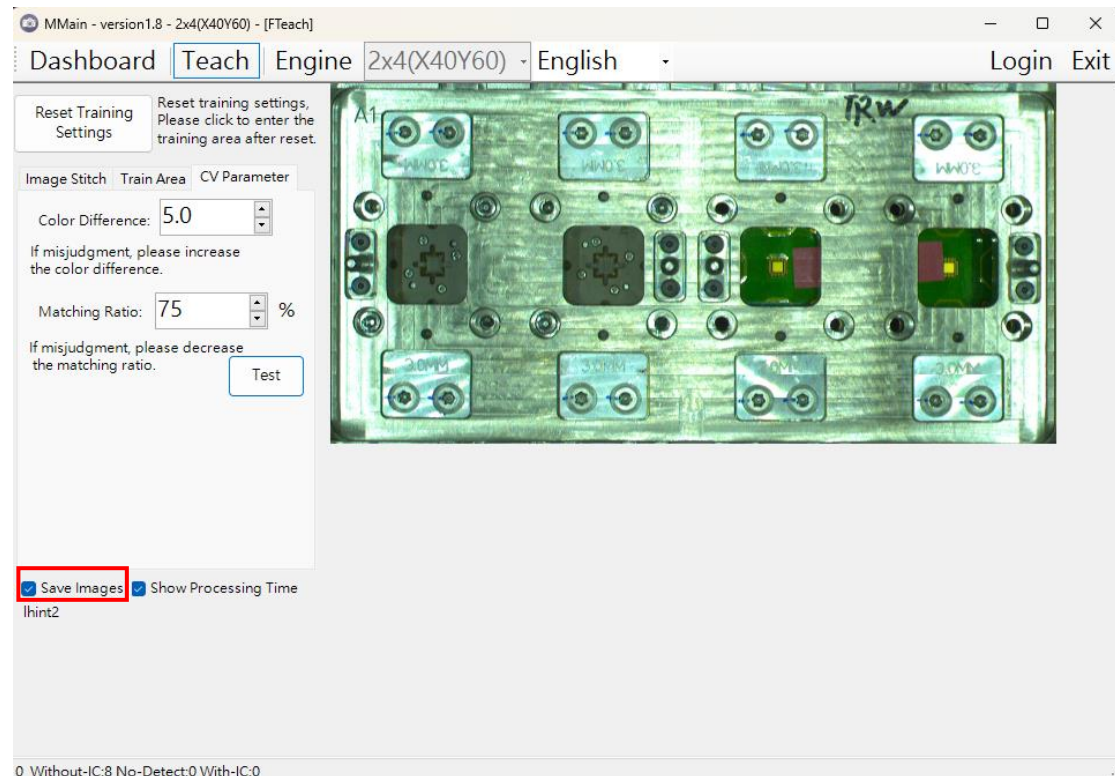
Increase the setting value (**Matching Ratio**) and move the shuttle until reaching the threshold of inconsistency.

2. Decrease the setting value (**Color Difference**)

decrease the setting value (**Color Difference**) and move the shuttle until reaching the threshold of inconsistency.

Other Parameters

Save Images Settings



It will save NG images.

Image file: <D:\SocketVision\FailData>

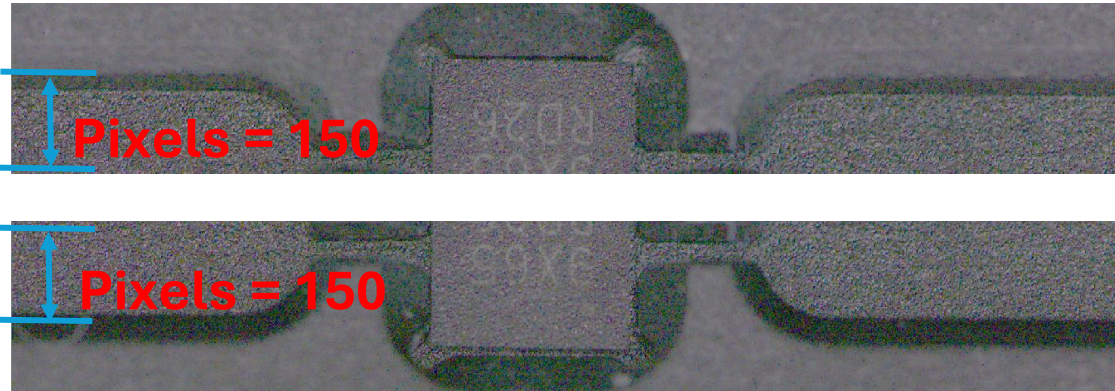
Stitching Pixels

The meaning is how many pixels each image needs to overlap.

For example, suppose there are 10 images of 1920*300. The movement of the shuttle causes the image to move only in the Y-axis.

The **Stitching Pixels** is set to 150, and the upper and lower images are stitched together.

Modify this parameter to see the stitching results immediately.



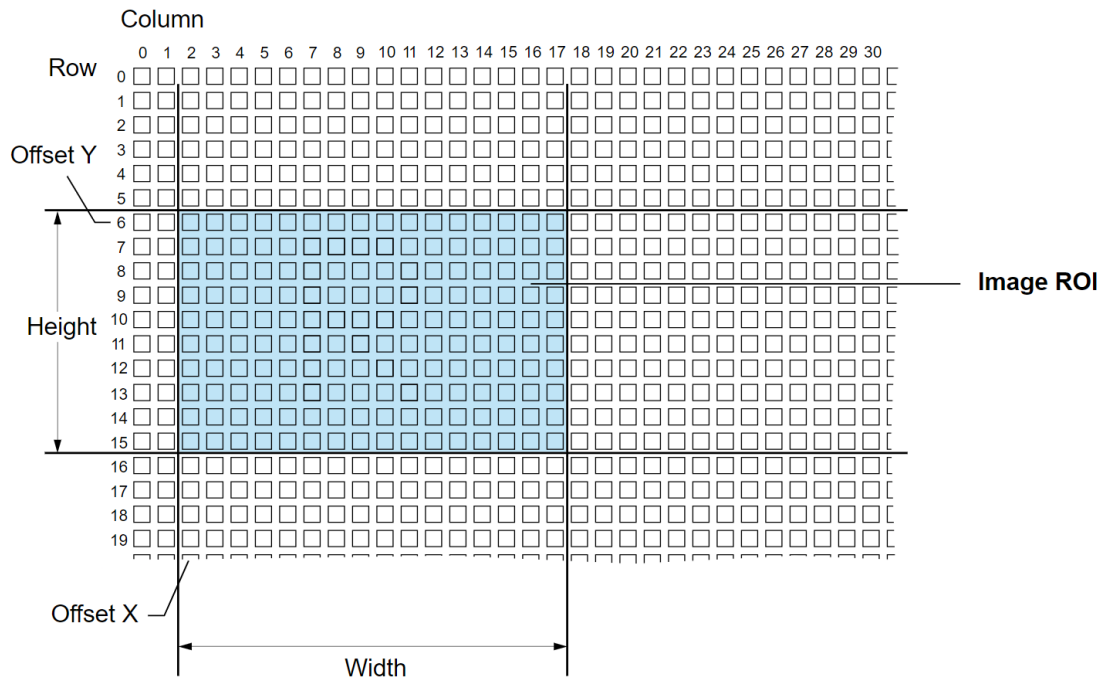
CCD parameters

Due to the need for image stitching, the image size is changed to Width*Height (1920*300)

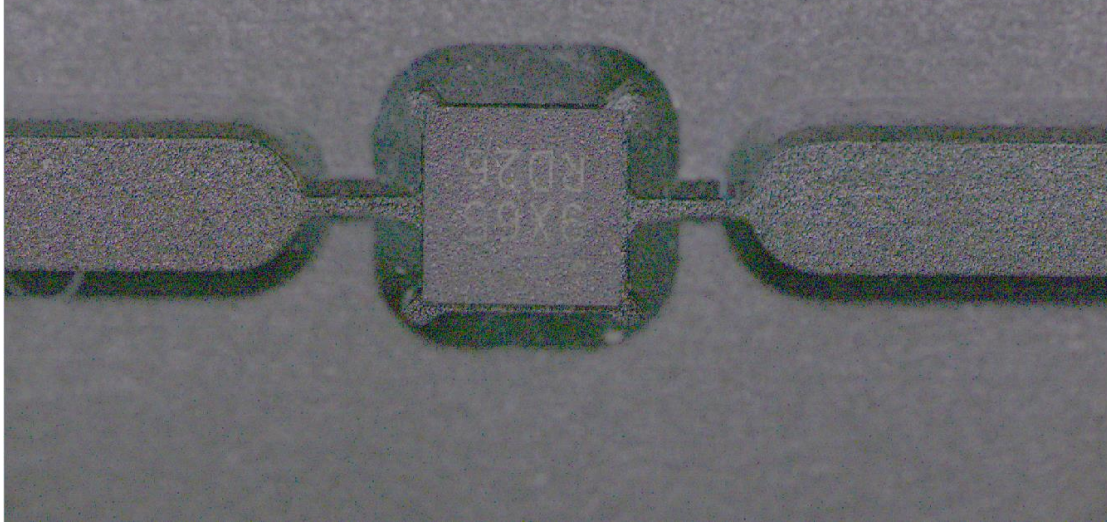
OffsetY

OffsetY - Vertical offset from the top of the sensor to the region of interest (area of interest) (in pixels).

Attention: The image of ROI location may be obscured by the machine or overexposed. Be sure to adjust this parameter.

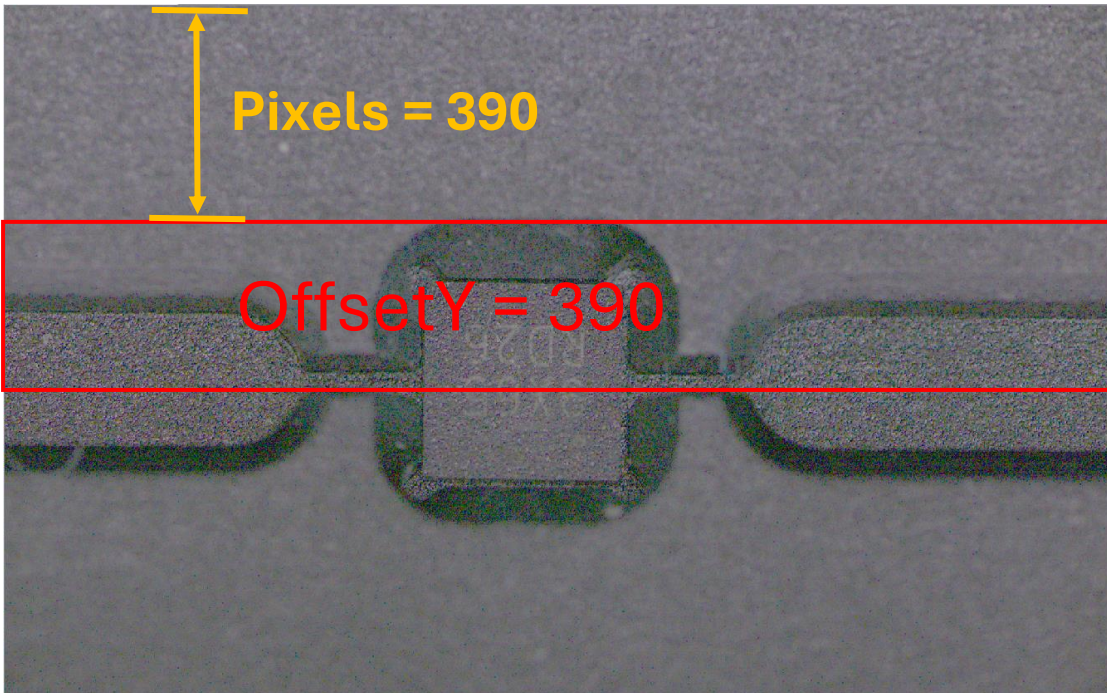


OffsetY = 0



Pixels = 390

OffsetY = 390



Exposure Time

Exposure Time - the length of time the camera collects light from your sample.

Unit: us (The CCD recognition software can set the maximum value to 5000us)

ReverseX

Enables/disables horizontal mirroring of the image. The pixel values of every line in a captured image will be swapped along the line's center.

ReverseY

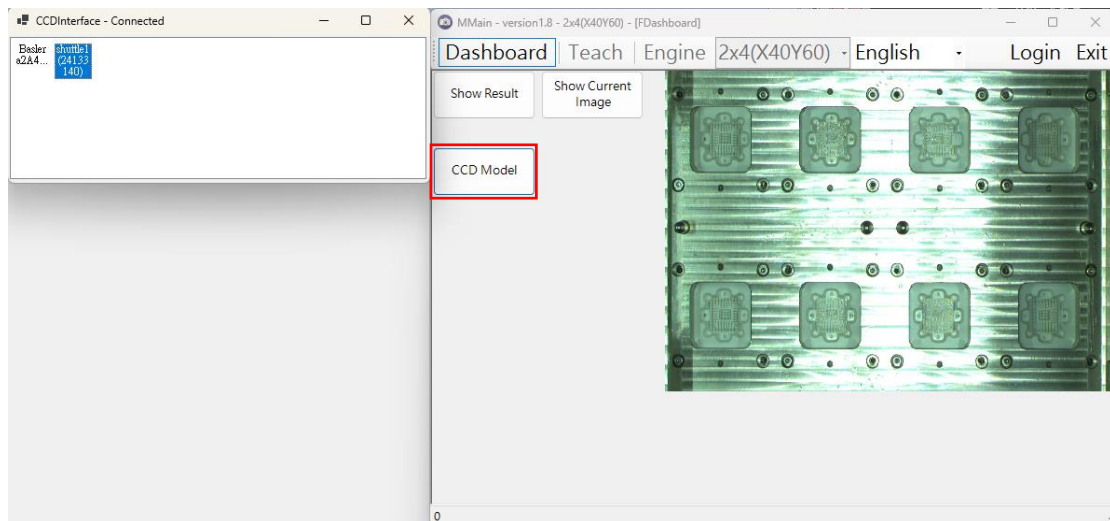
Enables/disables vertical mirroring of the image. The pixel values of every column in a captured image will be swapped along the column's center.

Exception Handling

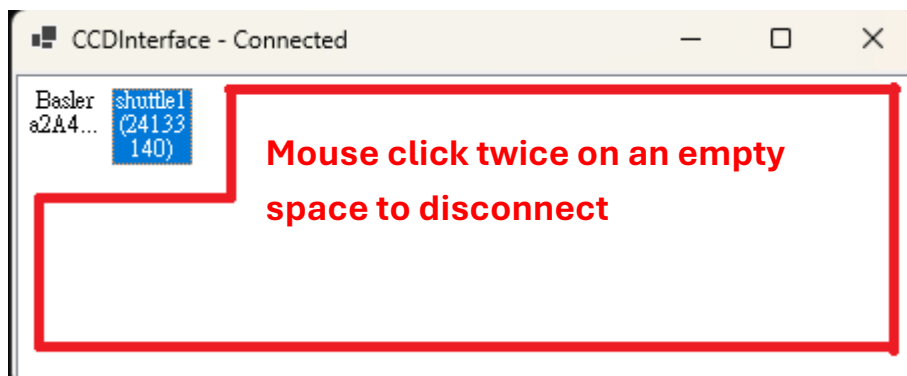
Check for **overexpose** using "pylon Viewer"

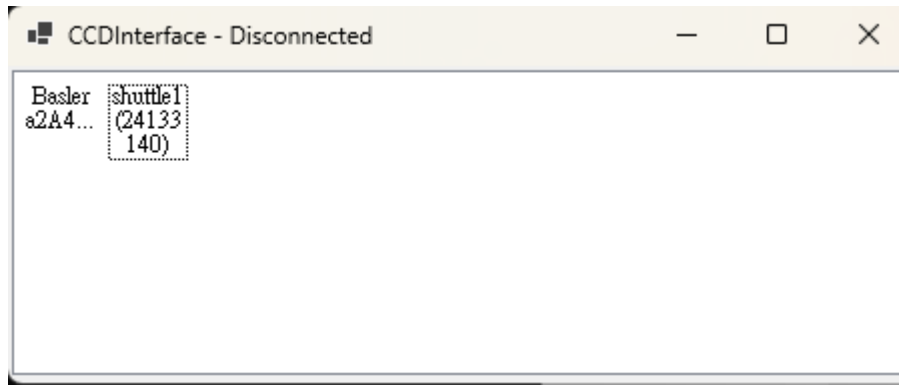
1. Please open the CCD recognition software first and connect the corresponding CCD model.

Purpose: **Set CCD hardware parameters**



2. Disconnect the CCD recognition software and CCD hardware





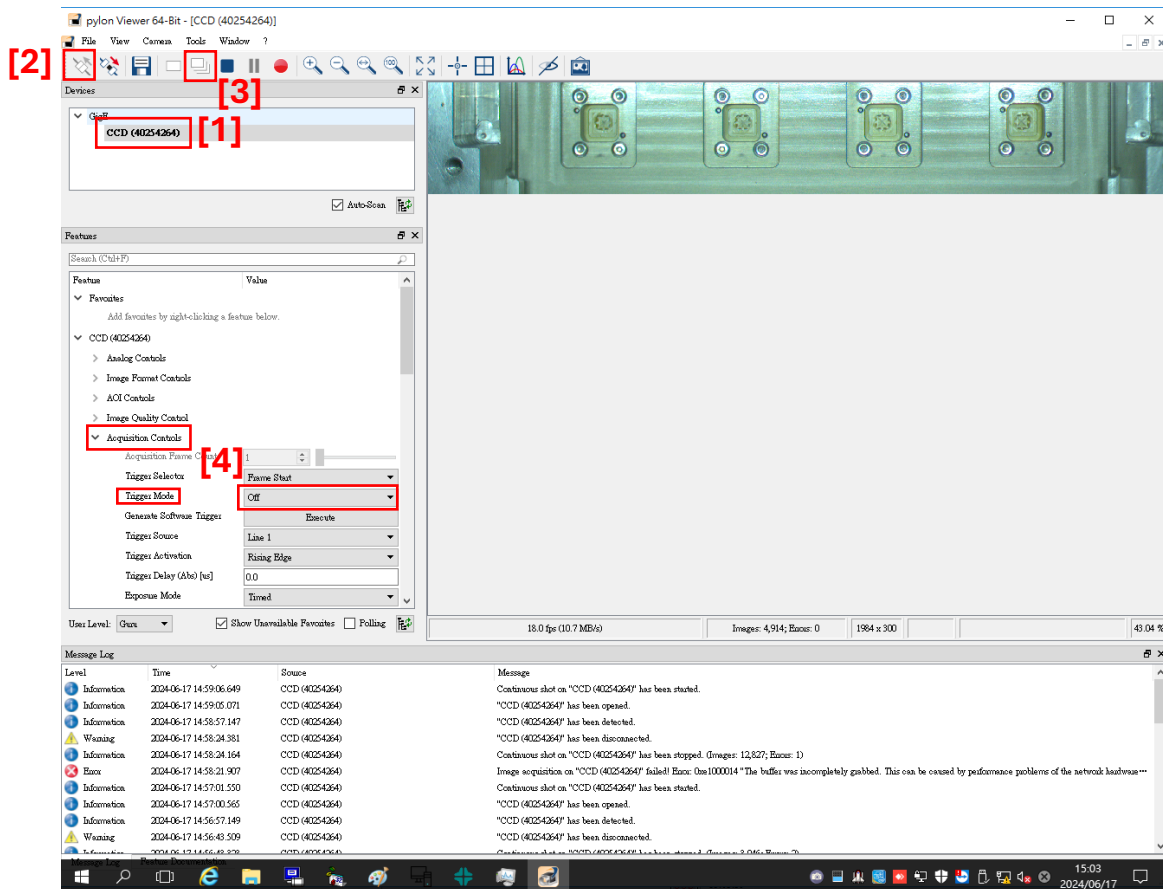
3. Open "pylon Viewer" software
 - I. Preset CCD parameters

[1] Click on the corresponding CCD model

[2] Connect to CCD hardware

[3] Click on the "continuous Shot"

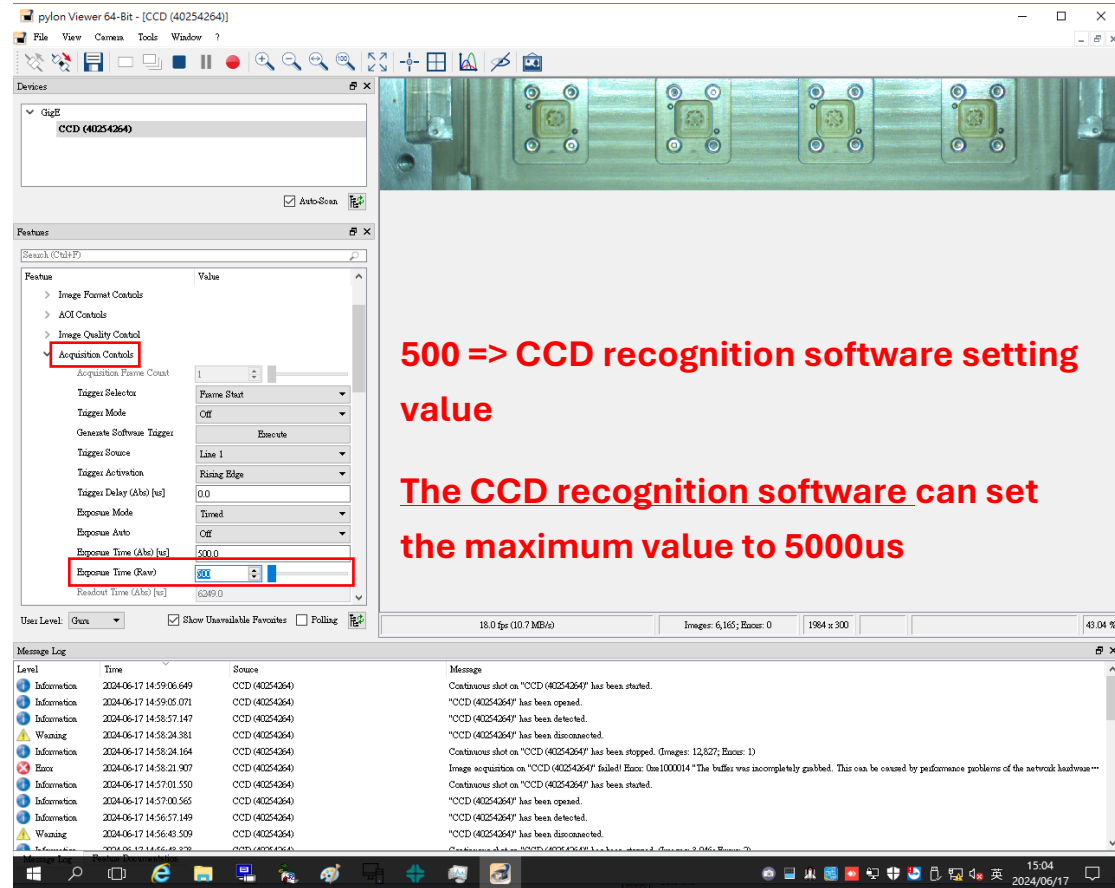
[4] Acquisition Control-> Trigger Mode -> set to Off



II. Set Exposure Time (Raw)

Path: Acquisition Control -> Exposure Time (Raw)

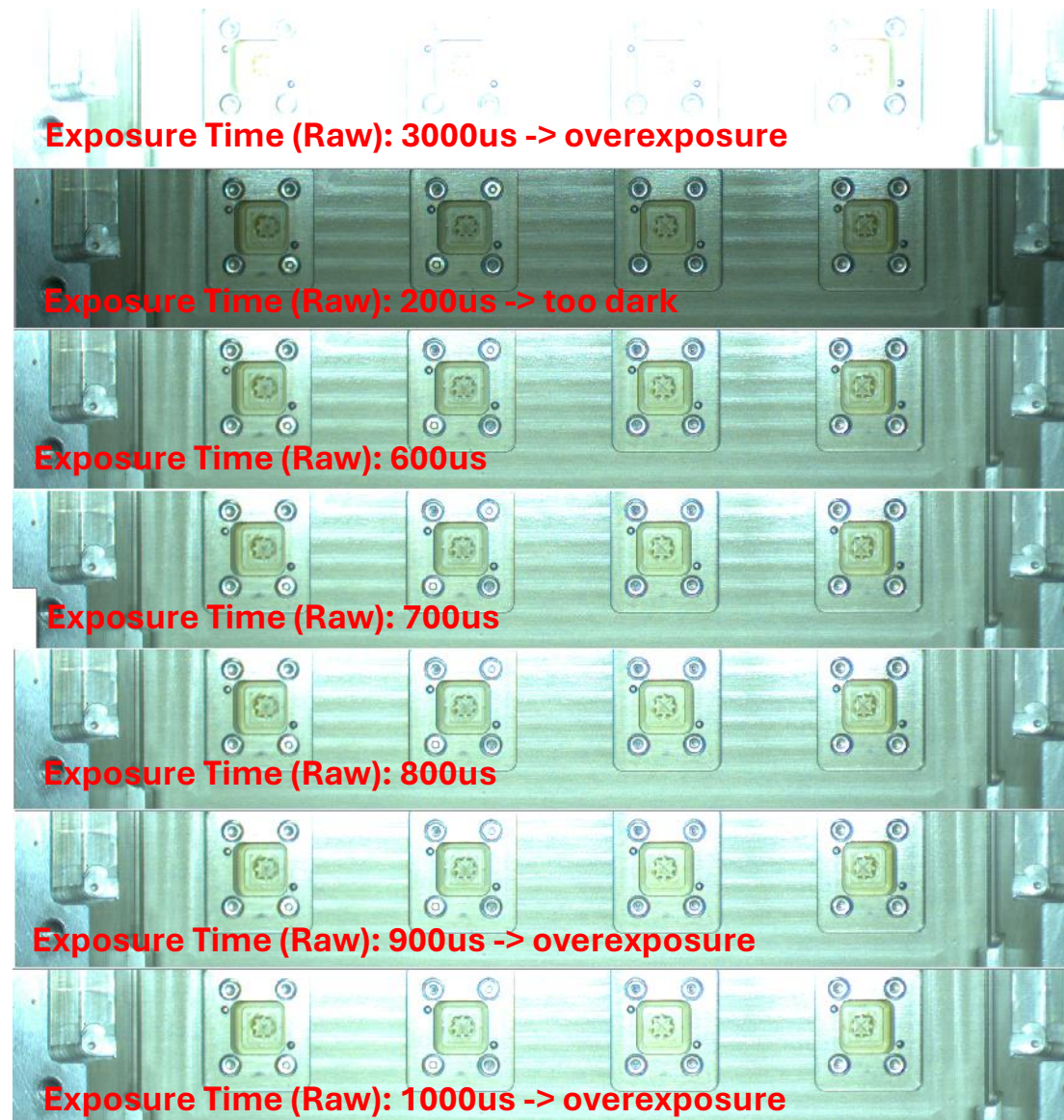
Please use Exposure Time (Raw) ± 100 as increment.



The screenshot displays the pylon Viewer 64-Bit software interface for a CCD camera (40254264). The main window shows a live video feed of the camera's sensor array. On the left, the 'Features' panel is open, and the 'Acquisition Controls' section is highlighted. The 'Exposure Time (Raw)' parameter is set to 500.0, and the 'Exposure Mode' is set to 'Timed'. The 'Message Log' at the bottom shows various system messages, including 'Continuous shot on "CCD (40254264)" has been started.', 'CCD (40254264) has been opened.', 'CCD (40254264) has been detected.', 'CCD (40254264) has been disconnected.', 'Continuous shot on "CCD (40254264)" has been stopped. (Images: 12,827; Error: 1)', and 'Image acquisition on "CCD (40254264)" failed! Error: 0x1000014 "The buffer was incompletely grabbed. This can be caused by performance problems of the network hardware...'. The status bar at the bottom indicates '18.0 fps (10.7 MB/s)', 'Image: 6,165; Error: 0', '1984 x 900', and '43.04 %'.

500 => CCD recognition software setting value

The CCD recognition software can set the maximum value to 5000us



4. Record the Exposure Time (Raw) value and set it in the CCD recognition software.
 - I. Close the "pylon Viewer"
 - II. Open the CCD recognition software
 - III. Set the CCD parameter - exposure time

MMain - version1.8 - 2x4(X40Y60) - [FTeach]

Dashboard Teach Engine 2x4(X40Y60) English Login Exit

Reset Training Settings
Reset training settings, Please click to enter the training area after reset.

Image Stitch Train Area CV Parameter

CCD Settings
CCD parameters setting, includes exposure time, offsetY, reverseX, reverseY

Stitching Pixels: 235

Number of pixels to stitch each image

shuttle1to2: 4900 62500

Set the start/end grabbing point, and the image will be taken between 4900~62500

Save Images Show Processing Time

lhint2

0

CCDSetting

OffsetY: 540

Vertical offset on grabbing image. When changing, please move the motor to confirm the stitching result.

ExposureTime: 500

the length of time the camera collects light from a image, unit: us.

Reverse X
Enables/disables horizontal mirroring of the image.

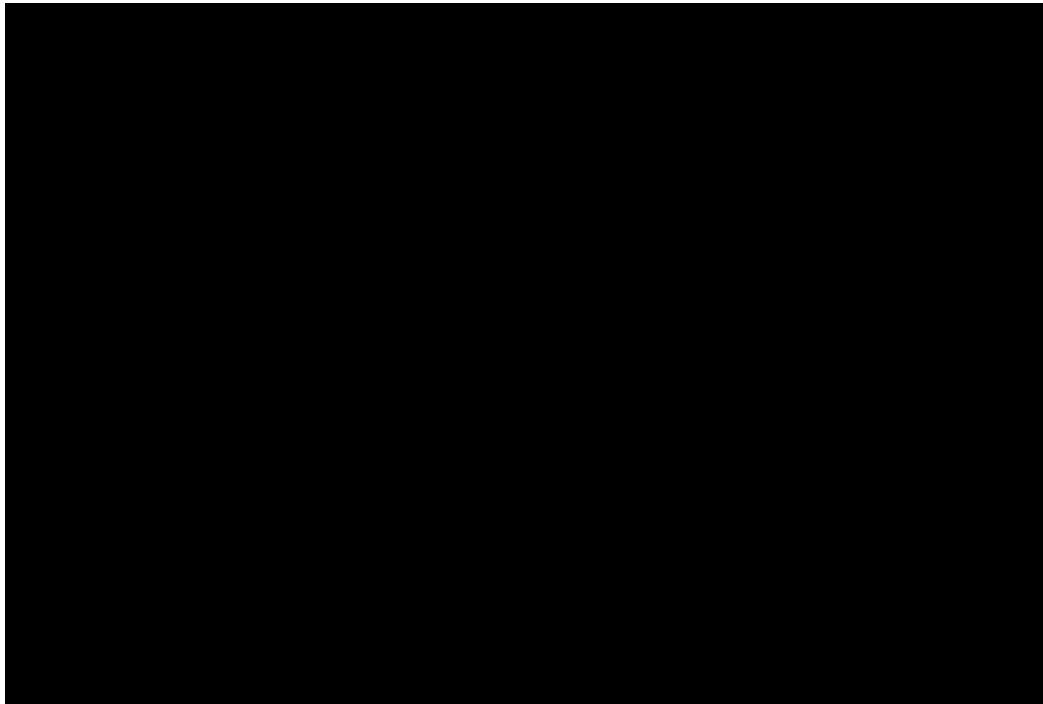
Reverse Y
Enables/disables vertical mirroring of the image.

The image result which be grabbed is
black/dark

The following situations may occur:

[1] The image is completely BLACK. No images were grabbed due to an abnormality in the trigger line.

Trigger line anomaly: Please reinsert the CCD power cable (which includes the trigger line) and check if the cable is damaged. If there is any damage, you will need to replace it with a new CCD power cable.



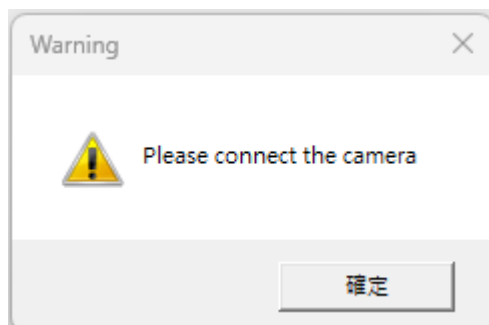
[2] The exposure time is set too low, resulting in a dark image. Please refer to [the PylonViewer to check for overexposure](#). After adjusting the exposure time, proceed with the training.

[3] The light strip is burnt out, resulting in a dark image. Please check the hardware first and replace the light strip. After adjusting it, proceed with the training.

[4] The light strip cable is not properly connected, resulting in a dark image. Please check the hardware first and properly connect the cable. After adjusting it, proceed with the training.

Display a warning window

Please connect the camera



The possible scenarios are as follows:

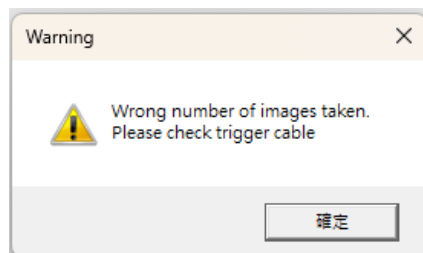
[1] Due to a trigger line anomaly, the CCD hardware and CCD recognition software were disconnected during operation. Please reconnect and check the trigger line.

Trigger line anomaly: Please reinsert the CCD power cable (which includes the trigger line) and check if the cable is damaged. If there is any damage, you will need to replace it with a new CCD power cable.

[2] The CCD hardware is not ready (not powered on, cable not connected, or CCD hardware IP not properly configured).

[3] When using the CCD recognition software for the first time, you need to select the CCD model. Once the model is selected, it will automatically connect to the corresponding CCD model in future sessions.

Wrong number of images taken. Please check trigger cable



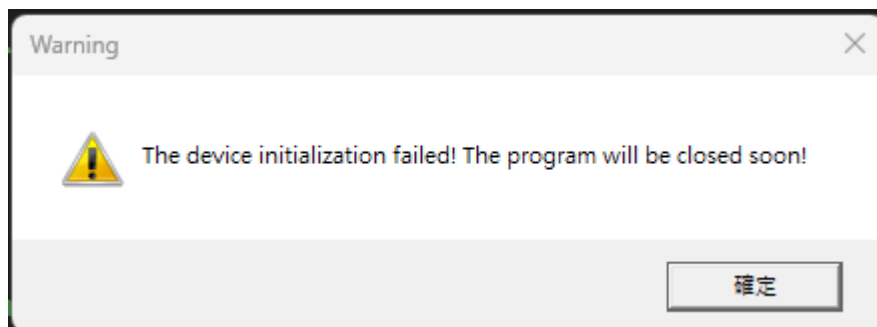
Determine if there is a trigger line anomaly based on the number of images taken. If the count is zero or if an incorrect number of images is taken, this warning window will be displayed. Please refer to the [Engine page](#).

Trigger line anomaly: Please reinsert the CCD power cable (which includes the trigger line) and check if the cable is damaged. If there is any damage, you will need to replace it with a new CCD power cable.



Number of images taken.

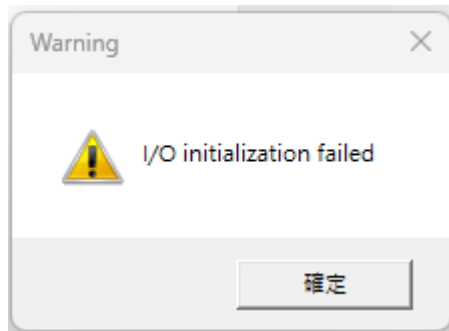
The device initialization failed! The program will be closed soon!



Initialization failed when opening the program. Please send the folder back to R&D for analysis.

path: C:\ChipRight\SocketVision

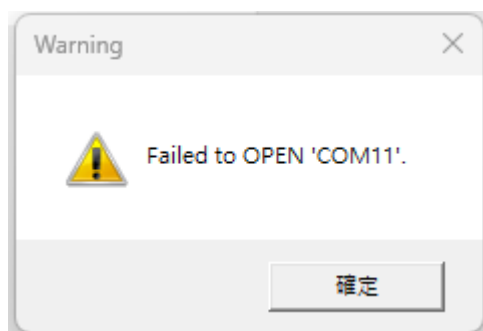
I/O initialization failed



Initialization failed when opening the program. Please send the folder back to R&D for analysis.

path: C:\ChipRight\SocketVision

Failed to OPEN 'COM11'

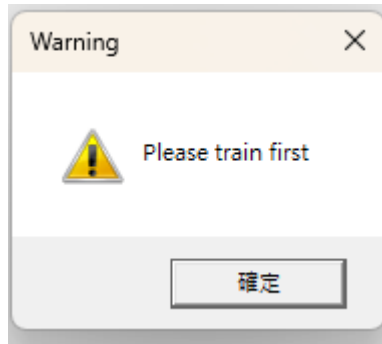


Use RS232 Comport for communication with the handler (CCD: COM11, handler: COM10). The possible scenarios for a connection failure are as follows:

[1] COM11 is not connected.

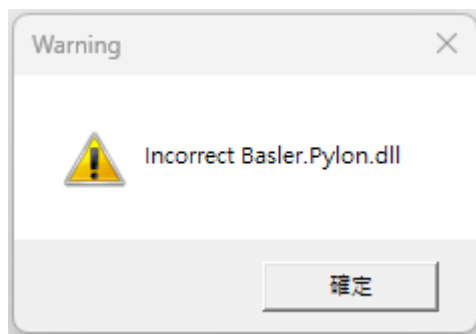
[2] The CCD software was not properly closed, causing it to remain connected to COM11. A computer restart is required.

Please train first



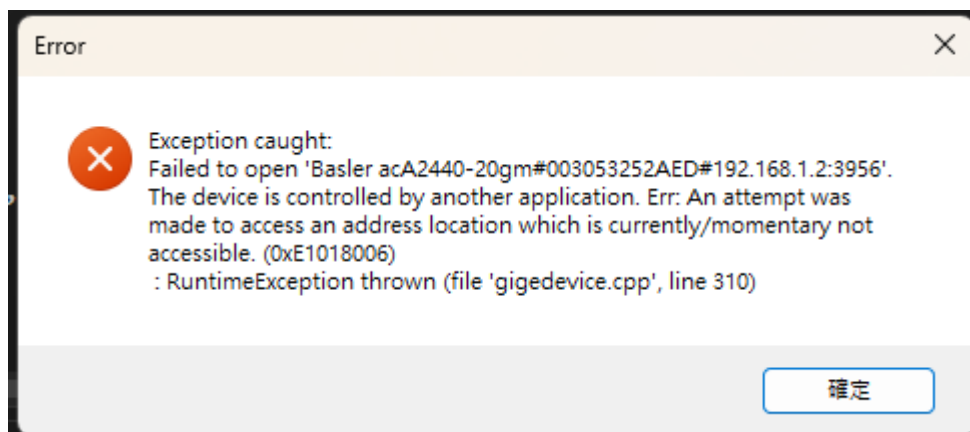
If there are no training images yet, this warning window will pop up. Please proceed with the training.

Incorrect Basler.Pylon.dll



Please contact R&D to replace it with the correct CCD software DLL.

EXCEPTION CAUGHT: warning window



Indicates that another application is currently connected to the CCD hardware. You can restart the CCD network and reconnect.

※ **Note: If there are other error messages starting with "Exception caught," please take a screenshot and save it.**

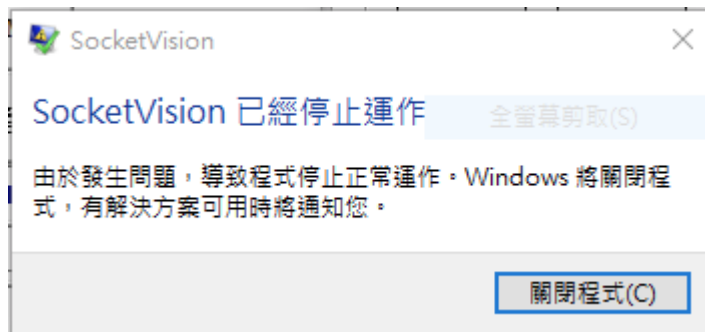
Replace the socket base

Each time you replace the socket base, please connect the corresponding CCD profile. Refer to "[Creating/Connecting profile](#)" (P.15~P.20) for details.

For example, a 2x4 socket base corresponds to a 2x4 CCD profile; a 1x4 socket base corresponds to a 1x4 CCD profile.

Afterward, [proceed with the training steps](#).

SOCKETVISION crashes



Please send the folder back to R&D for analysis.

path: C:\ChipRight\SocketVision

path: D:\SocketVision\failData\Current Date

Other CCD software anomalies

Please send the folder back to R&D for analysis.

path: C:\ChipRight\SocketVision

path: D:\SocketVision\failData\Current Date