Operation Manual

FixedConfig7000

Software for Configuration and Communication of V7000 Fixed Barcode Scanner

Table of Contents

Before using FixedConfig7000

This software (hereinafter called FixedConfig7000) is for our product (V7000).
FixedConfig7000 is used for checking various settings and reading operation.
This document describes how to operate FixedConfig7000.

Ⅰ. Glossary

In this manual, the following terminology is used.

- Code Reader
  - Refers to the V7000 unit.
- Reading Parameter
  - Refers to multiple settings related to the reading operation of the Code Reader.
  - Read parameters consist of Table settings, ROI settings, and Code Reader settings.
- Table
  - It is mainly for setting capturing images related settings such as shutter speed, gain, and lighting.
  - Up to 16 tables can be set.
  - To set this, refer to “4.8 Table/ROI Settings Screen Table Settings Tab”.
- ROI (Region of Interest)
  - It is used for setting which barcode to read in which range for the image taken with the Table setting. Normally one ROI is used, so if the image has multiple barcodes, multiple ROIs can also be used.
  - ROI is up to 20 can be set. Created ROI can be used by associating them in the Table settings.
  - In the V7000, the processing that can be performed in each ROI is divided as follows.
    ROI1 : In this ROI, you can perform only barcode reading and can read multiple barcodes using this ROI.
    ROI 2 – 20 : In this ROI, you can perform one barcode reading and Vision Functions Processing.
  - To set this, refer to “Table/ROI Settings Screen ROI Settings Tab”.
- Code Reader Settings
  - Items that set the operation of the Code Reader, such as buzzer, Ethernet, additional information, and verification.
  - Detailed settings for reading various barcodes are also set here.
  - The contents set in the Code Reader settings are reflected in all Tables and ROIs.
  - To set this, refer to “4.9 Reader Settings Screen”.
- Soft Trigger
  - The command to start reading from Ethernet.
- Settings File
  - A file for saving the Code Reader Settings on your computer.

II. Functions and Features

- You can adjust the Read Parameters of our products.
  - You can receive the Setting Parameters of the Code Reader, display them on the screen, and change these settings by operating the mouse or keyboard.
  - You can save the Settings File in .sv format to your computer.
  - The Auto-Tuning function makes it easy to make settings for reading barcodes.
- You can check the captured image of the Code Reader.
  - The image captured by the Code Reader is displayed on the FixedConfig7000 screen.
  - You can save the image file in .bmp format on your computer.
- You can check the read data of the Code Reader.
  - You can check the barcode data read by the Code Reader in the Image Display Area and the Terminal.
  - If additional information is added, you can confirm the detailed information (decoding time, etc.).
- Supported models
  - V7000
- Corresponding computer

1	Port	Ethernet port
2	Monitor Resolution	1280 x 720 pixels or more
3	Number of CPU cores	4 cores or more
4	CPU Base Clock	2.0GHz or more
5	Required RAM	4GB or more
6	Recommended RAM	64bit : 8GB or more 32bit : Up to 4GB

- Supported OS
  - Microsoft® Windows 10 Pro 32bitEdition / 64bitEdition
  - Microsoft® Windows 11 Pro 64bitEdition

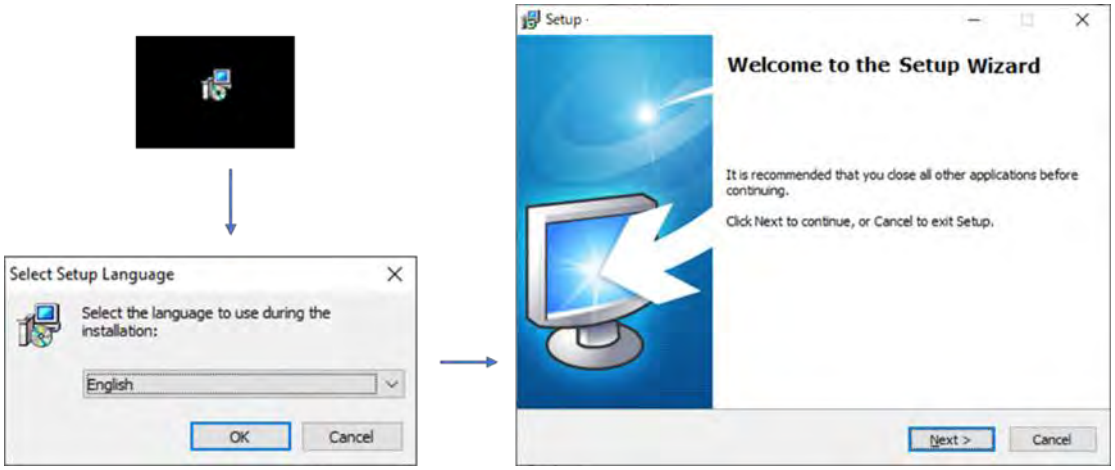
Software license

Agreement to the following Conditions is required for the use of this software.

- This software is a tool for functional settings and check the operation of our products and is not intended for actual operation. Operation verification of the product features that are set using the tool is assumed to be the responsibility of the user, even if any problems such as a failure or damage occurs at an actual operation using this software, we shall not undertake any obligation.
- We shall have no obligation of this software support.
- The copyright of this software and this operation manual shall belong to our company.
- The contents of this software and this operation manual may be changed without notice.

1. Install FixedConfig7000

1. Run the installer on the computer where you want to install it.
2. Follow the steps in the setup wizard to install FixedConfig7000.

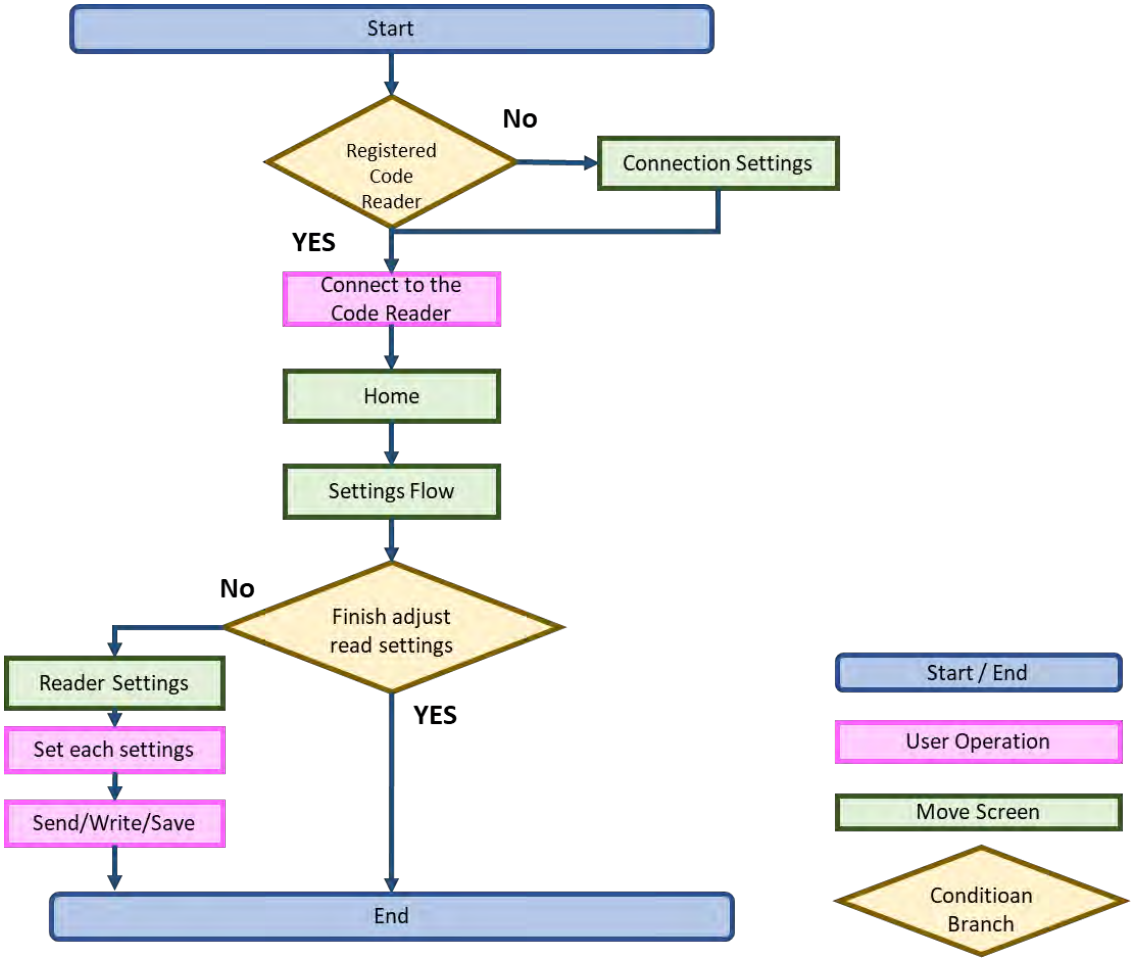


WARNING

If upgrading the software, please uninstall FixedConfig7000 in advance.

2. Basic usage of FixedConfig7000

The operation flow when changing the Setting Parameters of the Reader using FixedConfig7000 is as follows:



2.1. Start FixedConfig7000

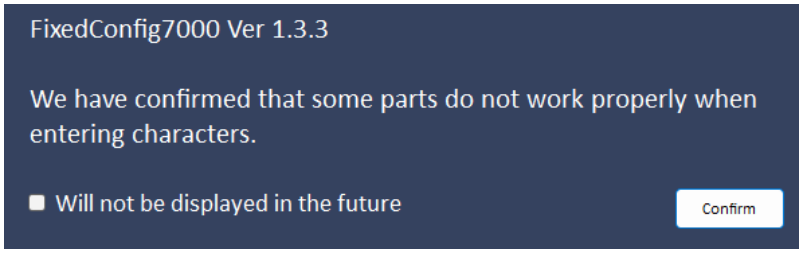
1 Connect the Code Reader and your computer with an Ethernet cable.

2 Double-click the shortcut on your desktop or select [FixedConfig7000] -> [FixedConfig7000.exe] from the Start menu.

3 The Connection Settings Window is displayed.

To set the connection, refer to " New Registration", and set the communication settings.

*For the following screen displayed at startup, refer to "**Error! Reference source not found. Error! Reference source not found.**".



2.2. Exit FixedConfig7000

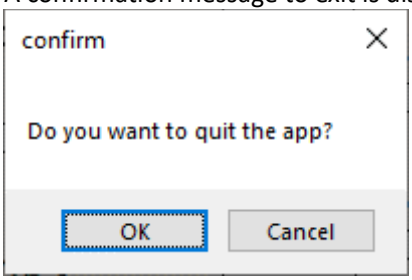
1 Do one of the following:

1 Click "Exit" from the "Home" screen.

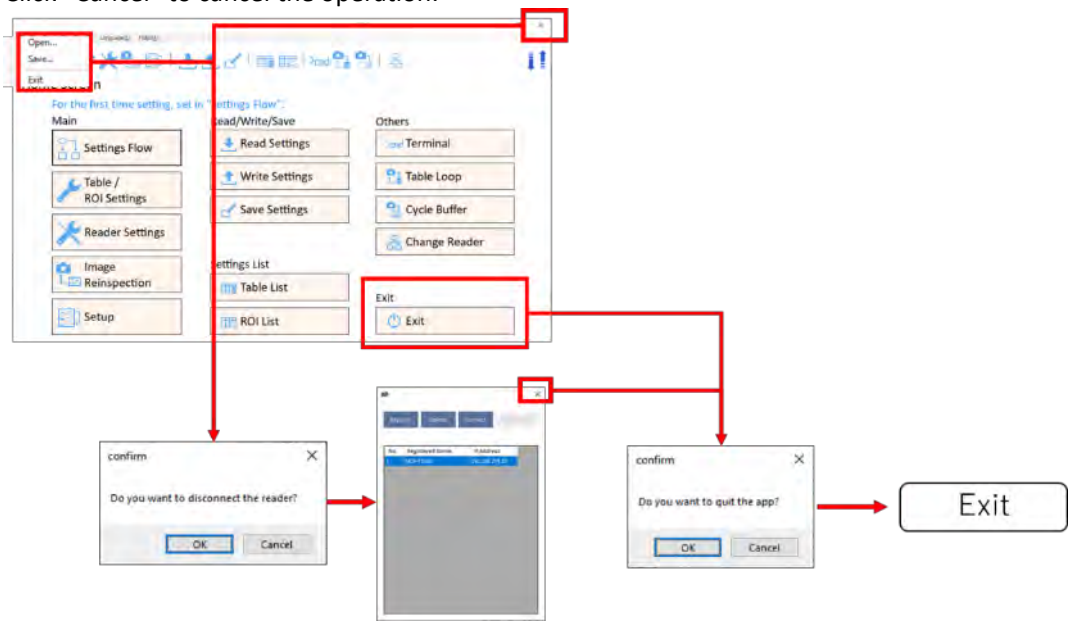
2 After operating any of the follows, click the "x" button on the Connection Settings Window.

- Click the "x" button to return to the Connection Settings Window.
- Click [File(F)] -> [Close] to return to the Connection Settings Window.

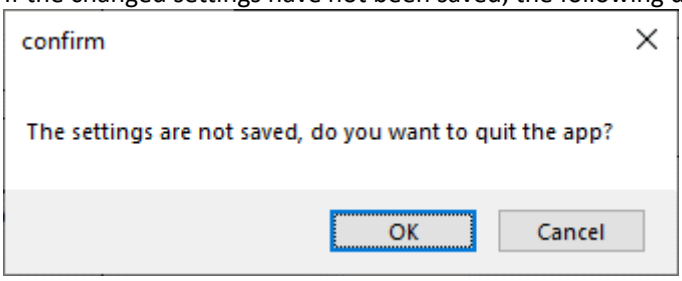
2 A confirmation message to exit is displayed.



Click “OK” to exit FixedConfig7000.
Click “Cancel” to cancel the operation.



If the changed settings have not been saved, the following dialog will be displayed.



To save the settings, click “Cancel” and then refer to “Write Reading Parameter” and “3.7 Save Reading Parameter” to save the settings.

2.3. Code Reader settings when using FixedConfig7000

Use the Code Reader with the following settings.

Setting parameters	Configuration	Actual Command Name
Continuous Reading Mode	invalid	stop
Command Response	Response ON	CMDRES = 1

To change the settings, enter the above command and then send the “WSETS” command. When this command is sent, the setting value is written to the non-volatile memory, and the setting value is retained even when the power is turned off.

Refer to the V7000 Barcode Reader user manual for detailed setting values.

3. Start setting

3.1. Code Reader registration

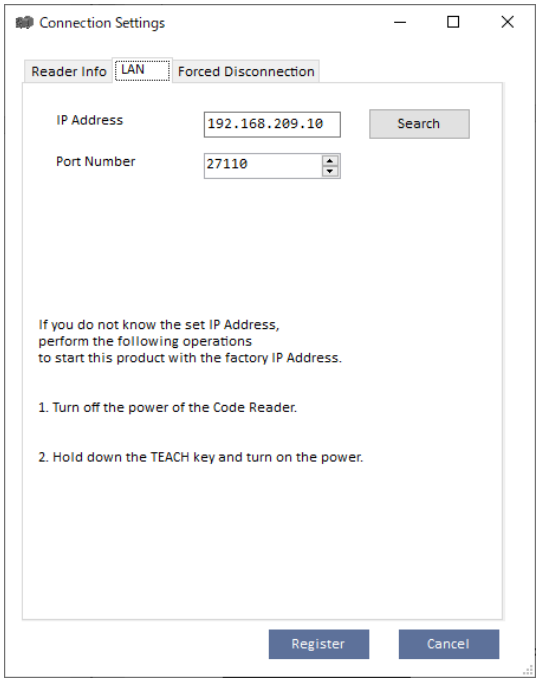
Register the information of the Code Reader that communicates with FixedConfig7000.
Set the IP address of the setting computer in advance to the IP address in the same network as the Code Reader.
* Set an unused IP address.

3.1.1. Click “Register” button.

1 The setting window is displayed.

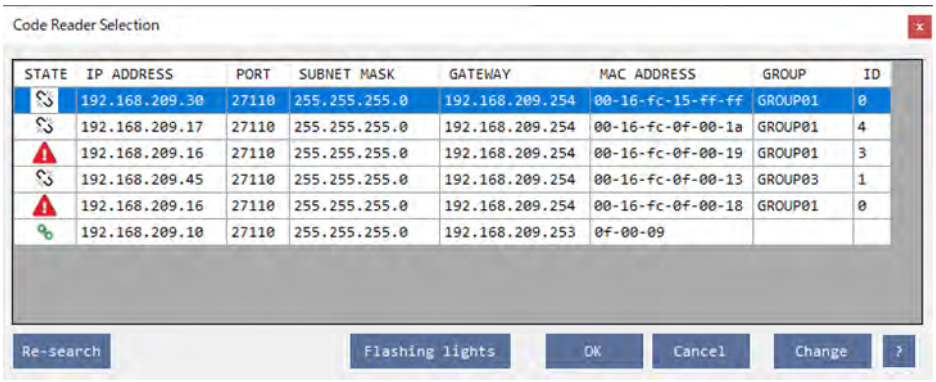
3.1.2. New Registration

1 Click the “Reader Info” tab.
2 Enter the “Registered Name”.
3 Click the “LAN” tab.
4 Enter the information set in the Code Reader in “IP Address” and “Port Number”.



Click the “Search” button to display the Code Readers connected to the same network domain.

Search for another segment at the same time.
* For multiple NICs, use the NIC with the highest priority.

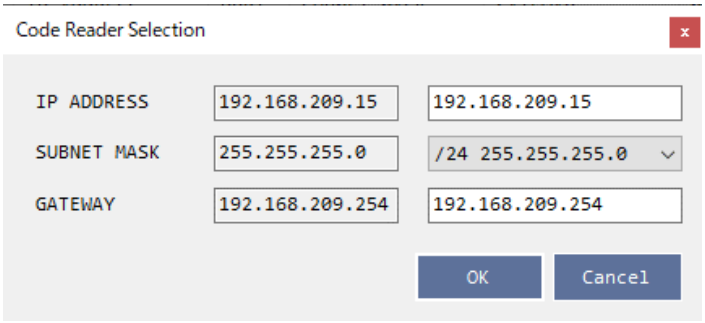


: Can be connected

: Segment difference

: IP address conflict

I. To search again, click the “re-search”.
II. To turn on the lighting, click the “Flashing lights” button.
III. If you want to change the network settings, click the “Change” . The network setting change screen is displayed.



- After changing the settings, click the “OK”. Change the reader settings and save. After restarting the reader, the changed settings will take effect.
- To cancel, click the “Cancel”.

5 Select the Code Reader you want to set from the list and double-click it, or click the “OK” button, and the setting value will be entered in each input field.

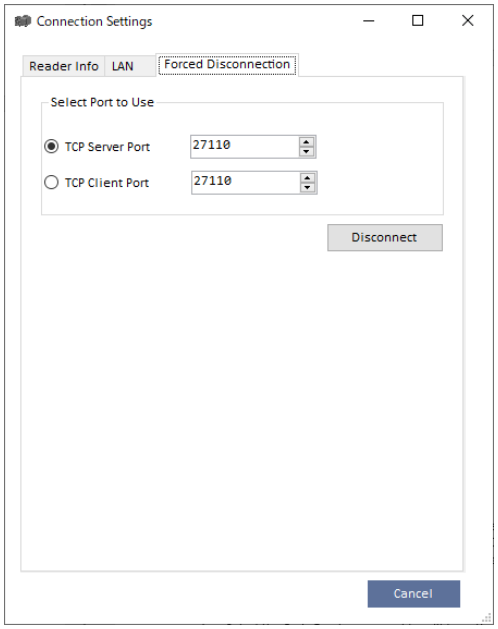
6 After entering all the information, click “Register”.

7 The set Code Reader information is added to the Connection Setting Window.

3.1.3. Forcibly disconnect Ethernet communication

If the Ethernet connection fails, the Code Reader may be connected to another communication software, or the Code Reader may be connected. By doing this process, you can forcibly disconnect the communication of the Code Reader.

1 Select the “Forced Disconnection” tab.



2 Enter the port information of the connected Code Reader and click the “Disconnect” button.

3 When the disconnect communication success, “Disconnected” will be displayed.

4 After forcibly disconnecting, click “Cancel” to close the window, and then connect the Code Reader again.

3.1.4. To edit a registered Code Reader’s setting

1 Select the Code Reader you want to edit from the Connection Settings Window and double-click it.

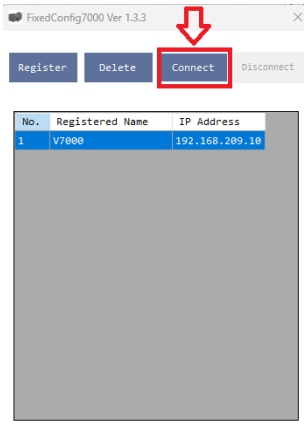
2 Setting window is displayed.

3 Edit the setting in the same way as the “ New Registration”.

3.2. Connection with Code Reader

Connect to the code reader registered in FixedConfig7000.

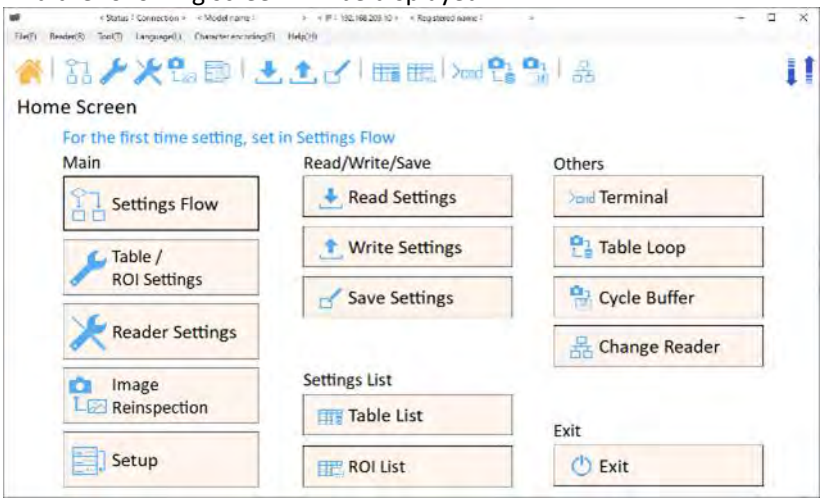
1 Select the Code Reader and click the "Connect" button.



2 The message being connected is displayed.

When the Code Reader connected properly, it will be automatically read the Code Reader's settings.

And the following screen will be displayed.



*If the connection with the Code Reader fails, you can also start it in "Offline Mode".

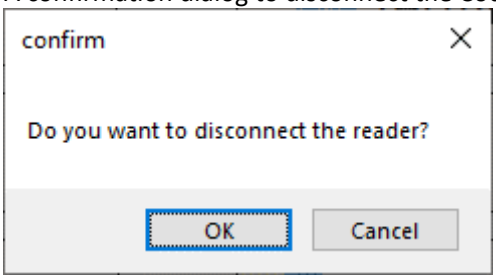
Note that in "Offline Mode", you can operate the screen but do not perform communication processing with the Code Reader.

3.3. Disconnection from Code Reader

Disconnects communication with the connected Code Reader.

1 Click ① or ② to move to the Connection Settings Window.

2 A confirmation dialog to disconnect the Code Reader is displayed.

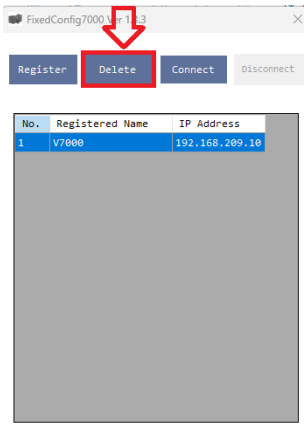


Click “OK” to disconnect the communication and move to the Connection Settings Window.
Click “Cancel” to cancel the operation.

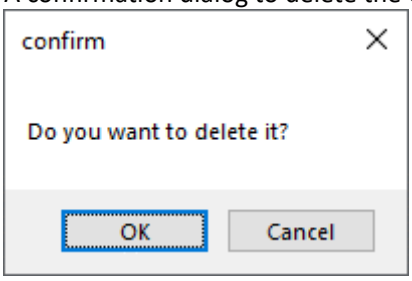
3.4. Delete Code Reader setting

Deletes the Code Reader registered on the Connection Settings Window.

1 “Delete” Click the button.



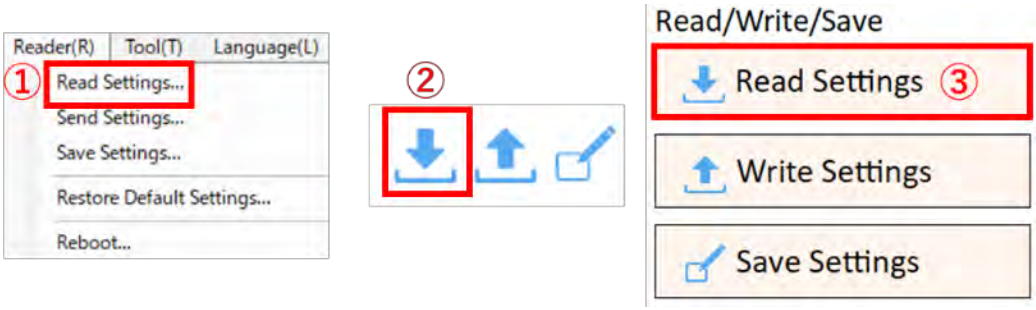
2 A confirmation dialog to delete the Code Reader setting is displayed.



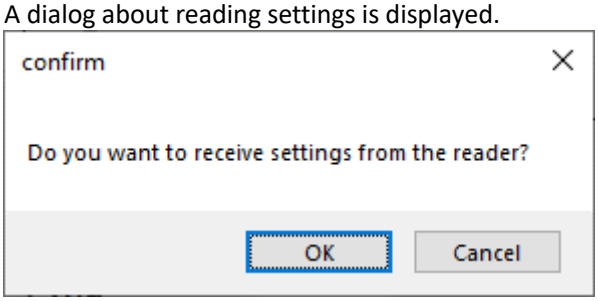
Click “OK” to delete the Code Reader setting from the list.
Click “Cancel” to cancel the operation.

3.5. Read Reading Parameter

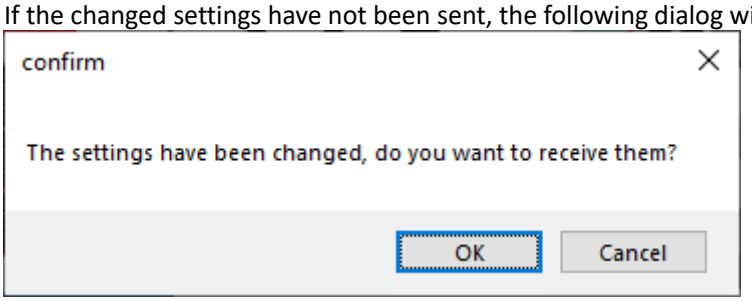
1 Click one of ①②③.



2 A dialog about reading settings is displayed.

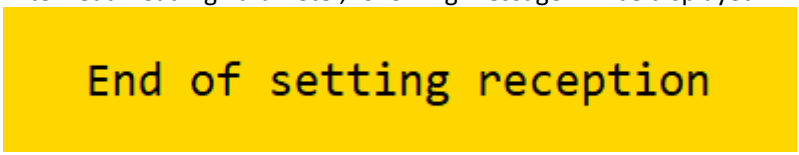


If the changed settings have not been sent, the following dialog will be displayed instead.



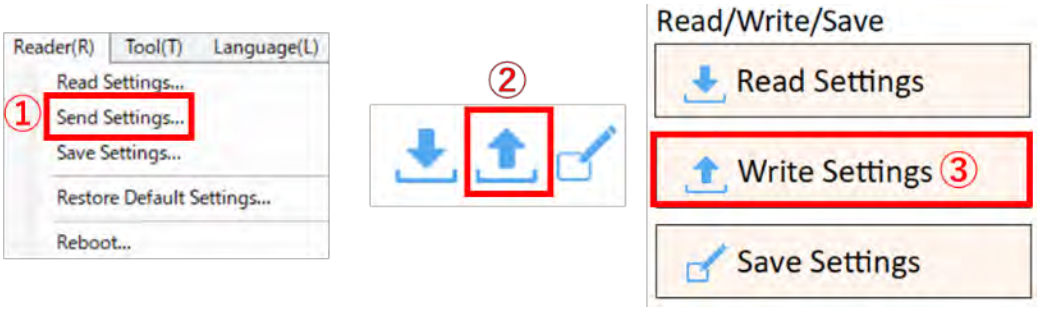
Click “OK” to read the Reading Parameter from the Code Reader and reflect them in the FixedConfig7000.
Click “Cancel” to cancel the operation.

3 After read Reading Parameter, following message will be displayed.

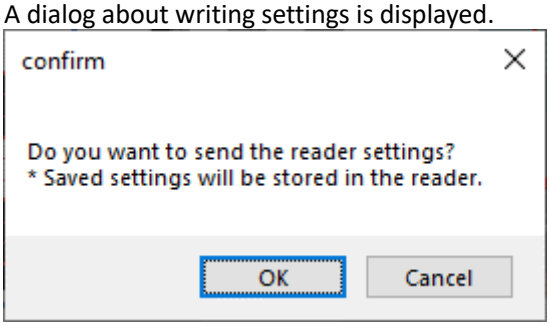


3.6. Write Reading Parameter

1 Click one of ①②③.



2 A dialog about writing settings is displayed.



Click “OK” to write the Reading Parameter to the Code Reader.
Click “Cancel” to cancel the operation.

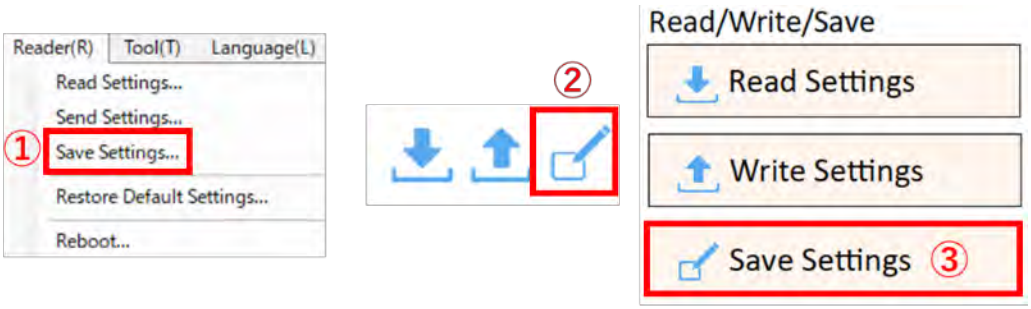
CAUTION

The written Reading Parameter is not saved on the non-volatile memory unless “3.7 Save Reading Parameter” is performed.
Please note that non-saved settings will be discarded if the power of the Code Reader is turned off.

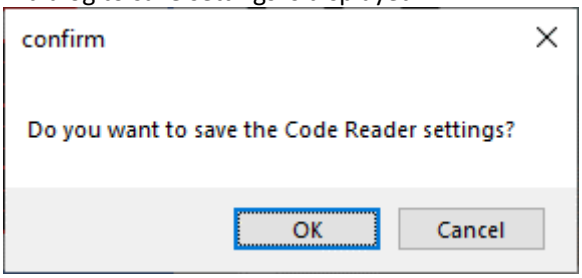
3.7. Save Reading Parameter

If the power of the Code Reader is turned off, non-saved settings will be discarded.
To retain the settings even when the reader is turned off, to set this setting.

1 Click one of ①②③.



2 A dialog to save settings is displayed.



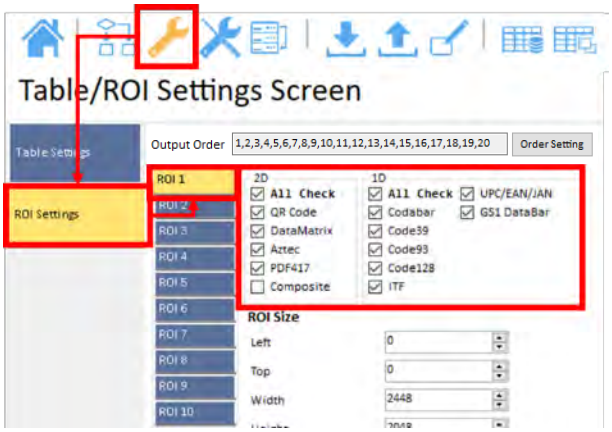
Click “OK” to save the Reading Parameter to non-volatile memory.
Click “Cancel” to cancel the operation.

3.8. Barcode Reading settings (enabled / disabled)

1 Open the “Table/ROI Setting Screen” and select the “ROI Settings” tab.

2 Select any ROI number (1 to 20) in the “ROI” tab.
(e.g., ROI 1)

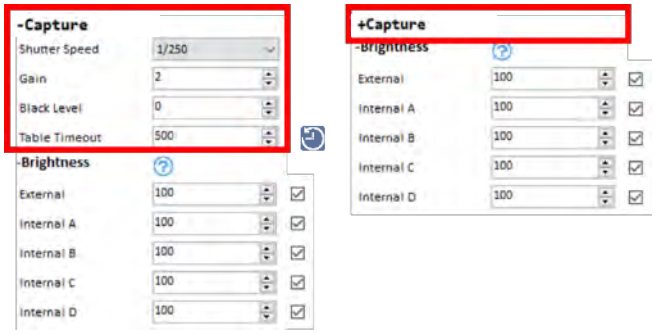
3 Enables the checkbox of the barcode setting you want to use.



4 Select any Table number (1 to 16) in the “Table Settings” tab.

5 Enables the ROI for the number selected in Item 3.
(e.g., ROI 1)

* Click the collapsed Item Name (e.g., Capturing / Reading Settings) to expand the item. Click again to collapse the item.
* ROI 2 or later is displayed when “Read 1 Barcode per 1 ROI” is selected.



6 Write Reading Parameters to the Code Reader by referring to “Write Reading Parameter”.

7 To check the reading of the set barcode, do the following.

- Click Single Read or Continuous Read on the right screen
- Setting Test (for Auto-Tuning)

*To make detailed settings for each barcode (inversion, check digit, etc.), refer to "4.9 Reader Settings Screen Barcode Information (1D) tab / Barcode Information (2D) tab".

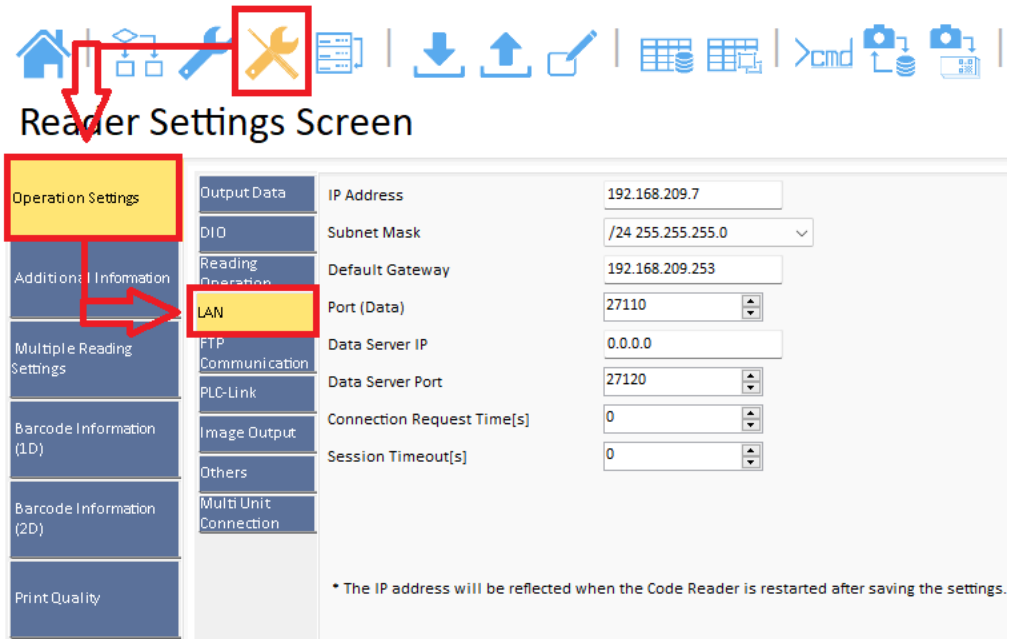
*During Auto-Tuning (refer to 3.10 Auto-Tuning) enables only the first barcode read. Therefore, please note that if you overwrite the ROI set in this item with the Auto-Tuning function, the enabled / disabled state of the barcode will be overwritten.

3.9. Change the Settings of Ethernet

For the initial values of the Code Reader's Ethernet settings, refer to the various operation manuals.

1 Connect the FixedConfig7000 to the Code Reader by referring to "Code Reader registration" and "Connection with Code Reader".

2 To change the Ethernet settings, open the "Reader Settings Screen" and select "LAN" in the "Operation Settings" tab.



If you want to connect to an IP address different from the displayed one, enter the IP address you want to change and set the port number, subnet mask, and default gateway according to your network environment.

For other items, set if communicating with the Code Reader as a TCP client. However, this software does not support the TCP server communication. If using the Code Reader as a TCP client, a software that supports TCP server communication is required.

3 Write the settings to the Code Reader by referring to "3.6 Write Reading Parameter".

*Settings related to Ethernet connection are not reflected at the time.
It will be reflected after saving to the Code Reader and rebooting.

4 Save the settings wrote to the Code Reader by referring to "3.7 Save Reading Parameter".

5 Disconnect the FixedConfig7000 from the Code Reader and turn off the Code Reader.

6 Turn on the Code Reader again.

7 Connect with the new settings by referring to “3.1 Code Reader registration” and “3.2Connection with Code Reader”.

WARNING

Contact with the network administrator if the network setting is unknown.
A wrong setting may affect the current network.

3.10. Auto-Tuning(Single ROI)

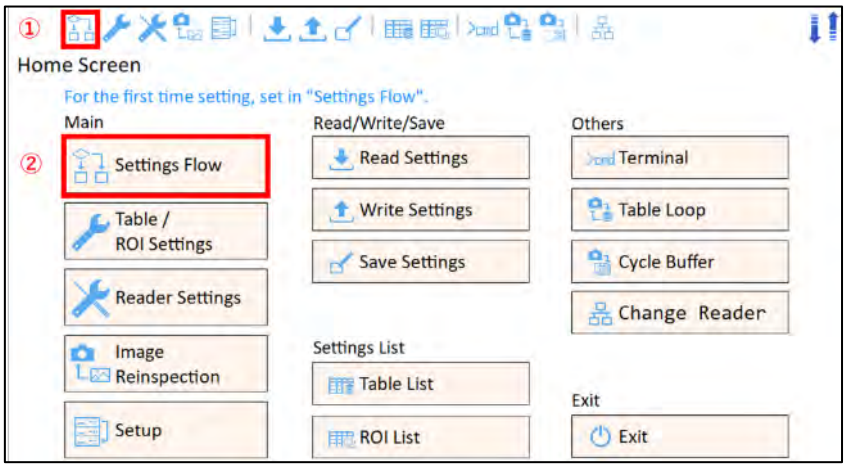
When barcode reading is performed in a single ROI, perform Auto-Tuning of “Single ROI ”. The same applies when performing read multiple barcodes using 1 ROI.

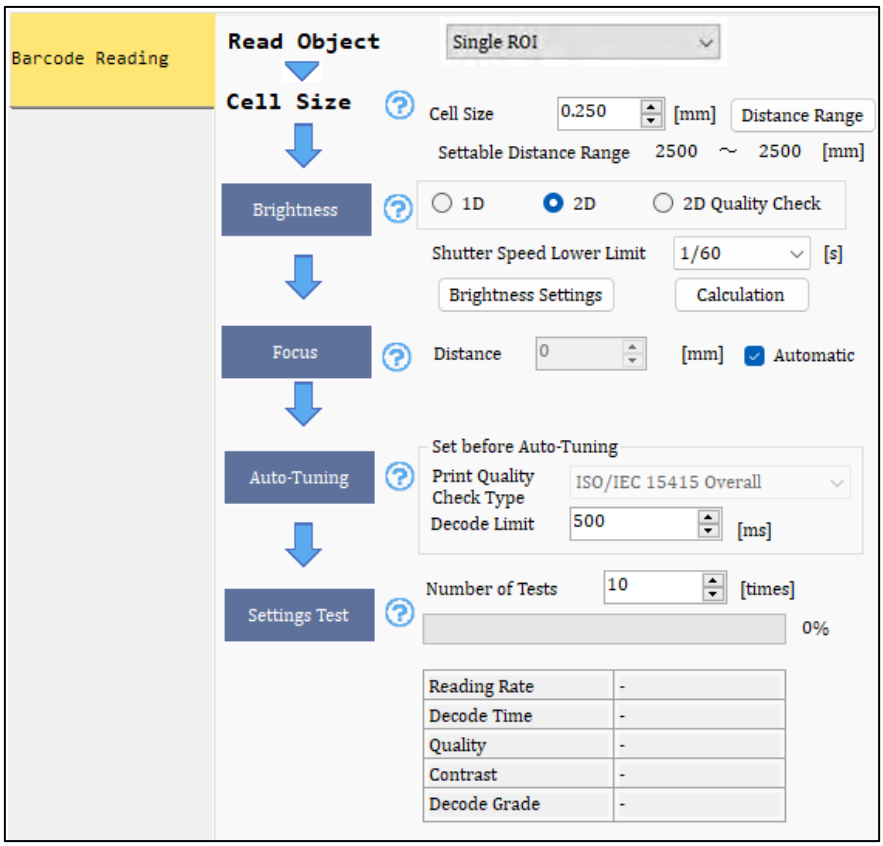
In the Auto-Tuning process, the first barcode type that Code Reader read (e.g., QR Code) is enabled and other barcodes are disabled.

If you want to read a barcode type other than the one used in the Auto-Tuning, set the barcode reading settings by referring to “3.8 Barcode Reading settings (enabled / disabled)”.

To start Auto-Tuning, click ①or② and move to “Settings Flow Screen”.

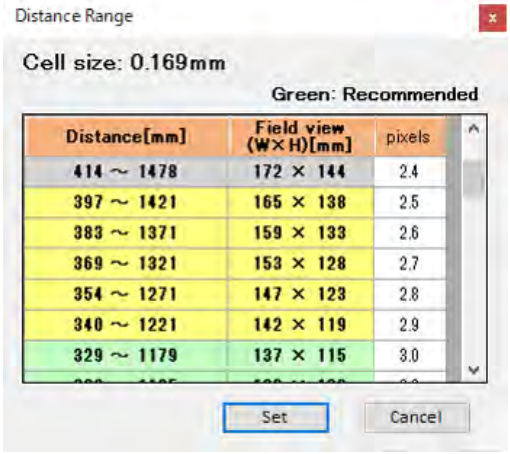
To see the details, refer to “4.7 Settings Flow Screen”.





1 Read Target Settings

- Cell size
  Enter the cell size.
- Barcode type to be read
  Select barcode type to be read.
  Check if you want to use the print quality verification .
- Distance Range
  Clicking on this button will calculate Settable Distance Range and field of view range that can be set based on the current Cell Size, and display the list.
  Select an item and click "Set" to reflect the selected settings in Settings Flow Screen.



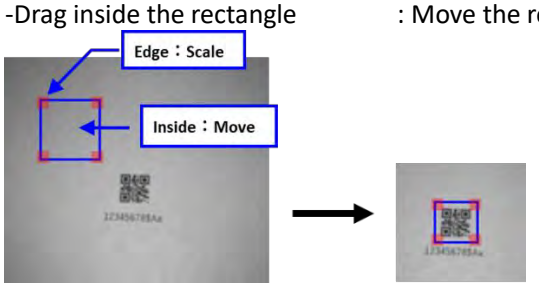
2 Brightness Adjustment

I. If reading a moving object, set “Shutter Speed Lower Limit Setting”.
For more information, refer to “4.20 Shutter Speed Lower Limit Setting ”.

II. Click the “Brightness” button.

III. While looking at the screen, align the blue rectangle with the barcode.
Move the mouse cursor to the rectangle and drag the following two places to move or scale the rectangle.

-Drag the dots at the four corners : Scale the rectangle.
-Drag inside the rectangle : Move the rectangle.



IV. Brightness is adjusted automatically.
The rectangle is displayed in red during adjustment.
When adjustment is completed, the rectangle is displayed in blue.

V. Click the “Stop” button to stop adjustment.

3 Focus Adjustment

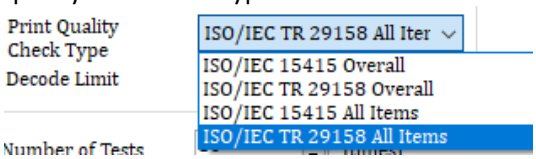
I. When you click the “Focus” button, the focus is adjusted using the area specified in “2 Brightness Adjustment”.
The color of the rectangle changes depending on the current step.

Rough Adjustment : Yellow
Fine Adjustment : Green

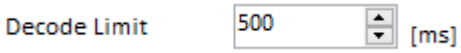
*If you want to adjust the focus distance manually, uncheck “Automatic” and enter the distance you want to set in “Distance”.
(unit: mm)

4 Auto Adjustment

I. If you have enabled the “Enable Quality Check” in “1 Read Target Settings”, select the print quality verification type.



II. Enter “Decode Limit” to set the decode timeout for Auto-Tuning.
(unit: ms)



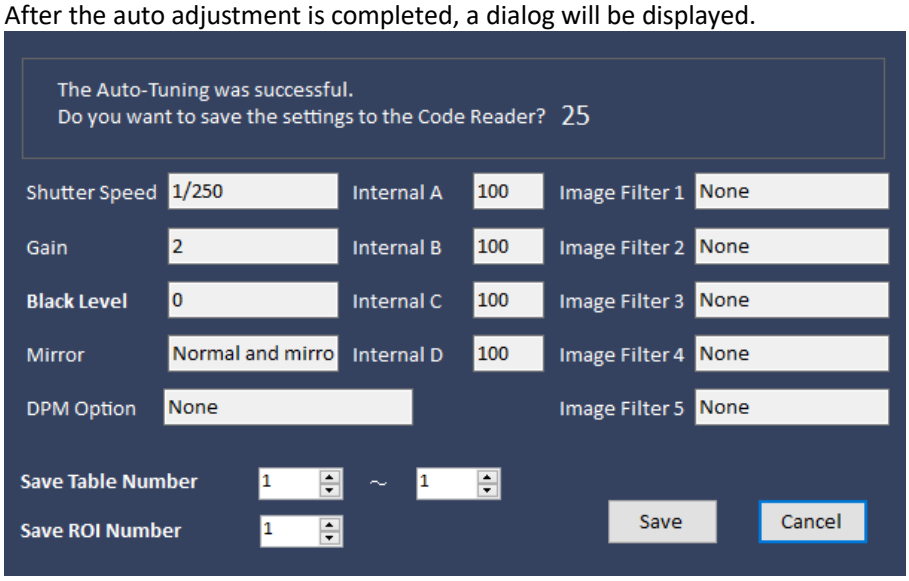
This parameter is the decode timeout for Auto-Tuning.
After saving the setting value“5 Check and Save Settings”, it will be applied to the Table timeout and the ROI timeout.

III. Click “Display Auto-Tuning Rect“ to set the area of the ROI, and the barcodes in this area will be adjusted when auto adjustment is executed.

IV. Click the “Auto-Tuning” button to start the auto adjustment of the reading settings by the Code Reader.

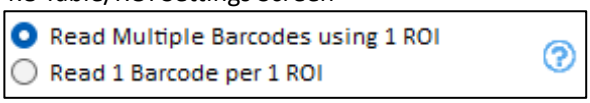
5 Check and Save Settings

I. After the auto adjustment is completed, a dialog will be displayed.



II. By specifying “Save Table number” and “Save ROI number”, the Auto-Tuning result can be saved in any Table number and any ROI number. In the specified Table number, the setting parameters with good reading results are saved in order.
*The maximum number of Tables that can be set is three.
*Only one ROI can be set.
*In the case of “Read Multiple Barcodes using 1 ROI”, the “Num of barcodes” is fixed at 1.

4.8 Table/ROI Settings Screen



Click “Save” to save the settings in the Code Reader.
If you click “Cancel”, the automatically adjusted settings will be canceled, and the set value will not be written to the Code Reader.
*It will be canceled automatically 30 seconds after the dialog is displayed.

6 Setting Test

It is used to confirm the reading of barcodes with the automatically adjusted setting value.

I. Set any number of tests in “Number of Tests”.
II. Click the “Setting Test” button to start barcode reading.
III. The reading result is displayed.

Each result shows the average number of tests.

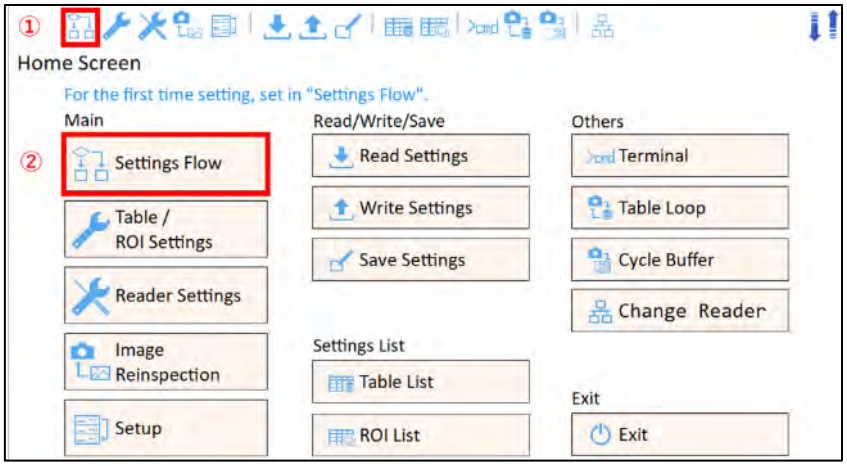
Item	Overview
Reading Rate	Read success rate of the entire test
Decode Time	Decode time information
Quality	Unused error correction information
Contrast	Contrast information
Decode Grade	Readability is displayed in 3 stages of A, B, C

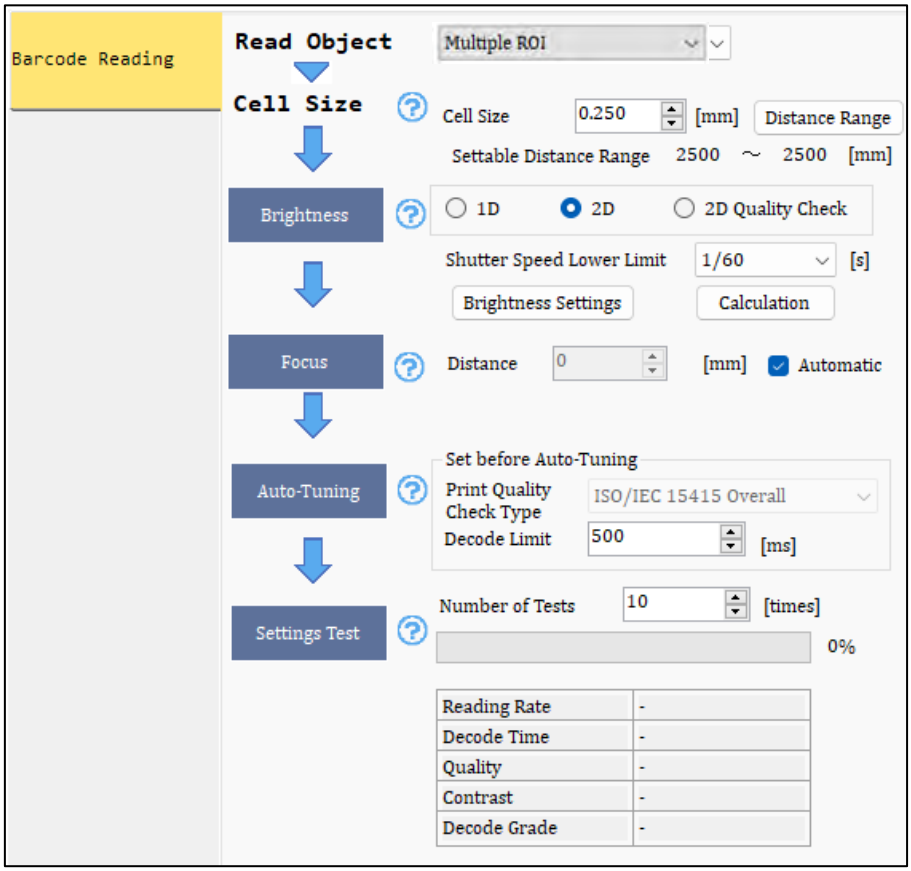
3.11. Auto-Tuning (Multiple ROIs)

When using multiple ROIs and reading 1 barcode per 1 ROI, perform Auto-Tuning in “Multiple ROI”.
After the Auto-Tuning, select the ROI to be set in the table. (Multiple ROIs are allowed)
To set up reading in a single ROI, refer to “3.10 Auto-Tuning(Single ROI) ”.

To start Auto-Tuning, click ①or② and move to “Settings Flow Screen”.

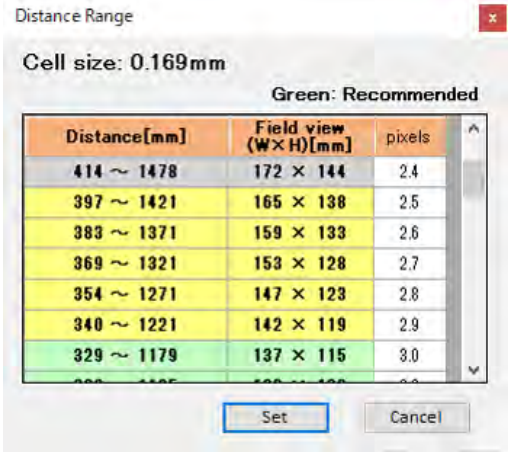
To see the details, refer to “4.7 Settings Flow Screen”.





1 Read Target Settings

- Min Cell size
  Enter the minimum cell size in the multiple barcodes.
- Barcode type to be read
  Select barcode type to be read.
  Check if you want to use the print quality verification .
- Distance Range
  Clicking on this button will calculate Settable Distance Range and field of view range that can be set based on the current Cell Size, and display the list.
  Select an item and click "Set" to reflect the selected settings in Settings Flow Screen.

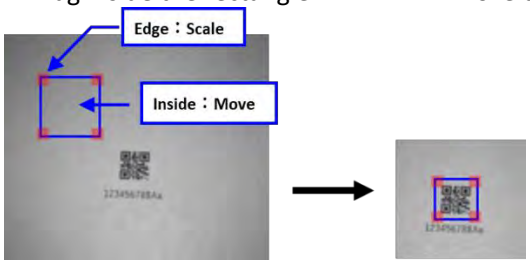


2 Brightness Adjustment

I. If reading a moving object, set “Shutter Speed Lower Limit Setting”.
For more information, refer to “4.20 Shutter Speed Lower Limit Setting ”.

II. Click the “Brightness” button.

III. While looking at the screen, align the blue rectangle with the barcode.
Move the mouse cursor to the rectangle and drag the following two places to move or scale the rectangle.
-Drag the dots at the four corners : Scale the rectangle.
-Drag inside the rectangle : Move the rectangle.



IV. Brightness is adjusted automatically.
The rectangle is displayed in red during adjustment.
When adjustment is completed, the rectangle is displayed in blue.

V. Click the “Stop” button to stop adjustment.

3 Focus Adjustment

I. When you click the “Focus” button, the focus is adjusted using the area specified in “2 Brightness Adjustment”.
The color of the rectangle changes depending on the current step.
Rough Adjustment : Yellow
Fine Adjustment : Green

*If you want to adjust the focus distance manually, uncheck “Automatic” and enter the distance you want to set in “Distance”.
(unit: mm)

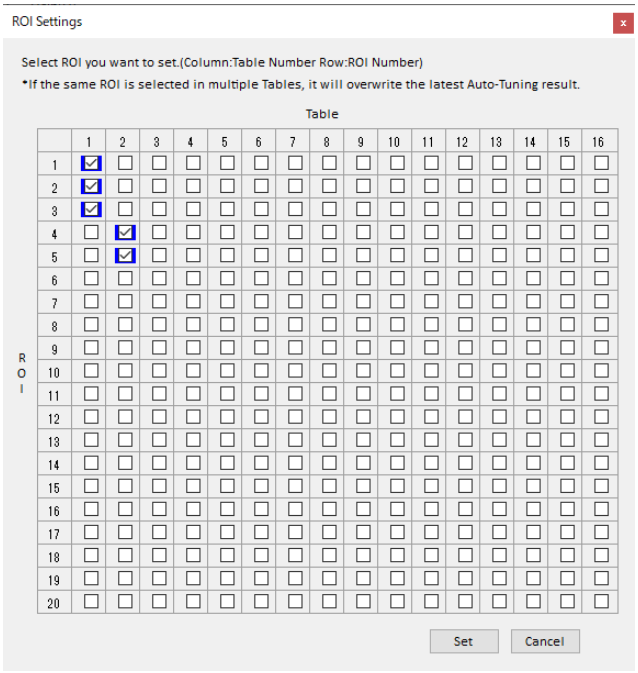
4 Auto Adjustment

I. Click on the “ROI Settings” button to set which processing area will be assigned to which Table.

If you check the box as shown below, processing areas 1, 2, and 3 will be assigned to Table 1, and processing areas 4 and 5 will be assigned to Table 2.

* If the same processing area is assigned to multiple Tables, the last auto-adjusted setting will be overwritten.

Refer to “3.13 Table Setting and ROI Setting” for examples of settings to match the reading conditions.

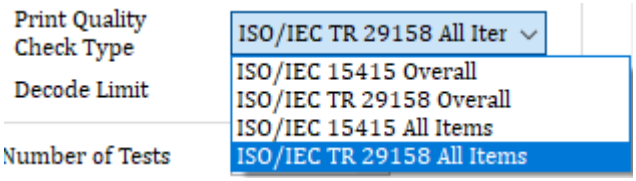


II. Select the table you want to set in “Save Table”.

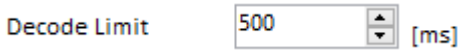
III. Change the size of the selected processing area in the right screen by changing “Turning ROI”.

Adjust the size of all the processing areas.

IV. If you have enabled the “Enable Quality Check” in “1 Read Target Settings”, select the print quality verification type.



V. Enter “Decode Limit” to set the decode timeout for Auto-Tuning.
(unit: ms)



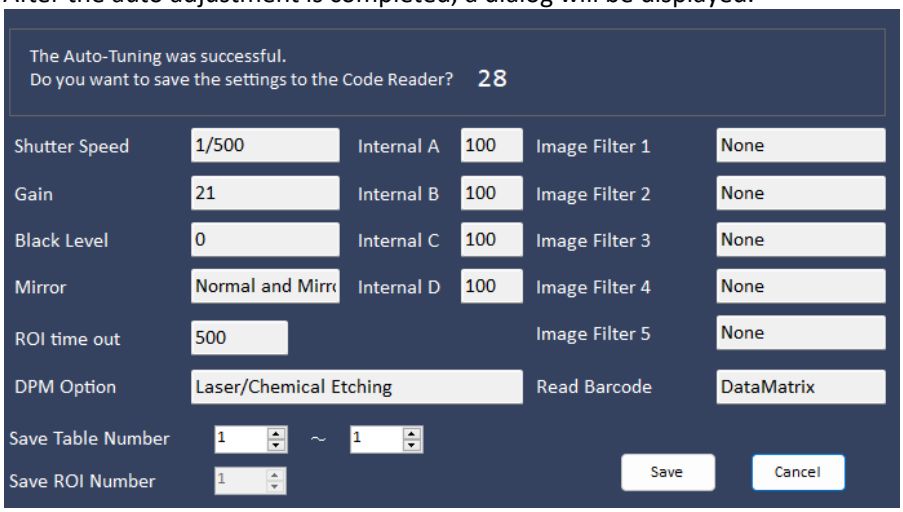
This parameter is the decode timeout for Auto-Tuning.
After saving the setting value“5 Check and Save Settings”, it will be applied to the Table timeout and the ROI timeout.

VI. Click “Display Auto-Tuning Rect“ to set the area of the ROI, and the barcodes in this area will be adjusted when auto adjustment is executed.

Click the “Auto-Tuning” button to start the auto adjustment of the reading settings by the Code Reader.

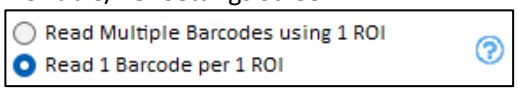
5 Check and Save Settings

I. After the auto adjustment is completed, a dialog will be displayed.

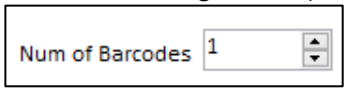


II. By specifying “Save Table number” and “Save ROI number”, the Auto-Tuning result can be saved in any Table number and any ROI number. In the specified Table number, the setting parameters with good reading results are saved in order.
Click “Save” to save the settings in the Code Reader.
If you click “Cancel”, the automatically adjusted settings will be canceled, and the set value will not be written to the Code Reader.
*It will be canceled automatically 30 seconds after the dialog is displayed.
*If “Read Multiple Barcodes using 1 ROI” is specified, the “Num of barcodes” for batch reading is changed to 1 when “Read 1 barcode per 1 ROI”.

4.8 Table/ROI Settings Screen



4.9 Reader Settings Screen(Multiple Reading Settings)



6 Setting Test

It is used to confirm the reading of barcodes with the automatically adjusted setting value.

I. Set any number of tests in “Number of Tests”.

II. Click the “Setting Test” button to start barcode reading.

III. The reading result is displayed.

Each result shows the average number of tests.

Item	Overview
Reading Rate	Read success rate of the entire test
Decode Time	Decode time information
Quality	Unused error correction information
Contrast	Contrast information
Decode Grade	Readability is displayed in 3 stages of A, B, C

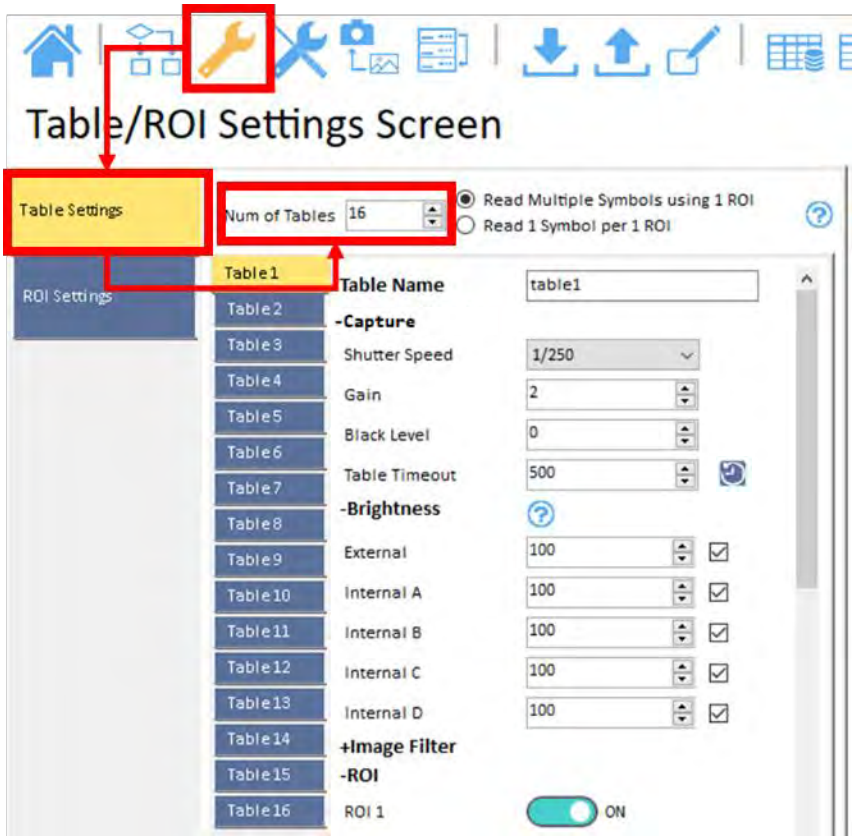
3.12. Table mode reading confirmation

It is used to make detailed adjustments after Auto-Tuning.
In Table Mode, up to 16 Tables are used for reading.
It reads from Table 1 each time, and if the read fails, it reads again with the next Table setting.

*For details on Table Mode, refer to the operation manual of the Code Reader.
*For the settings of each Table, refer to “4.8 Table/ROI Settings Screen Table Settings Tab“.

■ Setting the Number of Tables used
Set the maximum number of Tables to use in Table Mode.

1 Open the “Table/ROI Settings Screen” and set the “Number of Tables” in the “Table Settings Tab”.
(e.g., if set to “11” ... Uses Tables 1 to 11 for reading)



2 Write the Reading Parameters to the Code Reader by referring to “3.6 Write Reading Parameter”.

■ Reading Table Number setting

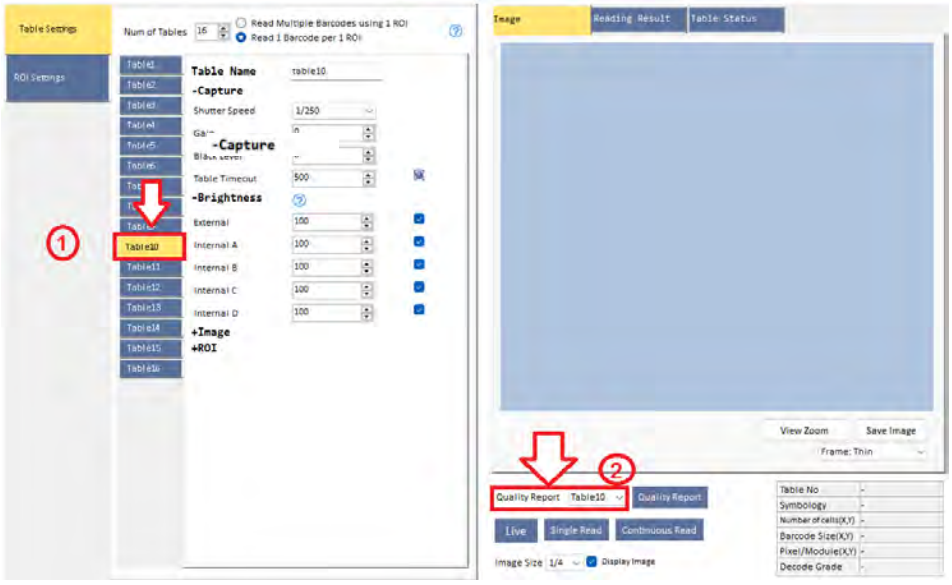
Set the Table Number to be used when reading on the FixedConfig7000.

1 Set either of the two types.

* If you change one, the other will be changed automatically.

① Select the tab you want to use on the “Table Settings Tab”.

② Select the number you want to use from the “Table Number” combo box.



2 You can check the reading from “Continuous Read” or “Single Read”.

3.13. Table Setting and ROI Setting

Table setting is mainly used to set the Shutter Speed, Gain, Light Setting, and other settings related to capturing images.

ROI Setting is used to set the range and barcodes to be read for the image captured in Table Setting.

By combining Table Settings and ROI Settings, Reading Settings can be tailored to various situations when reading multiple barcodes.

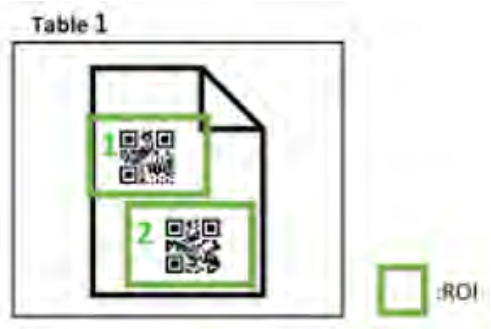
* For details on how to set Table Settings and ROI Settings, see below.

How to set up for Auto-Tuning : 4 Auto Adjustment

How to set up other than for Auto-Tuning : 4.8 Table/ROI Settings Screen

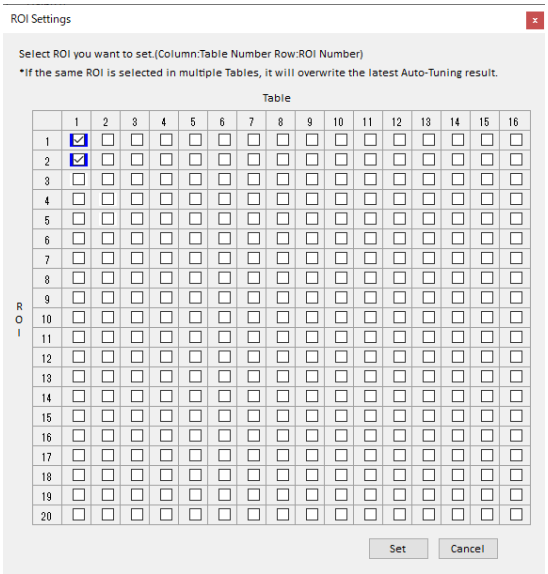
Below is an example of setting Table and ROI settings according to the situation during Auto-Tuning (Multiple ROI).

Case.1 : When Capture Conditions are the same between each barcode

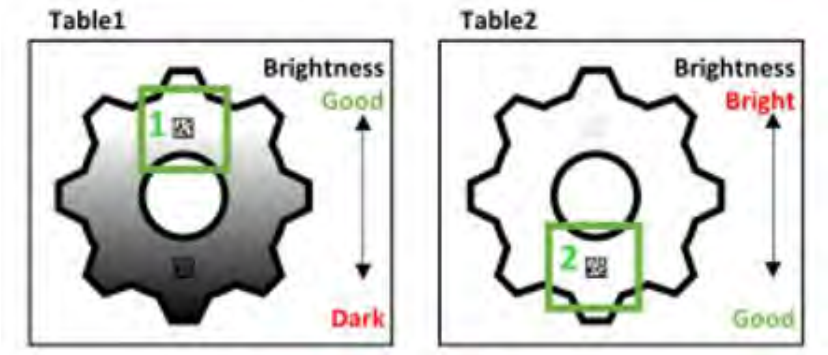


As an example, set Table 1 and ROI 1 and 2 as shown in the figure above.

In this case, set the Table number and ROI number as follows.

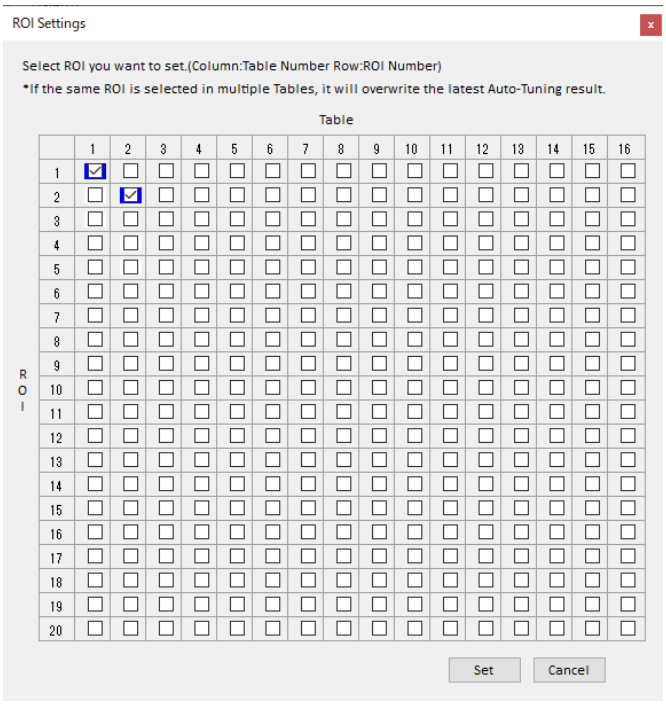


Case.2 : When Capture Conditions are different between each barcode



As an example, set up ROI 1 in Table 1 and ROI 2 in Table 2 as shown in the figure above.

In this case, set the Table number and ROI number as follows.



CAUTION

The Code Reader cannot change focus between Tables.

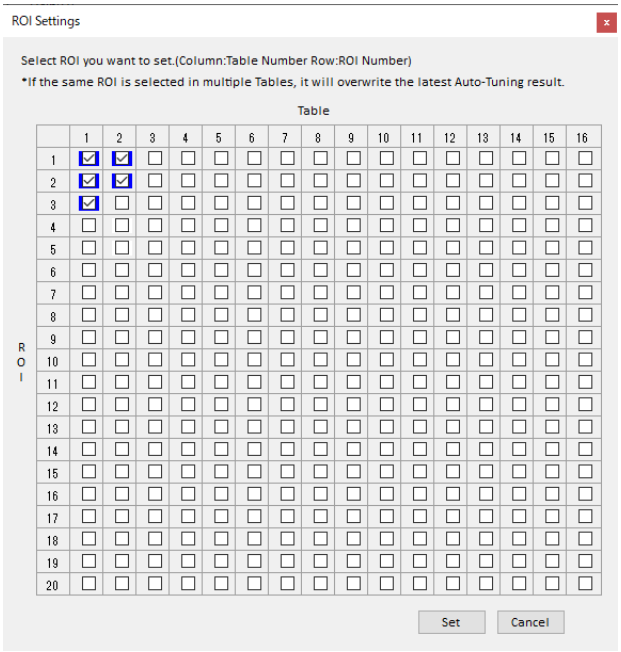
If the distance to each target is different, switch the Setup.

To see the details, refer to 4.11 Setup Screen.

Also note that if you perform Auto-Tuning while the ROI overlaps between tables, the ROI setting will be overwritten.

- Enable/Disable setting for each Symbology
- ROI Size(Top, Left, Width, Height)
- ROI Timeout
- Mirror
- DPM Option

As an example, if Auto-Tuning is executed in the order of Table 1 and then Table 2 with the settings shown below, ROI 1 and 2 will be overwritten and ROI 3 will not be overwritten.

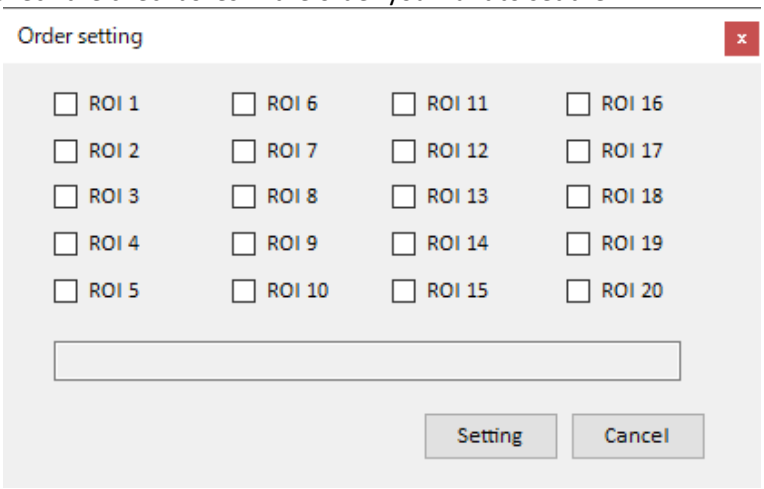


3.14. Change the output order of ROI

By default, the set ROI are output in ascending order.
If you want to specify the order of output, such as ROI 5 -> ROI 2, please make this setting.

1 Open the “Processing Area Setting” screen from the “Table/Processing Area Setting” screen, and click “Order Setting”.

2 Check the checkboxes in the order you want to set them.

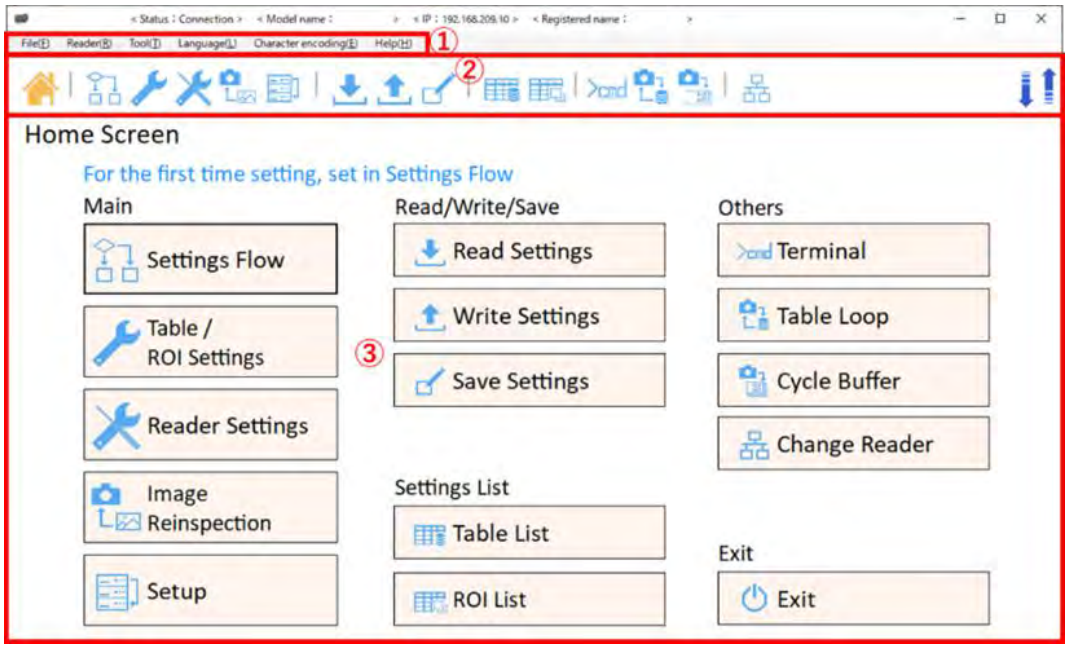


3 Click “Settings” to apply the settings.
For unchecked items, they will be set in ascending order.

4. Screen Description

This section describes the screen of FixedConfig7000.

4.1. About Screen Configuration



① Main Menu

- The function of FixedConfig7000 based on text.

② Toolbar

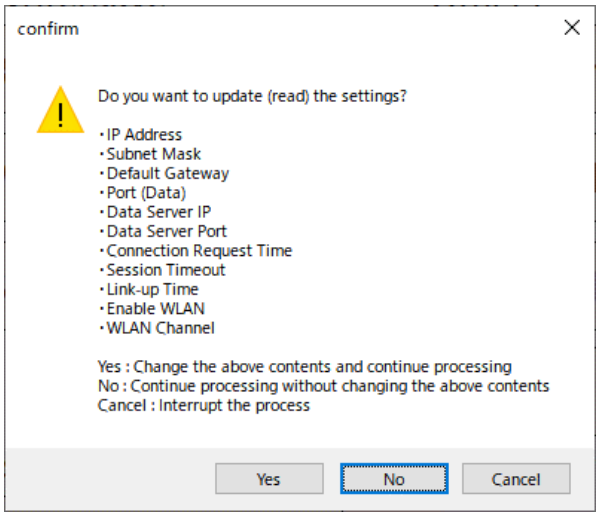
- The function of FixedConfig7000 based on icon.

③ Display Area

- Various setting screens are displayed here.

4.2. Main Menu

- File
  - Open
    - Open the Settings File saved on your computer and reflect it to FixedConfig7000.
      *You can select whether or not to load Network settings.



  - Save
    - Save the Reading Parameters set by FixedConfig7000 are saved to computer.
  - Exit
    - Close the Main Window of FixedConfig7000.

- Reader
  - Read Settings
    - The Reading Parameters read from the Code Reader and reflect the parameter to FixedConfig7000.
  - Write Settings
    - Write the Reading Parameters set by FixedConfig7000 to the Code Reader.
    - If you have not saved the setting values wrote to the Code Reader is discarded if the power of the Code Reader is turned off.
  - Save Settings
    - Save the Reading Parameters wrote to the Code Reader are saved in the Code Reader's non-volatile memory.
    - Even if the power of the Code Reader is turned off, the set value is retained.
  - Restore Default Settings [General Settings]
    - Resets the code reader's general setting parameters to their default settings.
      * Network Settings, Trapezoid Correction Settings and Focus Settings are not initialized.
  - Restore Default Settings [Network Settings]
    - Resets the code reader's IP address, port number, and default gateway to the default settings. Also, resets the wireless LAN to default settings.
      *Rebooting the code reader is required to make the change.
  - Restore Default Settings [Focus Settings]
    - Resets the code reader reading range and focus adjustment settings to the default settings. Also moves the lens position to the origin.
  - Restore Default Settings [Trapezoidal Correction Settings]
    - Resets the coordinate positions before/after trapezoidal correction of the code reader to the default settings.

- Restore Default Settings [Shading Correction Settings] (Only for V7000)
  - Resets the code reader Shading Correction enable/disable to the default setting.
- Reboot
  - Reboot the Code Reader.

■ Tool
- Terminal
  - Display the Terminal Screen.
- Firmware Update
  - Open the Firmware Update Window.
- Image Preprocessing Simulation
  - Open the Image Preprocessing Simulation Window.

■ Language
- English
  - Change the display language of FixedConfig7000 to English.

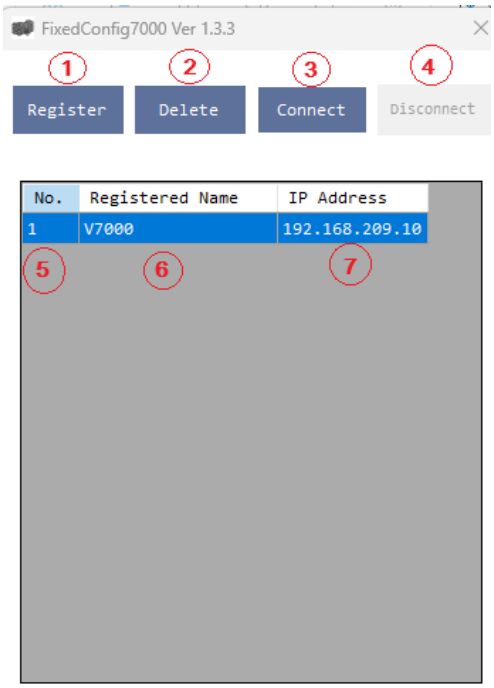
■ Character encoding
- Shift_JIS
  - Change the display of reading results to Shift_JIS.
- UTF-8
  - Change the display of reading results to UTF-8.

■ Help
- About Config
  - Display the version information of FixedConfig7000.
- About OpenCV
  - Display the license terms of OpenCV.

4.3. Toolbar

icon	Explanation
	Display the Home Screen.
	Display Settings Flow Screen.
	Display Table/ROI Settings Screen.
	Display Reader Settings Screen is displayed.
	Display Image Reinspection Screen .
	Display Setup Screen.
	Read Reading Parameters from the Code Reader to FixedConfig7000.
	Write Reading Parameters to FixedConfig7000 from the Code Reader.
	Save Reading Parameters wrote to the Code Reader in non-volatile memory.
	Display Table List Screen.
	Display ROI List Screen.
	Display Terminal Screen.
	Display Table Loop Screen.
	Display Cycle Buffer Screen.
	Display Connection Settings Window.
	This icon is displayed when FixedConfig7000 and Code Reader are communicating. Click this icon to disconnect and switch to “Offline Mode”.
	This icon is displayed when FixedConfig7000 and Code Reader are not communicating. Click this icon to reconnect with the Code Reader.

4.4. Connection Settings Window



① Register

Register the Code Reader's connection information.

② Delete

Delete the Code Reader's connection information from the list.

③ Connect

Connect to the Code Reader.

④ Disconnect

Disconnect from the Code Reader.

⑤ No.

It is a serial number starting from 1 for list display.

⑥ Registered Name

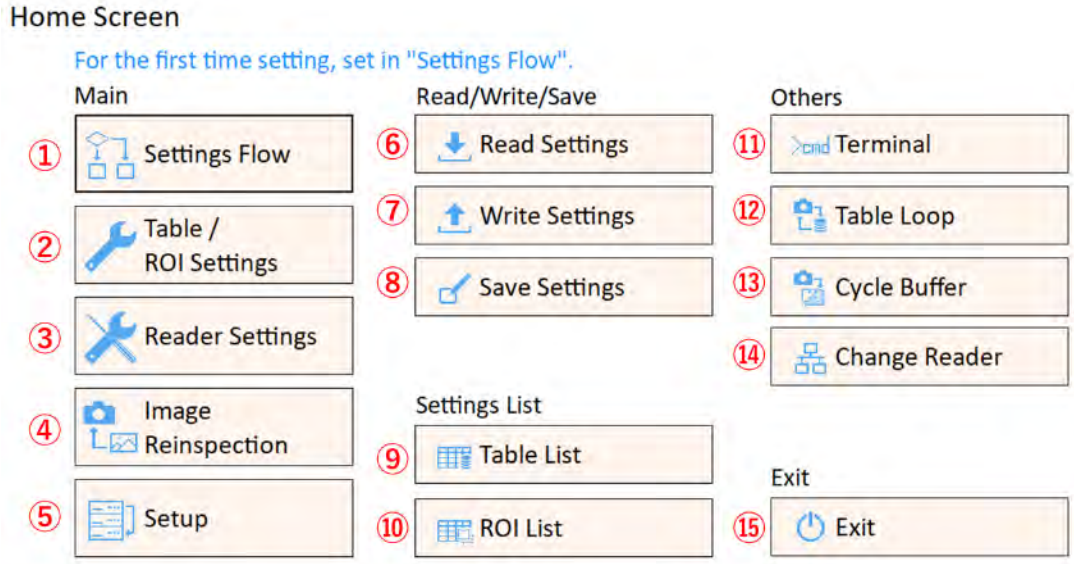
The Registered Name of the Code Reader is displayed.

⑦ IP Address

The IP Address of the Code Reader is displayed.

4.5. Home Screen

By clicking the buttons on this screen, you can move to various screens in the same way as the Main Menu and Toolbar.



For numbers other than those listed below, click to display the button name screen.

⑥ Read Settings

Read Reading Parameters from the Code Reader to FixedConfig7000.

⑦ Write Settings

Write Reading Parameters to FixedConfig7000 from the Code Reader.

⑧ Save Settings

Save Reading Parameters wrote to the Code Reader in non-volatile memory.

⑭ Change Reader

Click this button to open the “Connection Settings Window”.

⑮ Exit

Disconnect from the Reader and exit the FixedConfig7000.

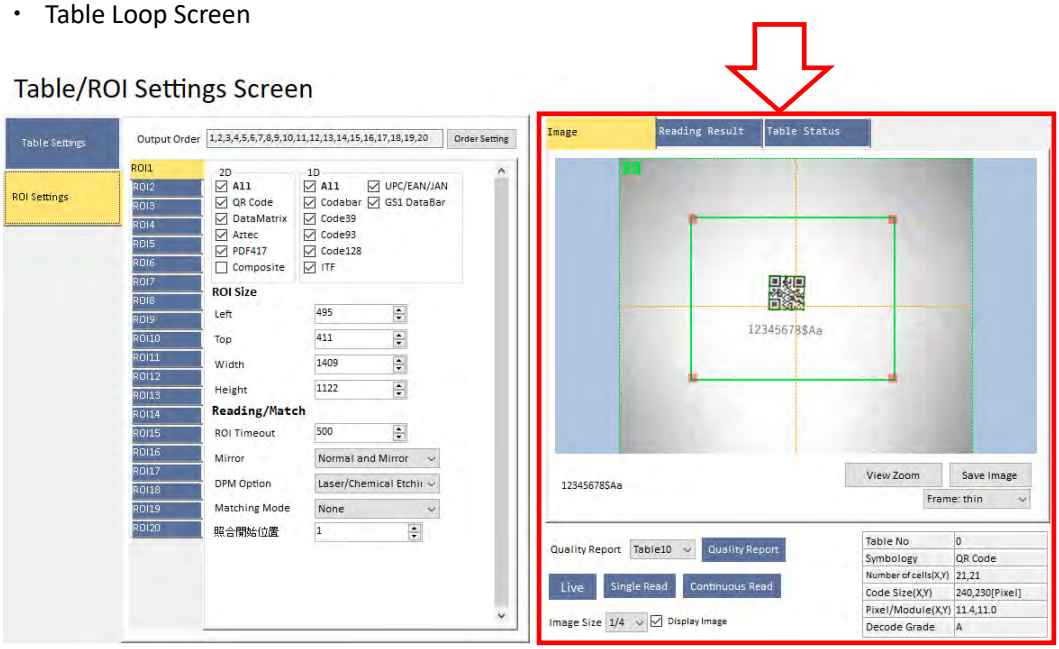
4.6. Image Display Area

In FixedConfig7000, the Image Display Area is displayed in the right half of the screen.
This area displays images and outputs results.
You can switch between the “Image”, “Table Status”, “Reading Result”, and “Guidance” tabs.

■ Screen where the Image Display Area is displayed

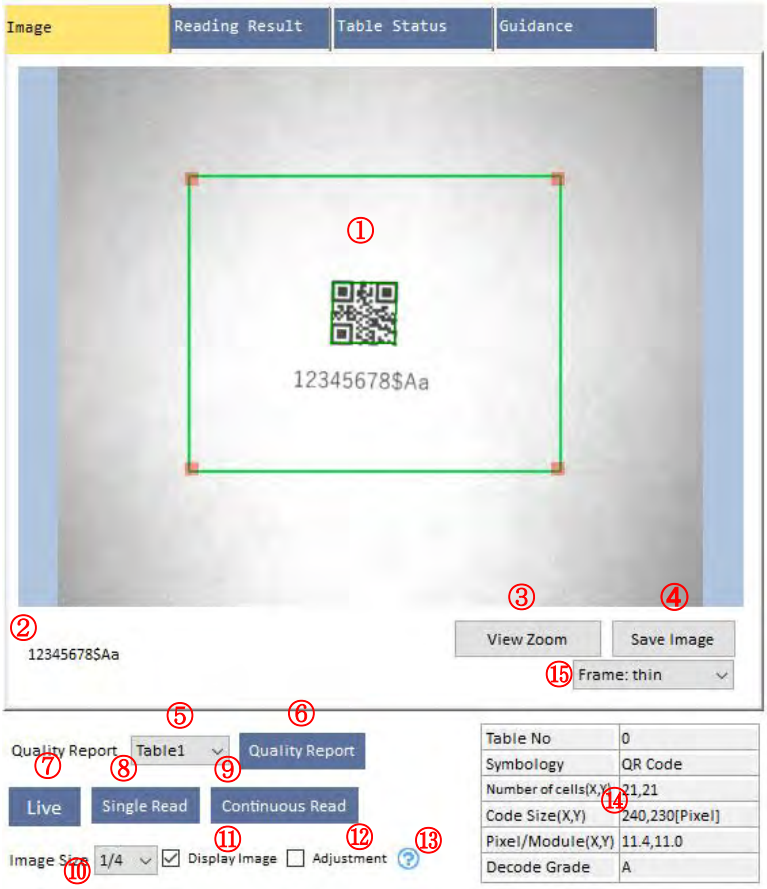
- Settings Flow Screen
- Table/ROI Settings Screen
- Table Loop Screen

Table/ROI Settings Screen



■ Image Tab

For the Image Tab of the Table Loop Screen, refer to “4.15 Table Loop Screen”.

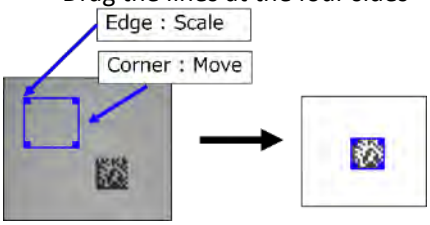


① Captured Image Display Area

This area displays the image captured by the Code Reader in real time.
Double-clicking on this area will launch Image Viewer Window.
For more information on Image Viewer Window, refer to “4.17 Image Viewer Window”.

On the ROI Settings Screen, a blue rectangle representing the ROI is displayed.
Move the mouse cursor to the rectangle and drag the following two places to move or scale the rectangle.

- Drag the dots at the four corners : Scale the rectangle.
- Drag the lines at the four sides : Move the rectangle.



The color of the displayed rectangle depends on the setting.

- Brightness is being adjusted :red
- Brightness adjustment complete :blue
- Processing area :green

② Read Data

The latest reading result is displayed here in one line.
* If the data is long to display, it will be omitted.
* When the Code Reader reads multiple barcodes, only the first reading data is displayed.
To check the details, check the “Reading Result Tab”.

③ View Zoom

Click to zoom in on the image and rectangle centered on the currently set rectangle.
Clicking the button switches the display between “View Zoom” and “Overall View ”.
Zoomed-in view is canceled by clicking on the “Overall View” button.

④ Save Image

Click to save the latest captured image in bmp format.

⑤ Table Number

You can set which Table Number to use for “Single Read” and “Continuous Read”.

⑥ Quality Report

Open the Print Quality Check Report Window.
For details, refer to “4.18 Print Quality Check Report Window”.
This function requires an Image Size of “1/1” .

⑦ Live

Only capture one image.
During Live, it changes to the “Stop” button, and when you click the “Stop” button, the Code Reader stops capturing.

⑧ Single Read

Reads the barcode only once.
Reads in the Table Number specified in “Table Number”.
If “Display Image” is checked, the image captured by the Code Reader is displayed.
Whether or not the barcode was read you can check it with the buzzer of the code Reader or “Read Data”.

⑨ Continuous Read

Reads barcodes continuously.
Reads in the Table Number specified in “Read Table Number”.
If “Display Image” is checked, the images captured by the Code Reader are displayed.
Whether or not the barcode was read you can check it with the buzzer of the Code Reader or “Read Data”.
During continuous reading, it changes to the “Stop” button, and when you click the “Stop” button, the Code Reader stops capturing and reading.

⑩ Image Size

The image size to receive from the Code Reader.
The smaller the size, the faster the display speed, but the coarser the displayed image than “1/1”.

⑪ Display Image

If you check this item, the image will be displayed when “Single Read” and “Continuous read” are executed.
Note that the displayed image will not be updated if you uncheck it and read it while the image is already displayed.

⑫ Adjustment

This is displayed when Setting Flow Screen is selected.
When checked, the brightness setting set in the “Settings Flow Screen” will be applied to “Live”, “Single Read” and “Continuous Read”.

⑬Help (Adjustment)

Mouse over to see help with Adjustment.

⑭ Reading Result

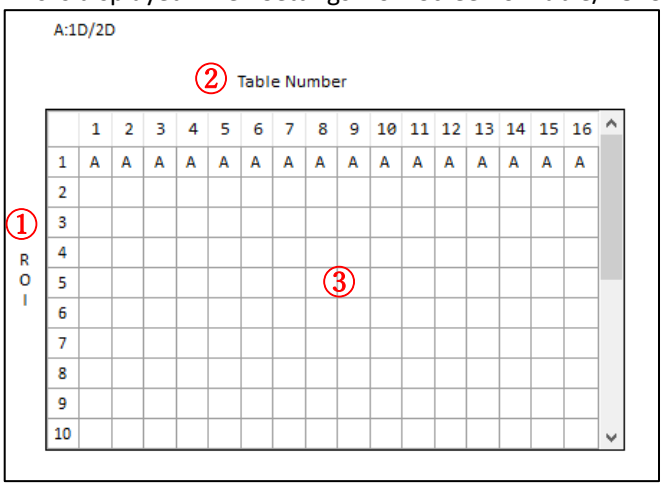
The latest decoding results are displayed for the following.
- Table No.
- Symbology
- Number of cells(X,Y)
- Code Size(X,Y)
- Pixel/Module(X,Y)
- Decode Grade

⑮ Line thickness of the frame border

Draw a rectangle of the reading result with the following selected setting.
[Frame: None]
[Frame: Thin]
[Frame: Slightly Thick]
[Frame: Thick]
[Frame: Very Thick]

■ Table Status Tab

This is displayed when Settings Flow Screen or Table/ROI Settings Screen is selected.



① ROI Number Rows

Rows represent ROIs 1 to 20.

② Table Number Columns

Columns represent Table Numbers 1 to16.

③ Setting Display Area

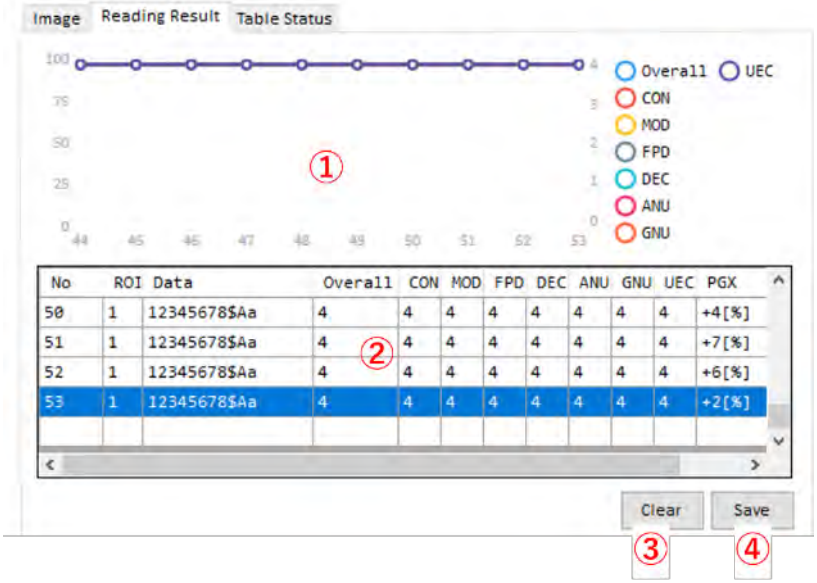
Represents the association between the Table Number and the ROI Number.
The setting is displayed in the following alphabet.

1D / 2D : A

In the case of the above image, ROI 1 set to perform 1D / 2D reading is assigned to each of Table Numbers 1 to 16.

■ Reading Result Tab

You can check the details of the read barcode data.



No	ROI	Data	Overall	CON	MOD	FPD	DEC	ANU	GNU	UEC	PGX
50	1	12345678$Aa	4	4	4	4	4	4	4	4	+4[%]
51	1	12345678$Aa	4	4	4	4	4	4	4	4	+7[%]
52	1	12345678$Aa	4	4	4	4	4	4	4	4	+6[%]
53	1	12345678$Aa	4	4	4	4	4	4	4	4	+2[%]

① Decode Plot Monitor

Additional information for the read barcode data is displayed as a line graph.
If multiple barcodes are read, the result of the first read barcode is displayed.

② Reading Result

This area displays the contents drawn on the graph numerically.
When the number of displayed items reaches 1000, the number returns to 1 and the oldest ones are deleted in order.
Click the header of the table to show or hide the graph displayed in the Decode Plot Monitor.

The contents of the reading result table change depending on whether the print quality verification is enabled or disabled.

■ The print quality verification is enabled

Item Name	Contents
No	Reading Number
ROI	ROI Number
Data	Decode Data
Overall	2D Barcode Overall
CON	Contrast
MOD	Modulation
FPD	Fixed Pattern Damage
DEC	Decode
ANU	Axial Non-uniformity
GNU	Grid Non-uniformity
UEC	Unused Error Correction
PGX * 1	Print Growth X
PGY * 1	Print Growth Y

*1: PGX,PGY are indicators of whether each cell expands or contracts vertically or horizontally.
0% is no expansion or contraction.

The print quality verification is disabled

Item Name	Contents
No	Reading Number
ROI	ROI Number
Data	Decode Data
Contrast	Contrast
Quality	Unused Error Correction
Decode Time	Decode Time

③ Clear

Clear the result.

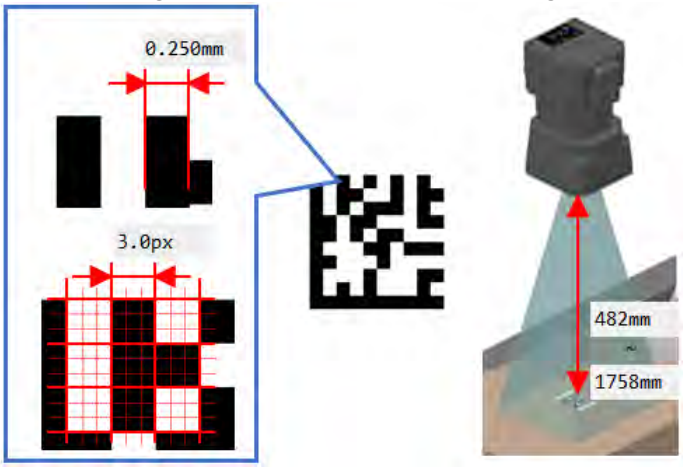
④ Save

Save the result in ".csv" format.

■ Guidance tab

This is displayed when Setting Flow Screen is selected.

For the Settings Flow Screen, refer to “4.7 Settings Flow Screen”.



① Cell Size / Module Size

The set cell size or module size is displayed.

② Pixels per Module

The set number of Pixels per Module is displayed.

■ Pixels per Module

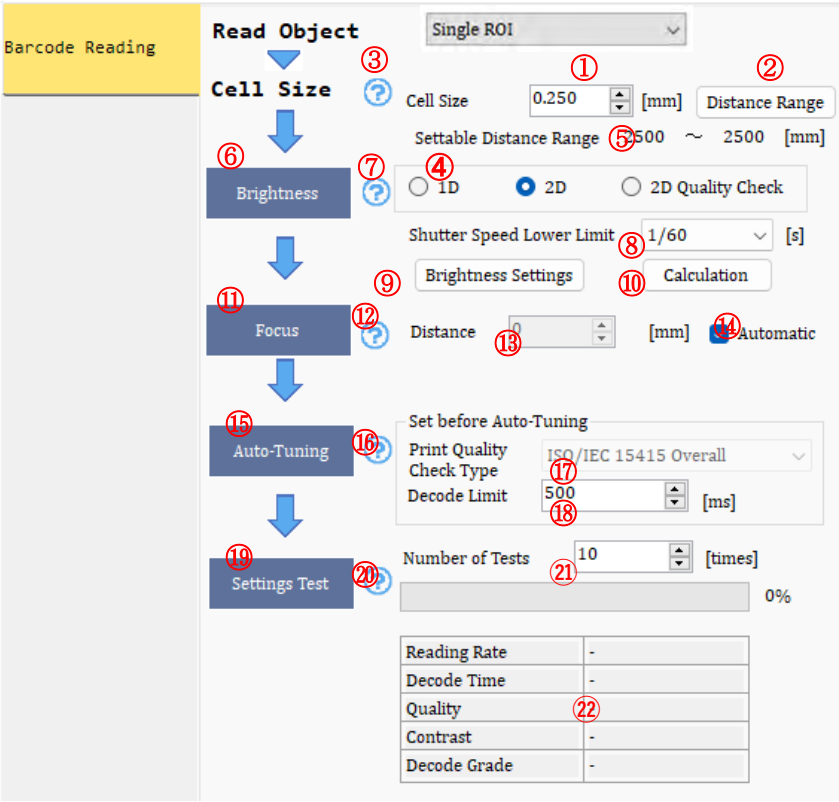
It is the number of pixels of “1 cell / module” imaged on the image sensor of the Code Reader.

③ Settable Distance Range

The lower and upper limits of the settable distance between the Code Reader and target are displayed.

4.7. Settings Flow Screen

Single ROI



① Cell Size

Enter the cell size or module size of the barcode to be read.

② Distance Range

Click “Distance Range” to open the “Distance Range Window”.

The color of the displayed items changes depending on the number of pixels. It is possible to select items displayed in gray or yellow, but items displayed in green are recommended.

③ Help (Cell Size Settings)

Mouse over to see help with Reading Target Settings.

④ Barcode type to be read

Select barcode type to be read.
If you check “2D Quality Check”, the “Print Quality Check Type” item can be selected, so set the content of the type.

⑤ Settable Distance Range

The range of reading distance that can be adjusted for focus with the current settings displayed here.

⑥ Brightness

Start brightness adjustment.

⑦ Help (Brightness)

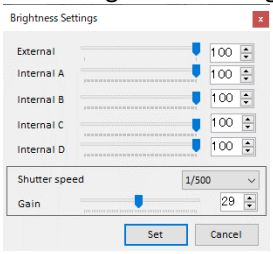
Mouse over to see help with brightness adjustment.

⑧ Shutter Speed Lower Limit

Enter the lower limit of shutter speed for adjustment.

⑨ Brightness Settings

Click “Brightness Settings” to open the “Brightness Settings Window”.



⑩ Calculation

Click “Calculation” to open the “Shutter Speed Lower Limit Setting Window”.
For more information, refer to “4.20 Shutter Speed Lower Limit Setting ”.

⑪ Focus

Start automatic focus adjustment.
The color of the rectangle changes depending on the current step.

Rough Adjustment	: Yellow
Fine Adjustment	: Green

If the “Automatic” is unchecked, the focus will be adjusted to the value entered in “Reading Distance”.

⑫ Help (Focus)

Mouse over to see help with focus adjustment.

⑬ Reading Distance

If you want to specify the focus adjustment to any distance, uncheck ⑭Automatic and enter the value.

⑭ Automatic

If checked, the Code Reader’s distance sensor will be used when adjusting the focus.
Uncheck to specify the focus adjustment to any distance.

⑮ Auto-Tuning

Start Auto-Tuning.

⑯ Help (Auto-Tuning)

Mouse over to see help with Auto-Tuning.

⑰ Print Quality Check Type

If use print quality verification, select the type.

⑱ Decode Limit

If you want to set the decode timeout used for Auto-Tuning to any time, enter a numerical value.
* After saving the setting value by Auto-Tuning, it is applied to the Table timeout and ROI timeout.

⑲ Setting Test

Start the Setting Test using the Reading Parameter saved by Auto-Tuning.

⑳ Help (Setting Test)

Mouse over to see help with Setting Test.

㉑ Number of Tests

Specify the number of times to read for test.

㉒ Reading Result

The following contents are displayed as the reading result.

item	Overview
Reading Rate	Read success rate of the entire test
Decode Time	Decode time information
Quality	Unused error correction information
Contrast	Contrast information
Decode Grade	Readability is displayed in 3 stages of A, B, C

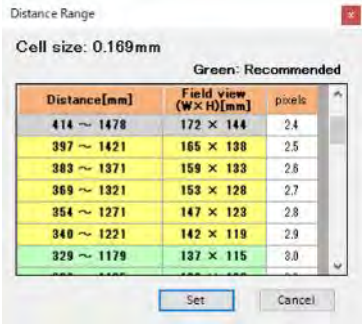
■ Multiple ROI

① Min Cell Size

Enter the minimum cell size or module size in the multiple barcodes to be read.

② Distance Range

Click “Distance Range” to open the “Distance Range Window”.



The color of the displayed items changes depending on the number of pixels. It is possible to select items displayed in gray or yellow, but items displayed in green are recommended.

③ Help (Cell Size Settings)

Mouse over to see help with Reading Target Settings.

④ Barcode type to be read

Select barcode type to be read.
If you check “2D Quality Check”, the “Print Quality Check Type” item can be selected, so set the content of the type.

⑤ Settable Distance Range

The range of reading distance that can be adjusted for focus with the current settings displayed here.

⑥ Brightness

Start brightness adjustment.

⑦ Help (Brightness)

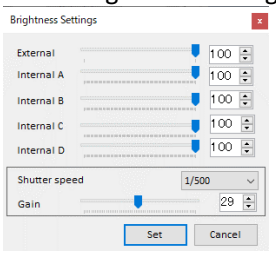
Mouse over to see help with brightness adjustment.

⑧ Shutter Speed Lower Limit

Enter the lower limit of shutter speed for adjustment.

⑨ Brightness Settings

Click “Brightness Settings” to open the “Brightness Settings Window”.



⑩ Calculation

Click “Calculation” to open the “Shutter Speed Lower Limit Setting Window”.
For more information, refer to “4.20 Shutter Speed Lower Limit Setting ”.

⑪ Focus

Start automatic focus adjustment.
The color of the rectangle changes depending on the current step.

Rough Adjustment	: Yellow
Fine Adjustment	: Green

If the “Automatic” is unchecked, the focus will be adjusted to the value entered in “Reading Distance”.

⑫ Help (Focus)

Mouse over to see help with focus adjustment.

⑬ Reading Distance

If you want to specify the focus adjustment to any distance, uncheck ⑭Automatic and enter the value.

⑭ Automatic

If checked, the Code Reader’s distance sensor will be used when adjusting the focus.
Uncheck to specify the focus adjustment to any distance.

⑮ Auto-Tuning

Start Auto-Tuning.

⑯ Help (Auto-Tuning)

Mouse over to see help with Auto-Tuning.

⑰ ROI Settings

If you click “ROI Settings”, the window that associates Table with ROI will open.

⑱ Help (Table and Auto-Tuning Flow)

Mouse over to see help with Table and Auto-Tuning Flow.

⑲ Save Table

Set the table to be used for Auto-Tuning.
This table will be referred to in the “Setting Test”.

⑳ Turning ROI

Set the ROI to be used for Auto-Tuning.
Only this ROI will be referred to in the “Setting Test”.

㉑ Send

Sends the position of the set ROI to the reader without Auto-Tuning.

㉒ Print Quality Check Type

If use print quality verification, select the type.

㉓ Decode Limit

If you want to set the decode timeout used for Auto-Tuning to any time, enter a numerical value.
* After saving the setting value by Auto-Tuning, it is applied to the Table timeout and ROI timeout.

㉔ Setting Test

Start the Setting Test using the Reading Parameter saved by Auto-Tuning.

㉕ Help (Setting Test)

Mouse over to see help with Setting Test.

㉖ Number of Tests

Specify the number of times to read for test.

㉗ Reading Result

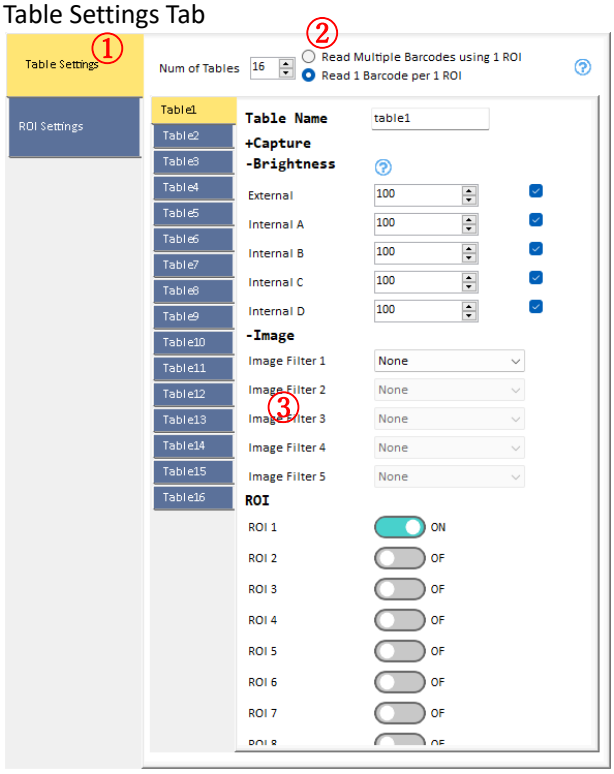
The following contents are displayed as the reading result.

item	Overview
Reading Rate	Read success rate of the entire test
Decode Time	Decode time information
Quality	Unused error correction information
Contrast	Contrast information
Decode Grade	Readability is displayed in 3 stages of A, B, C

4.8. Table/ROI Settings Screen

The Table/ROI Settings Screen has two tabs, “Table Settings Tab” and “ROI Settings Tab”.

■ Table Settings Tab



① Number of Tables

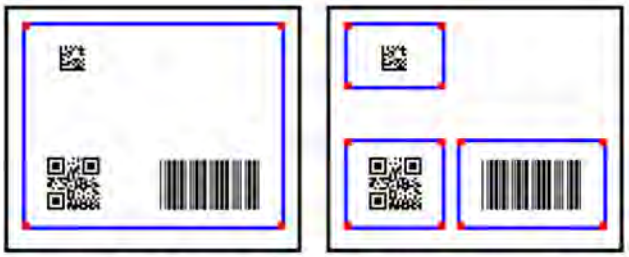
You can set an upper limit for the number of Tables to use.

Item Name	Actual Command Name
Number of Tables	ENABLETBL

② Multiple Reading Setting (Only for V7000)

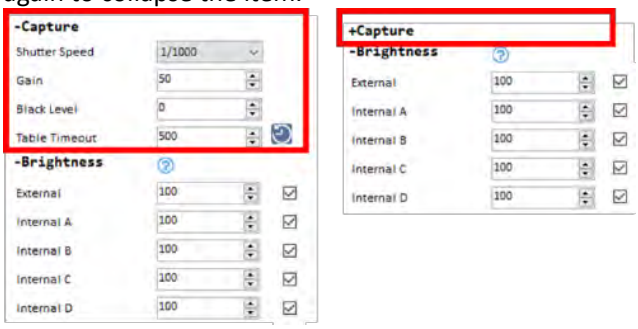
“Read Multiple Barcodes using 1 ROI”
The Code Reader reads up to 20 barcodes using 1 ROI.
*When you select the item, ROI1 turns ON and from ROI2 to ROI20 turns OFF.

“Read 1 Barcode per 1 ROI”
The Code Reader reads 1 barcode per 1 ROI.
*When you select the item, the “Num of Barcodes” from “Multiple Reading Settings” change to 1.



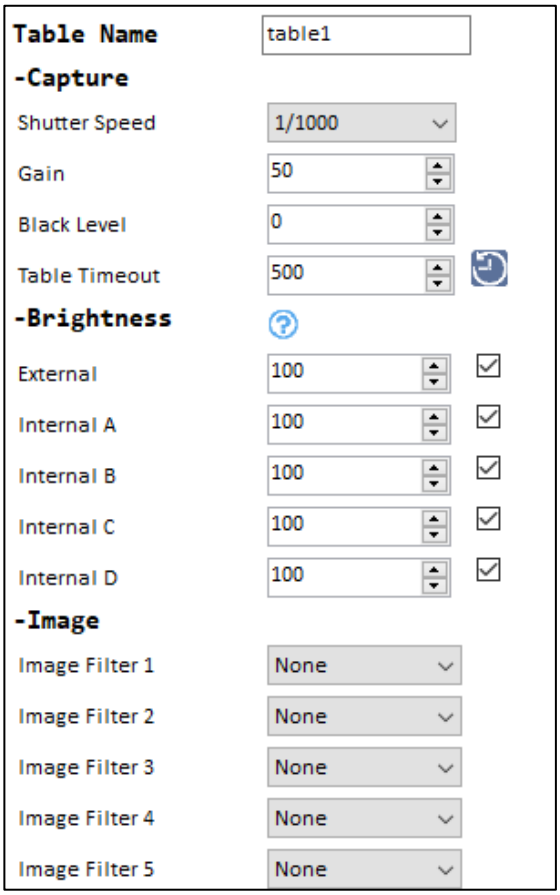
③ Table Settings Display Area

The settings for each Table are displayed here.
*Click the collapsed Item Name (e.g., Capturing /Reading Settings) to display the item. Click again to collapse the item.



※Obtain table timeout guideline

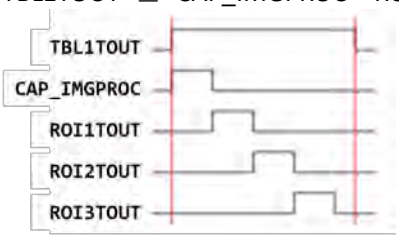
Click the  to get the estimated table timeout.



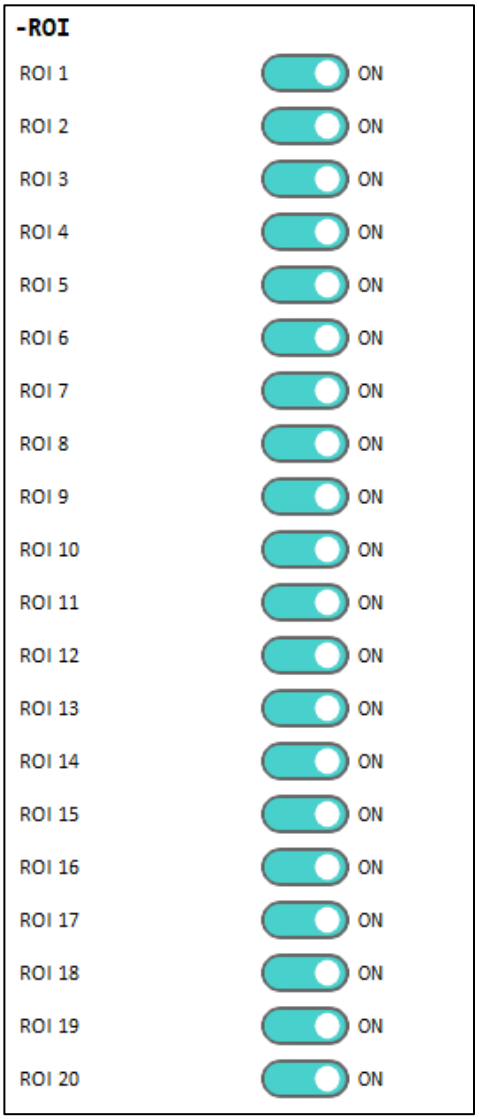
Item Name	Actual Command Name
Table Name	TBLnNAME
Shutter Speed	TBLnSHUTT
Gain	TBLnGAIN
Black Level	TBLnBLKLV
Table Timeout * 1	TBLnTOUT
External *2	TBLnFLASH
Internal A *2	TBLnFLASH
Internal B *2	TBLnFLASH
Internal C *2	TBLnFLASH
Internal D *2	TBLnFLASH
Image Filter 1	TBLnIMGPROC
Image Filter 2	TBLnIMGPROC
Image Filter 3	TBLnIMGPROC
Image Filter 4	TBLnIMGPROC
Image Filter 5	TBLnIMGPROC

*1 Set the timeout of the Table to be equal or larger than the total timeout value of all ROI
*2When unchecked the checkbox, the lighting will be disabled.

Timeout set to the Table and overhead for capture image.
e.g., Set ROIs 1, 2 and 3 to Table 1.
TBL1TOUT ≧ CAP_IMGPROC + ROI1TOUT + ROI2TOUT + ROI3TOUT

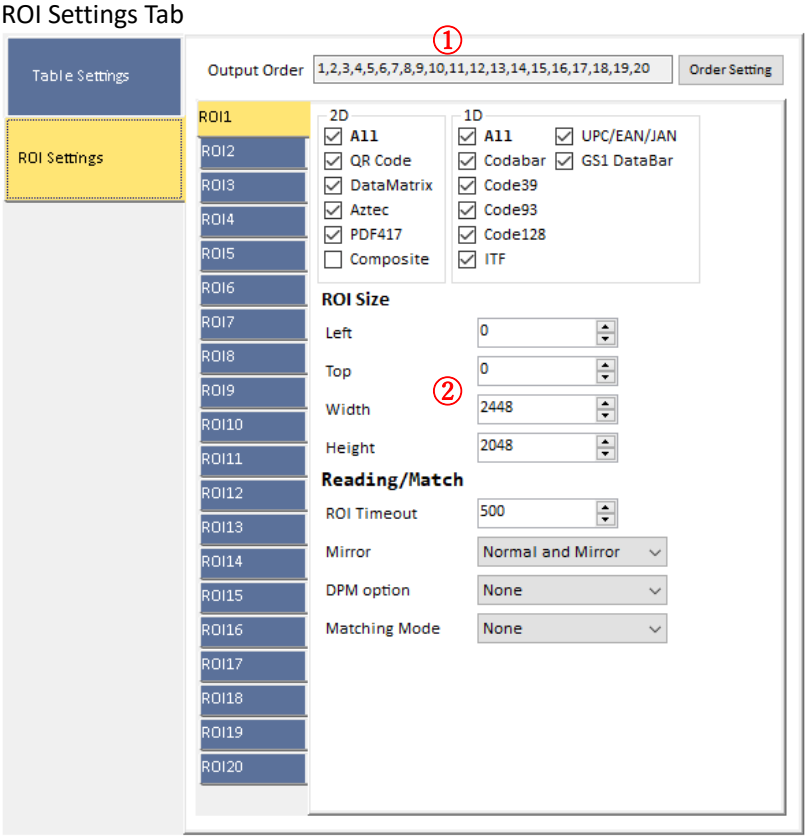


*CAP_IMGPROC depends on settings such as trapezium correction and image preprocessing.



Item Name	Actual Command Name
ROI 1	TBLnROINO
ROI 2	TBLnROINO
ROI 3	TBLnROINO
ROI 4	TBLnROINO
ROI 5	TBLnROINO
ROI 6	TBLnROINO
ROI 7	TBLnROINO
ROI 8	TBLnROINO
ROI 9	TBLnROINO
ROI 10	TBLnROINO
ROI 11	TBLnROINO
ROI 12	TBLnROINO
ROI 13	TBLnROINO
ROI 14	TBLnROINO
ROI 15	TBLnROINO
ROI 16	TBLnROINO
ROI 17	TBLnROINO
ROI 18	TBLnROINO
ROI 19	TBLnROINO
ROI 20	TBLnROINO

■ ROI Settings Tab



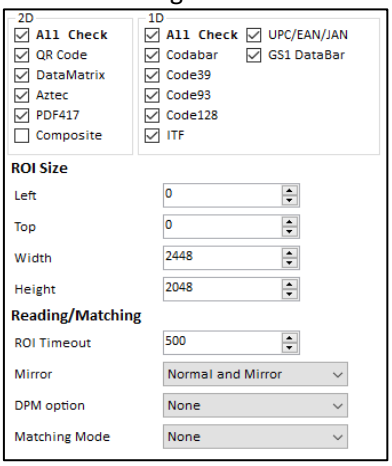
①Output Order

You can set the output order of the reading results.
Click “Order Setting” to open the setting window.

Item Name	Actual Command Name
Num of Tables	ROIOUTFORM

②ROI Settings Display Area

The settings for each ROI are displayed here.



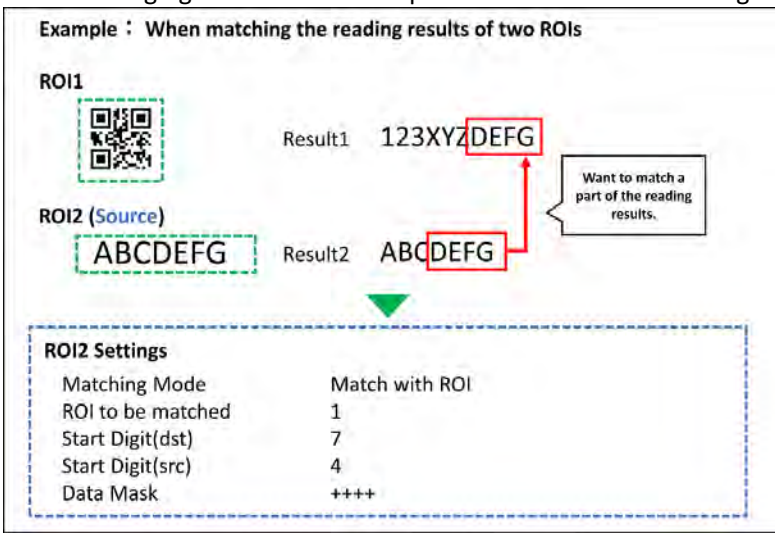
Item Name	Actual Command Name
All Check (2D *1)	RSYnTYPE
QR Code	RSYnTYPE
DataMatrix	RSYnTYPE
Aztec	RSYnTYPE
PDF417	RSYnTYPE
Composite	RSYnTYPE
All Check (1D *1)	RSYnTYPE
Codabar	RSYnTYPE
Code39	RSYnTYPE
Code93	RSYnTYPE
Code128	RSYnTYPE
ITF	RSYnTYPE
UPC / EAN / JAN	RSYnTYPE
GS1 DataBar	RSYnTYPE
Left	ROInSIZE
Top	ROInSIZE
Width	ROInSIZE
Height	ROInSIZE
ROI Timeout	ROInTOUT
Mirror	RSYnMIRROR
DPM Option	RSYnDPM

Item Name	Actual Command Name
Matching Mode	RSYnVERIMODE
Matching Data (*2)	RSYnVERIDATA
ROI to be matched (*2)	RSYnVERIROINO
Start Digit(src) (*2)	RSYnVERISTART
Data Mask (*2)	RSYnVERIMASK

*1 Checking “All Check” will enable all corresponding barcodes, and unchecking will disable all corresponding barcodes.

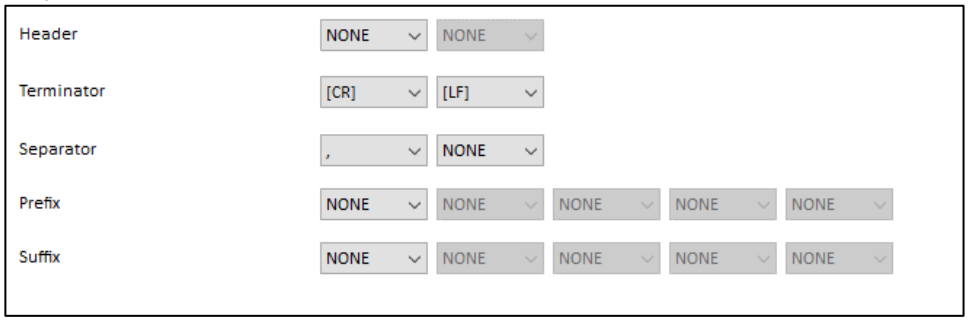
*2 The displayed items depend on the content selected in the “Matching Mode”.

The following figure shows an example of the use of the matching function.



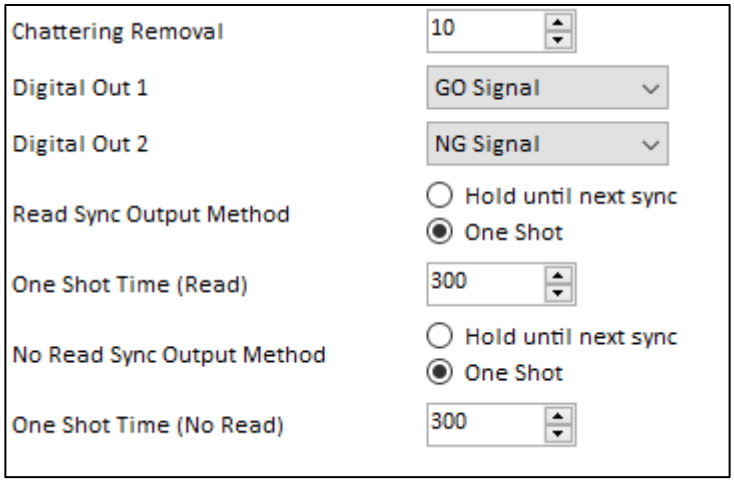
4.9. Reader Settings Screen

- Operation Settings Tab
  - Output Data



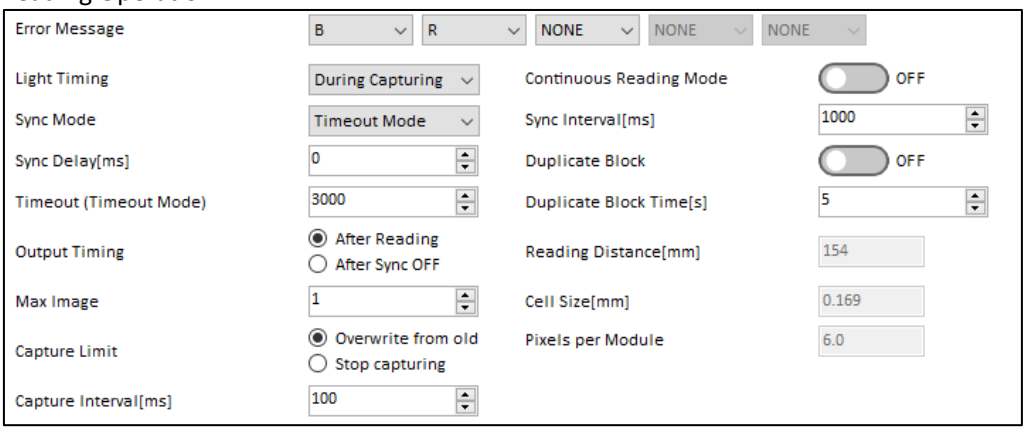
Item Name	Actual Command Name
Header	HEAD
Terminator	TERM
Separator	SEPA
Prefix	PREFIX
Suffix	SUFFIX

  - DIO



Item Name	Actual Command Name
Chattering Removal	CHATT
Digital Out 1	DOUT1
Digital Out 2	DOUT2
Read Sync Output Method	GO OUTTIM
One Shot Time (Read)	GO OUTTIM
No Read Sync Output Method	NGOUTTIM
One Shot Time (No Read)	NGOUTTIM

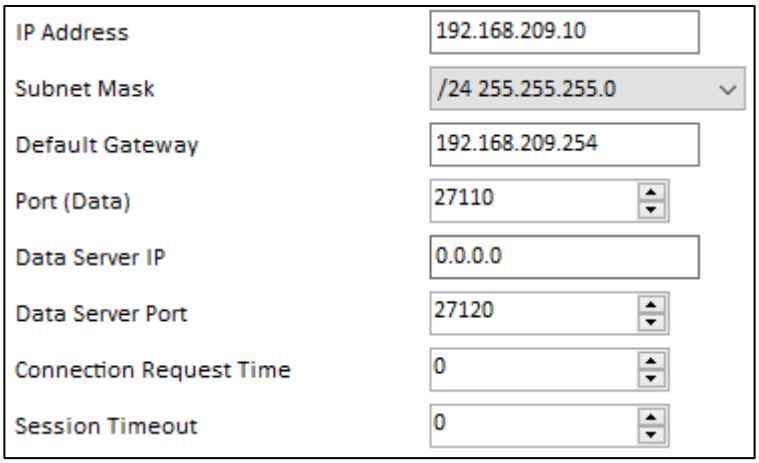
- Reading Operation



Item Name	Actual Command Name
Error Message	BR
Light Timing	LIGHT
Sync Mode	SYNCMODE
Sync Delay	DELAY
Timeout (Timeout Mode)	TOTALLIM
Output Timing	VOUT
Max Image	MAXIMG
Capture Limit	CAPLIM
Capture Interval	CAPINTVL
Continuous Reading Mode	CONTMODE
Sync Interval	CONTINTVL
Duplicate Block	CONTVRFY
Duplicate Block Time	CONTVTIM
Reading Distance (*1)	FCSDIST
Cell Size (*1)	FCSRANGE1
Pixels per Module (*1)	FCSRANGE1

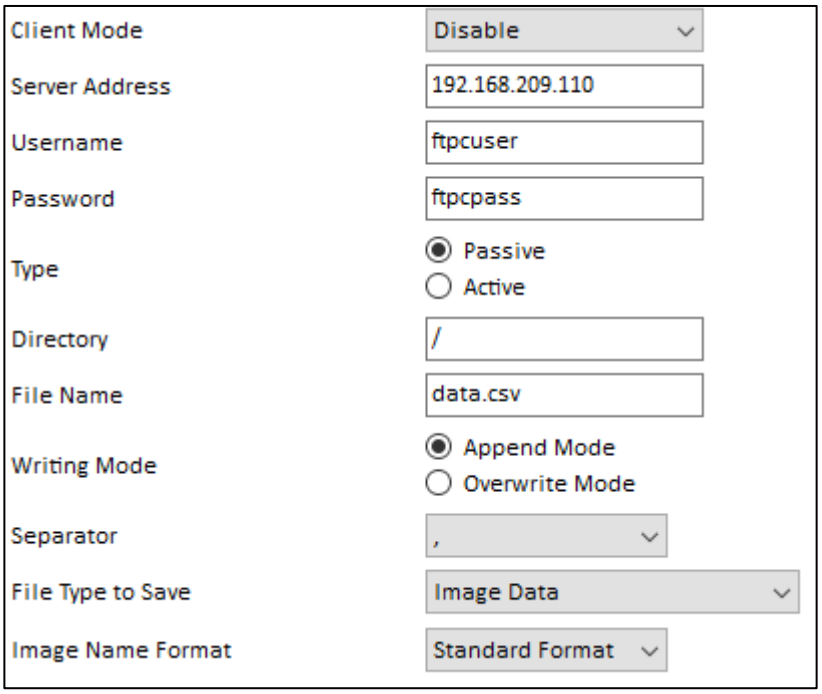
*1 Only the setting values are displayed and cannot be edited.

- LAN



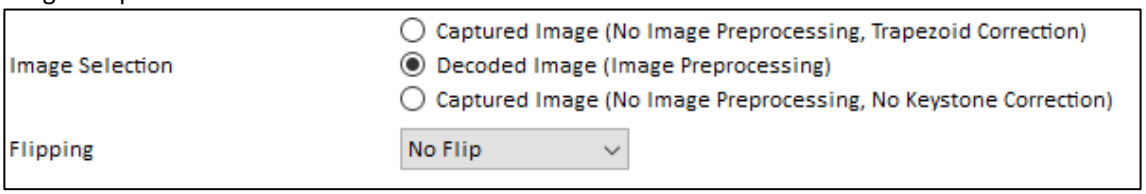
Item Name	Actual Command Name
IP Address	IP1ADR
Subnet Mask	IP1ADR
Default Gateway	IP1ADR
Port (Data)	TCP1PORT
Data Server IP	TCP1SVADR
Data Server Port	TCP1SVADR
Connection Request Time	TCP1CRTIM
Session Timeout	TCP1STOUT

- FTP Communication



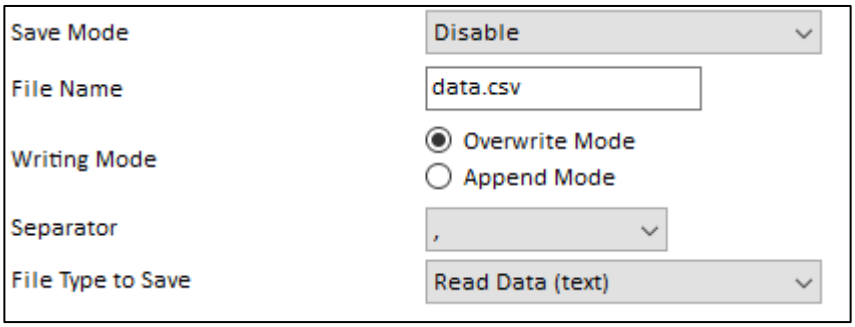
Item Name	Actual Command Name
Client Mode	FTPCMODE
Server Address	FTPCHOST
Username	FTPCUSER
Password	FTPCPASS
Type	FTPCTYPE
Directory	FTPCHOSTDIR
File Name	FTPCTXTNAME
Writing Mode	FTPCTXTMODE
Separator	FTPCTXTSEPA
File Type to Save	FTPCFILETYPE
Image Name Format	FTPCNAMEFORM

- Image Output



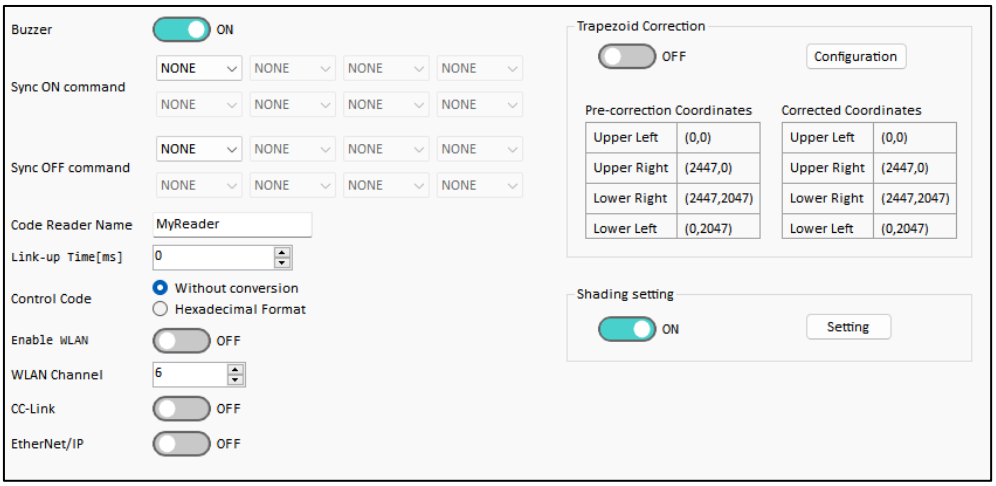
Item Name	Actual Command Name
Image Type	IMGSEL
Flipping	CAMFLIP

- User Area



Item Name	Actual Command Name
Save Mode	UAMODE
File Name	UATXTNAME
Writing Mode	UATXTMODE
Separator	UATXTSEPA
File Type to Save	UAFILETYPE

- Others



Item Name	Actual Command Name
Buzzer	BUZ
Sync ON Command	SONCMD
Sync OFF Command	SOFFCMD
Code Reader Name	MYNAME
Link-up Time	LINK UPTIM
Control Code	LABEL TX
Enable WLAN	WLANEN
WLAN Channel	WLANCH
EtherNet/IP(*1)	IEMODE
Trapezoid Correction (ON/OFF)	TRPCORRECTION
Trapezoid Correction (Coordinates)	TRPROI
Shading setting (Filter size)	(*2)

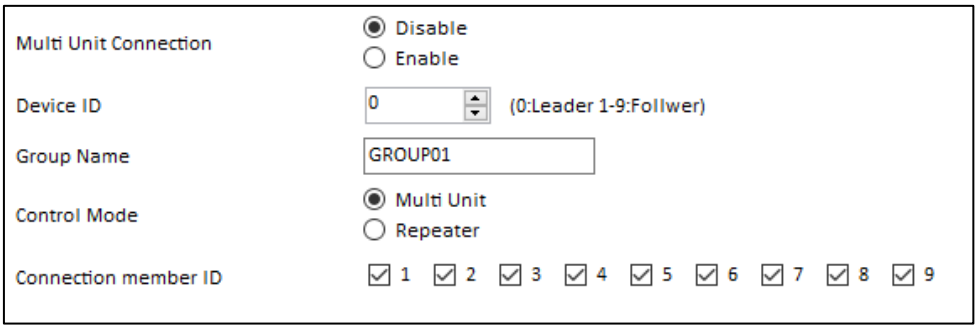
*1 The settings for PLC Mode and EtherNet/IP cannot be selected simultaneously. When any one of them is enabled, it is immediately sent to the reader together with the setting to disable the other mode. EtherNet/IP setting are displayed only for V7000.
*2 There are no applicable commands, only GUI-based settings.

- Multi Unit Connection

  Configure settings for Multi Unit Connection.
  For details on connecting multiple units, please refer to “12. Multi Unit Connection Function” in V7000 User Manual.
  To enable Multi-Unit Connection, follow the steps below.

  1. Set the Device ID.
     When setting to Leader...0
     When setting to Follower...1-9
  2. Set the Group Name.
     The group names of the code readers to be connected should be set to be the same.
  3. Set the Control Mode. (Leader only)
  4. Set the Connection member ID to be connected. (Leader only)
  5. Select “Enable” for Multi-Unit Connection.
  6. Click “Send Settings” to apply the settings to the code reader.

  *Multi-Unit Connection are temporarily disabled while connected to FixedConfig7000.
  When using Multi Unit Connection, please follow the procedure below.
  - Disconnect from FixedConfig7000.
  - Go to the terminal screen.

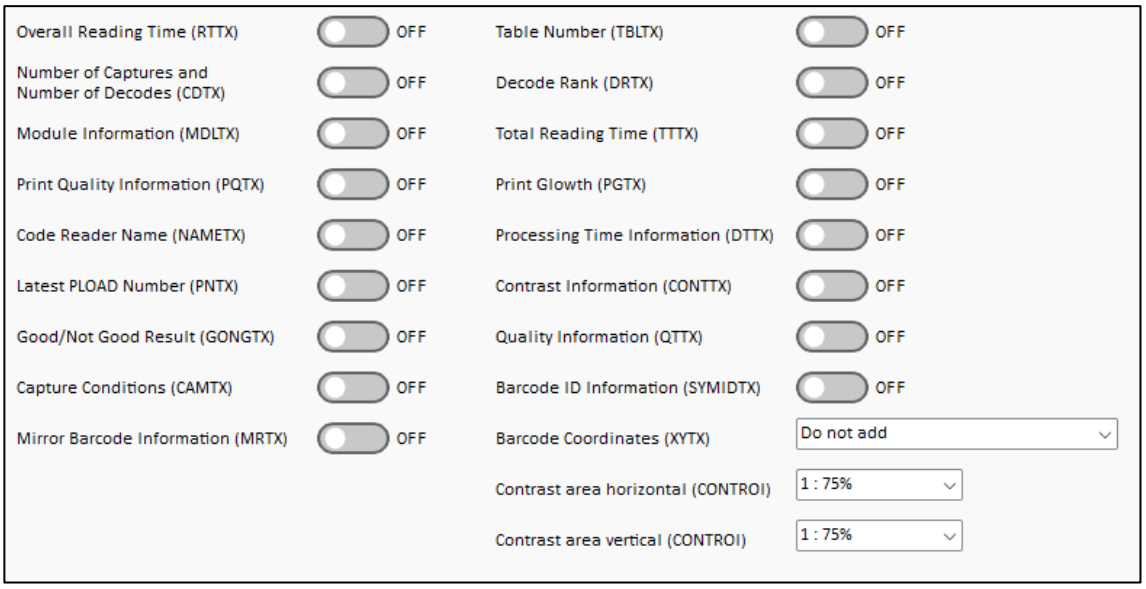


Item Name	Actual Command Name
Multi Unit Connection	MLTMODE
Device ID	MLTID
Group Name	MLTGROUP
Control Mode *1	MLTCTRL
Connection member ID *1	MLTMEMBER

*1 Effective for Leader only

■ Additional Information tab

● General



Item Name	Actual Command Name
Overall Reading Time	RTTX
Number of Captures and Number of Decodes	CDTX
Module Information	MDLTX
Print Quality Information	PQTX
Code Reader Name	NAMETX
Latest PLOAD Number	PNTX
Good/Not Good Result	GONGTX
Capture Conditions	CAMTX
Mirror Barcode Information	MRTX
Table Number	TBLTX
Decode Rank	DRTX
Total Reading Time	TTTX
Print Growth	PGTX
Processing Time Information	DTTX
Contrast Information	CONTTX
Quality Information	QTTC
Barcode ID Information	SYMIDTX
Barcode Coordinates	XYTX
Contrast area horizontal	CONTROI
Contrast area vertical	CONTROI

- Barcode Info

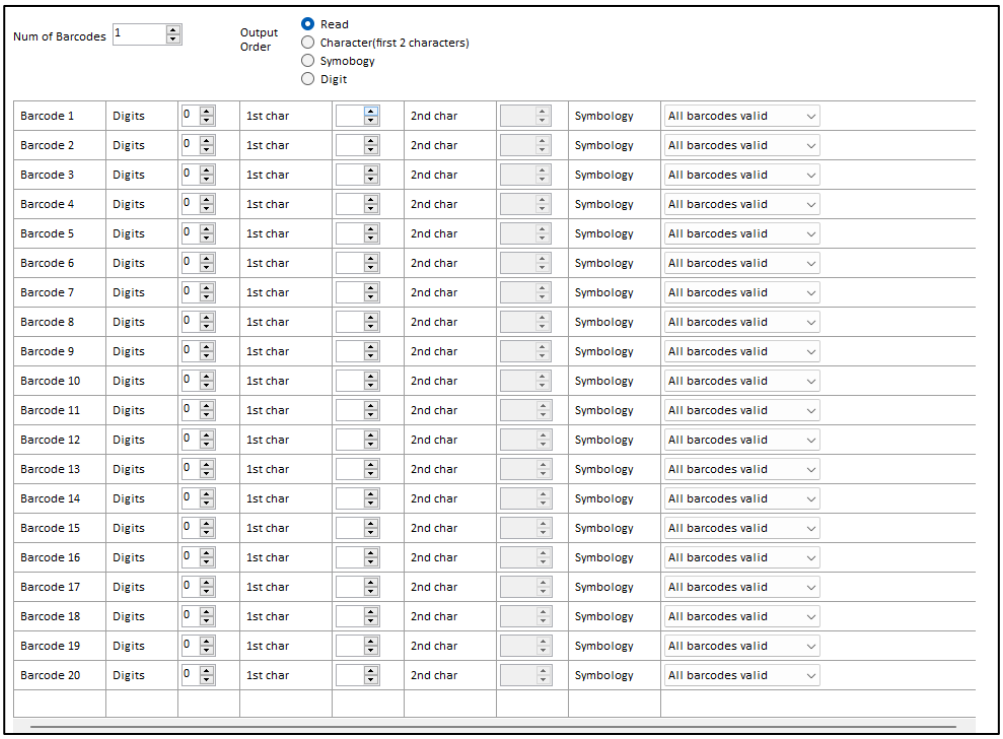
Item Name	Actual Command Name
Group Separator	GS1GS
Application Identifier	GS1AI

Item Name	Actual Command Name
Number of blobs detected	PANUMTX
Detected blob bounding rectangle coordinates	PAXYTX
Bounding rectangle Coordinates of string	OCXYTX
Character Scores	OCSCRTX
Matching Patterns	PMNUMTX
Pattern bounding rectangle coordinates	PMXYTX
Pattern Scores	PMSCRTX
Pattern scaling factor	PMSCLTX
Pattern Rotation Angle	PMAGLTX

- Multi Unit Connection

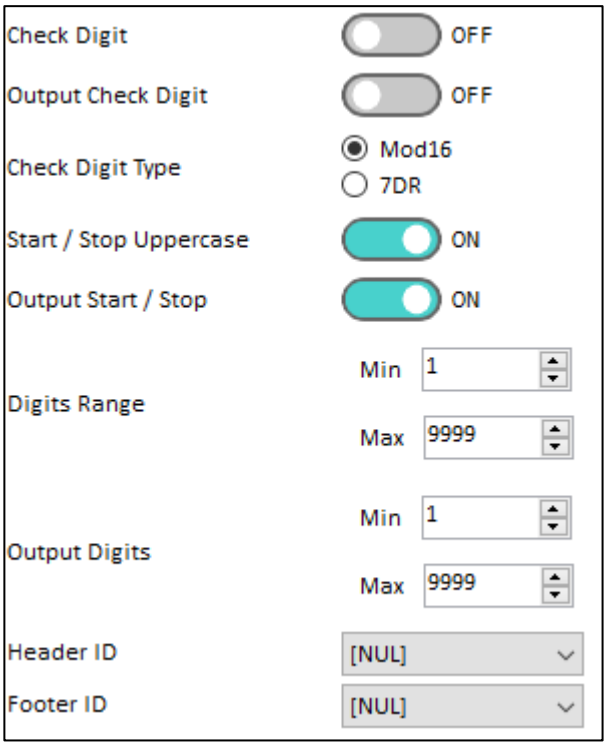
Item Name	Actual Command Name
Multi unit ID	MLTHTX
Repeater ID	MLTDTX

■ Multiple Reading Settings tab



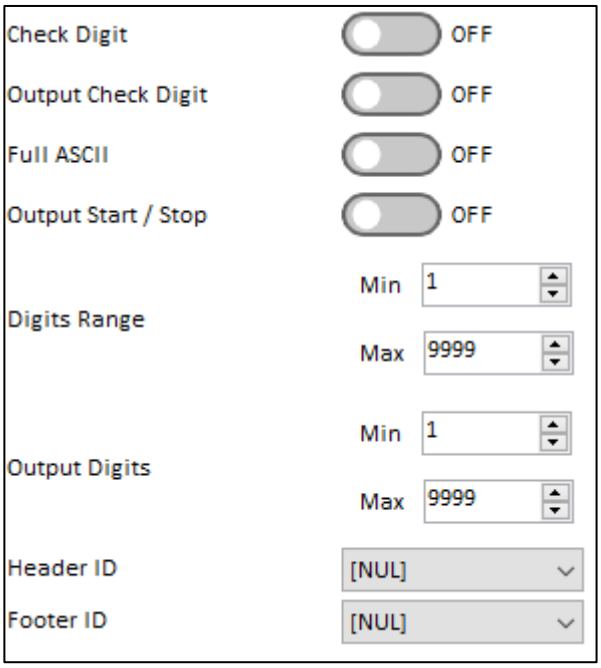
Item Name	Actual Command Name
Num of Barcodes	LABELS
Output Order	OUTFORM
Digits	OUTnVRFYD
1st Char	OUTnVRFYC
2nd Char	OUTnVRFYC
Symbology	OUTnVRFYS

- Barcode Information (1D) tab
  - Codabar



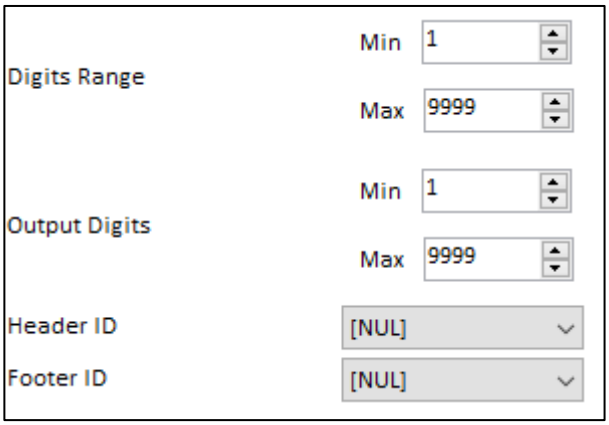
Item Name	Actual Command Name
Check Digit	CBMODE
Output Check Digit	CBMODE
Check Digit Type	CBCHK
Start / Stop Uppercase	CBCS
Output Start/Stop	CBSS
Digits Range	CBDIGIT
Output Digits	CBEDIT
Header ID	CBHEAD
Footer ID	CBFOOT

- Code39



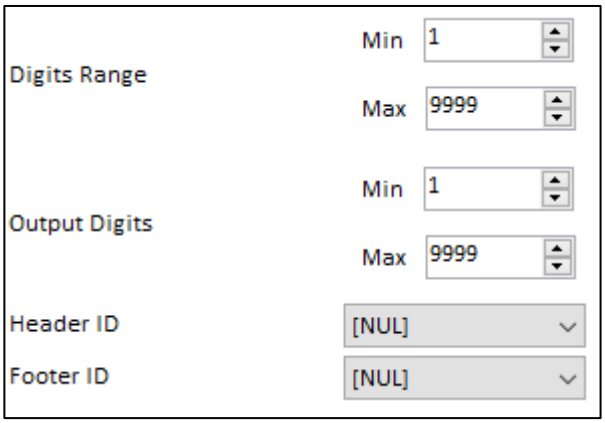
Item Name	Actual Command Name
Check Digit	C39MODE
Output Check Digit	C39MODE
Full ASCII	C39MODE
Output Start/Stop	C39SS
Digits Range	C39 DIGIT
Output Digits	C39EDIT
Header ID	C39HEAD
Footer ID	C39FOOT

- Code93



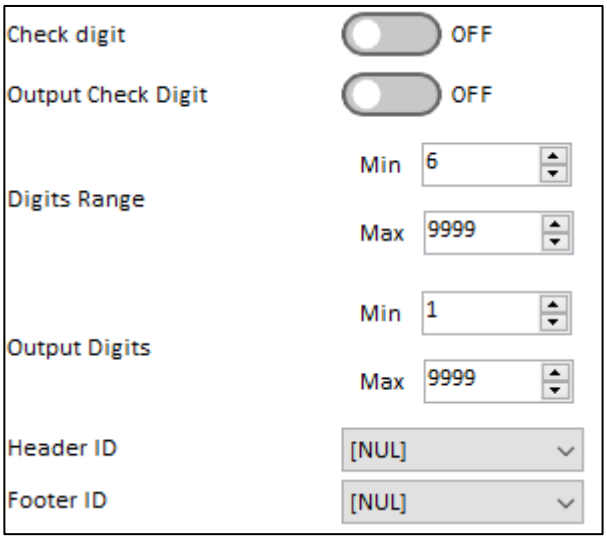
Item Name	Actual Command Name
Digits Range	C93DIGIT
Output Digits	C93EDIT
Header ID	C93HEAD
Footer ID	C93FOOT

- Code128



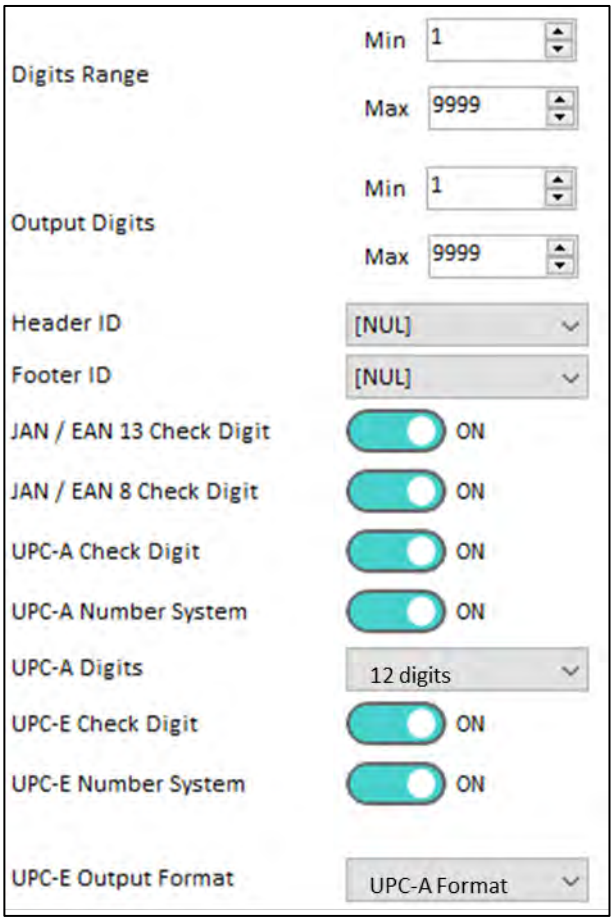
Item Name	Actual Command Name
Digits Range	C128 DIGIT
Output Digits	C128EDIT
Header ID	C128HEAD
Footer ID	C128FOOT

- ITF



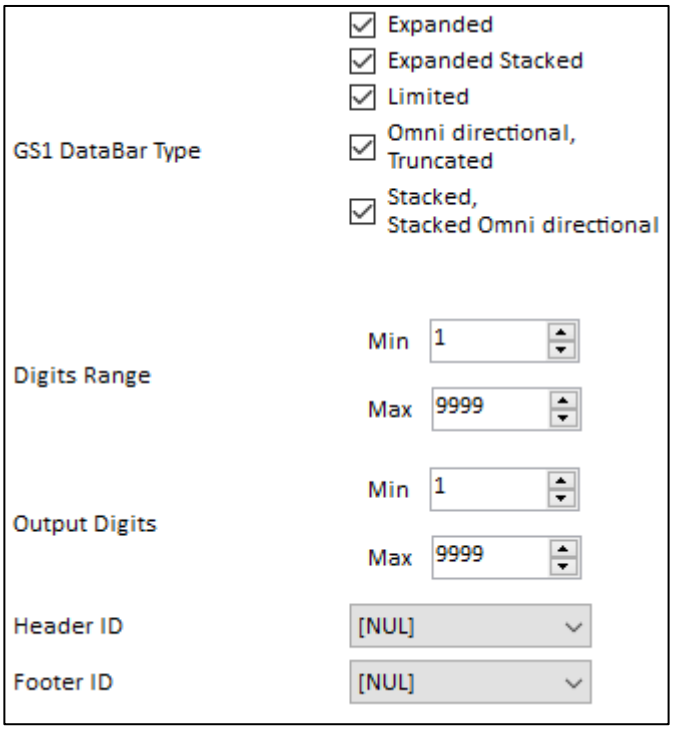
Item Name	Actual Command Name
Check Digit	ITFMODE
Output Check Digit	ITFMODE
Digits Range	ITFDIGIT
Output Digits	ITFEDIT
Header ID	ITFHEAD
Footer ID	ITFFOOT

- UPC / EAN / JAN



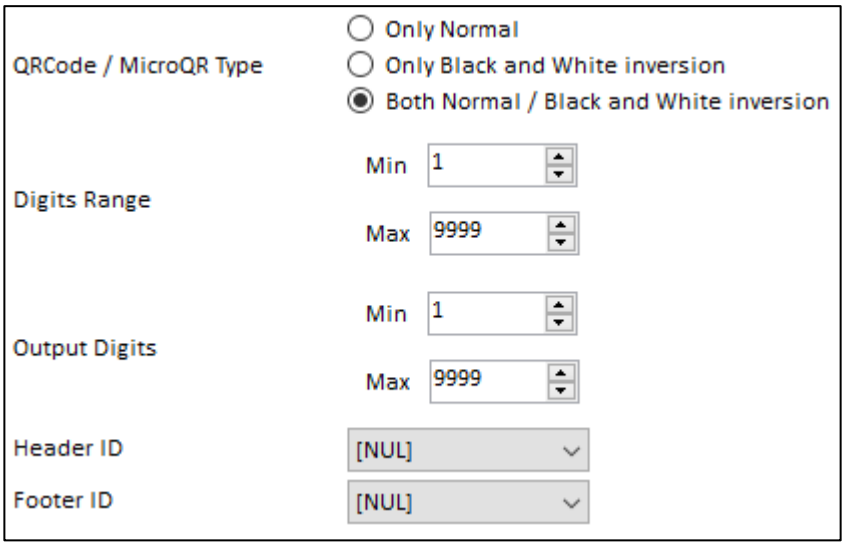
Item Name	Actual Command Name
Digits Range	UJEDIGIT
Output Digits	UJEEDIT
Header ID	UJEHEAD
Footer ID	UJEFOOT
JAN / EAN 13 Check Digit	JE13SUM
JAN / EAN 8 Check Digit	JE8SUM
UPC-A Check Digit	UPCASUM
UPC-A Number System	UPCANS
UPC-A Digits	UPCAFORM
UPC-E Check Digit	UPCESUM
UPC-E Number System	UPCENS
UPC-E Output Format	UPCEFORM

- GS1 DataBar



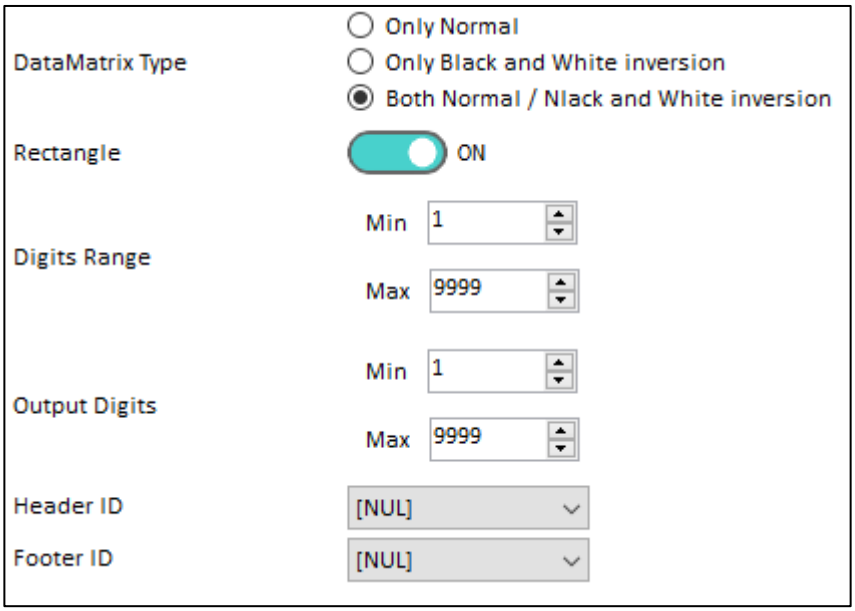
Item Name	Actual Command Name
GS1 DataBar Type	DBMODE
Digits Range	DBDIGIT
Output Digits	DBEDIT
Header ID	DBHEAD
Footer ID	DBFOOT

- Barcode Information (2D) tab
  - QR Code



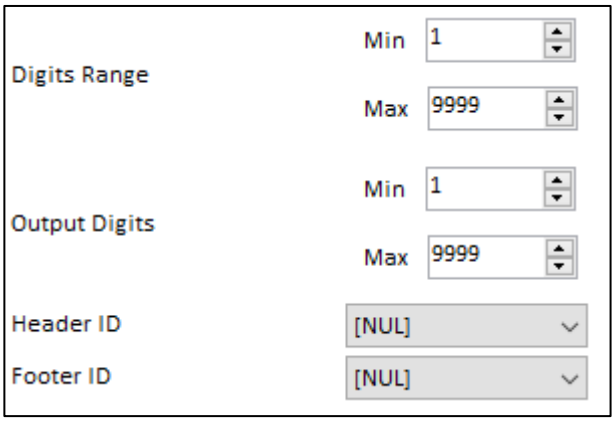
Item Name	Actual Command Name
QR Code / Micro QR Type	QRMODE
Digits Range	QRDIGIT
Output Digits	QREDIT
Header ID	QRHEAD
Footer ID	QRFOOT

- DataMatrix



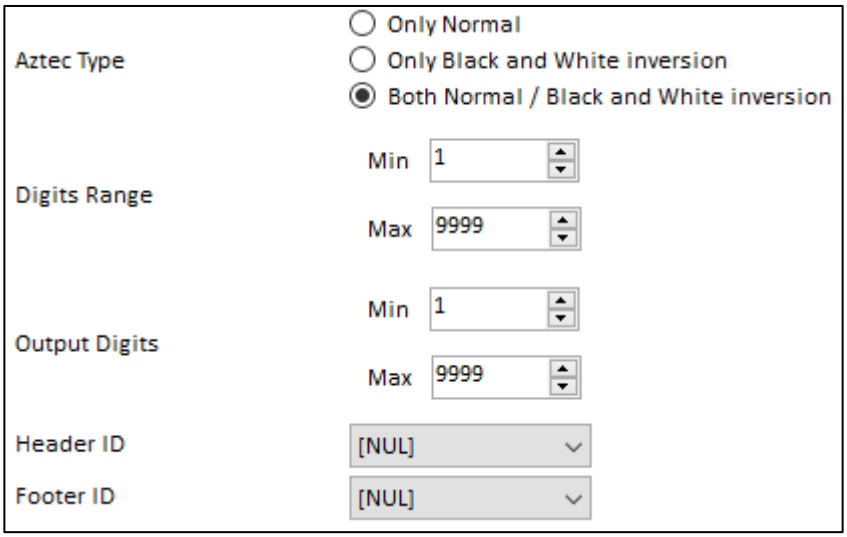
Item Name	Actual Command Name
DataMatrix Type	DMMODE
Rectangle	DMMODE
Digits Range	DMDIGIT
Output Digits	DMEDIT
Header ID	DMHEAD
Footer ID	DMFOOT

- PDF417



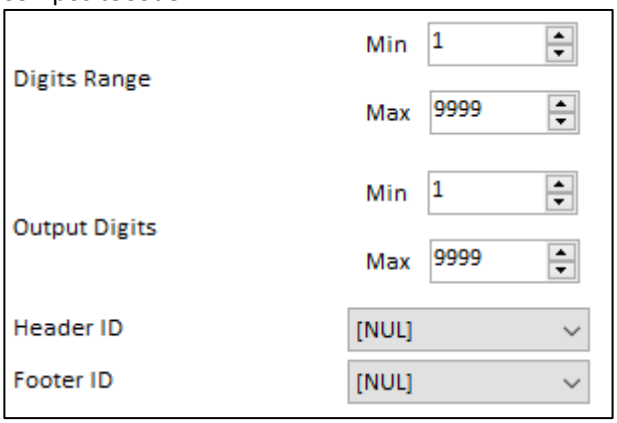
Item Name	Actual Command Name
Digits Range	PDFDIGIT
Output Digits	PDFEDIT
Header ID	PDFHEAD
Footer ID	PDFFOOT

- Aztec



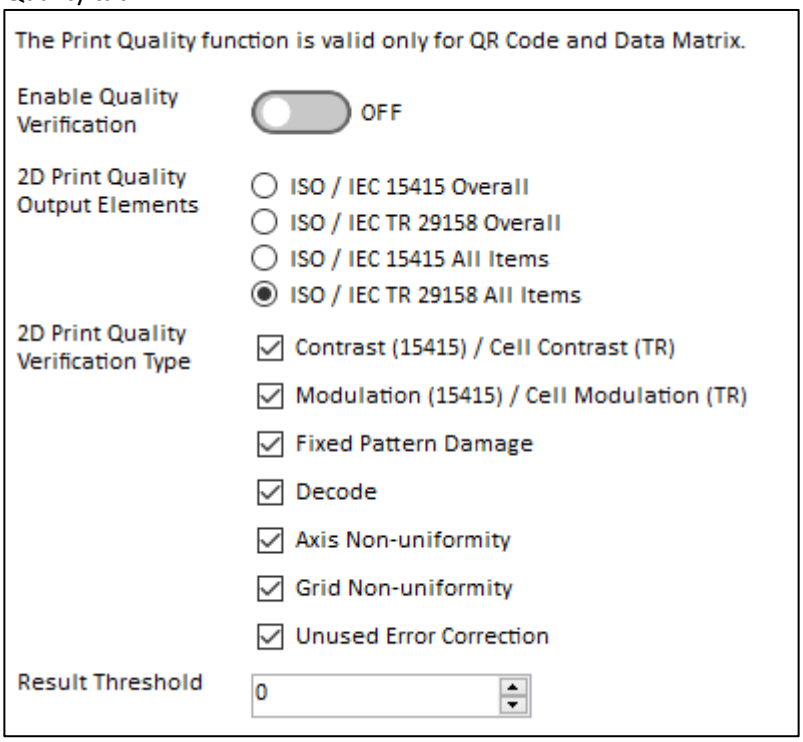
Item Name	Actual Command Name
Aztec Type	AZMODE
Digits Range	AZDIGIT
Output Digits	AZEDIT
Header ID	AZHEAD
Footer ID	AZFOOT

- CompositeCode



Item Name	Actual Command Name
Digits Range	CCDIGIT
Output Digits	CCEDIT
Header ID	CCHEAD
Footer ID	CCFOOT

■ Print Quality tab



Item Name	Actual Command Name
Enable Quality Verification	PQTX
2D Print Quality Output Elements	PQTYPE2D
2D Print Quality Verification Type	PQITEM2D
Result Threshold	PQOKTH

4.10. Image Reinspection Screen

On the Image Reinspection Screen, send images to the Code Reader taken by the Code Reader in the past and check the reading result by decoding again.
* The image used for reinspection is an 8-bit (grayscale) BMP image.

① Location

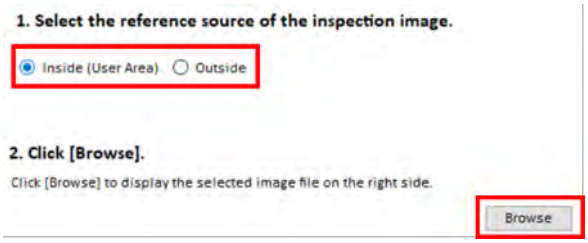
Select the location where the images are saved for reinspection.

② Image Path

Enter the folder path where the images for reinspection are saved.
When you specify the path from the “Browse”, it will be entered automatically.
It is displayed when “Outside” is selected in “Location”.

③ Browse

Click to display the dialog for selecting a folder.
When selected, it will be automatically entered in the “Image Path”.
*If you select “Inside (User Area)” in “Location”, the button will switch to “Get image”.
Click this button to display the list of image names saved in the Code Reader is displayed to “File Name List”.



④ File Name List

Display s list of images saved in the folder entered in “Image Path”.
*Images in subfolders are not displayed.

⑤ Display Image

Select an image name in the “File Name List” and click this button to display the image in the “Image Display Area”.

⑥ Multi / Single

If you select “Multi”, all the images displayed in the “File Name List” will be reinspected.
If you select “Single”, the file selected in the “File name list” will be reinspected.

⑦ Table Number

Select Table Number for reinspection.

⑧ Reinspection

Click this button to perform a reinspection.

⑨ Image Display Area

The image selected in “File Name List” is displayed.

⑩ Reading Result

You can switch the display by clicking “Overall Result Tab” and “Each Results Tab”.

■ Overall Result Tab

Item Name	Actual Command Name
Result	If all reinspected images are passed: Passed If there is more than one failed: Failed
Total Images	Number of images reinspected
Read	Number of passed images of reinspection
No Read	Number of failed images of reinspection
Read Rate	The rate of “Read/Total Images”

■ Each Results Tab

⑪ Image reinspection result

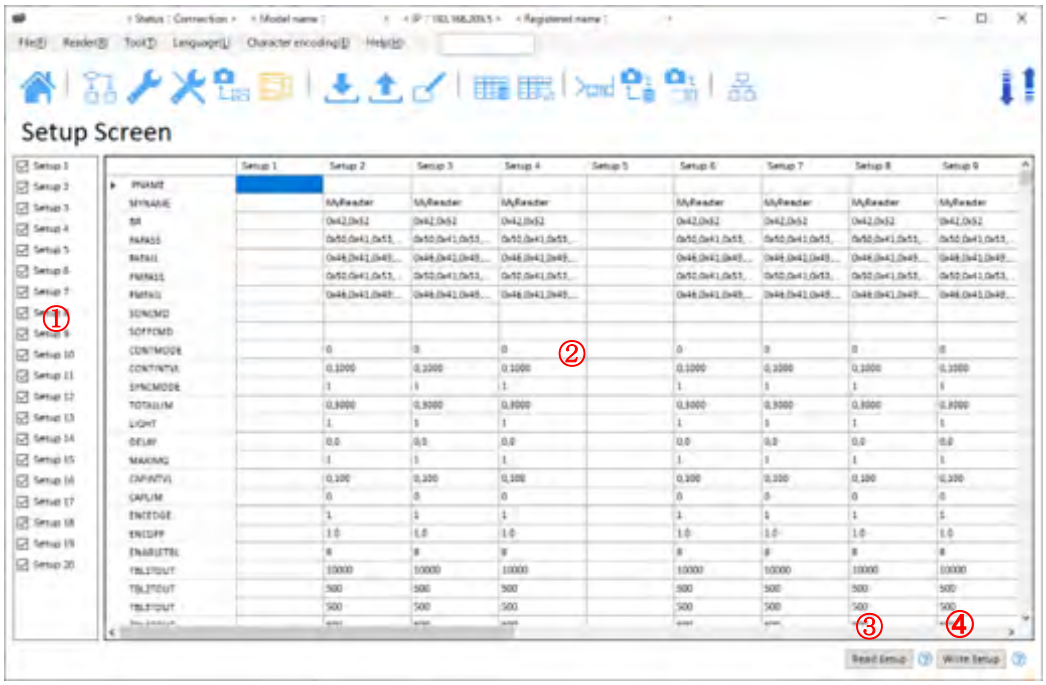
Reading results are displayed.
The displayed contents are the same as “4.6 Image Display Area Reading Result Tab”.

⑫ Save Results (CSV)

Save the result displayed in “Image re-examination result” as a .csv file.

4.11. Setup Screen

The Setup Screen lists up to 20 setups saved inside the Code Reader.
To display the list, click “View” and read the setup.
* Since it is read-only, the read parameters cannot be changed from the list screen.



① Setup Number Display List

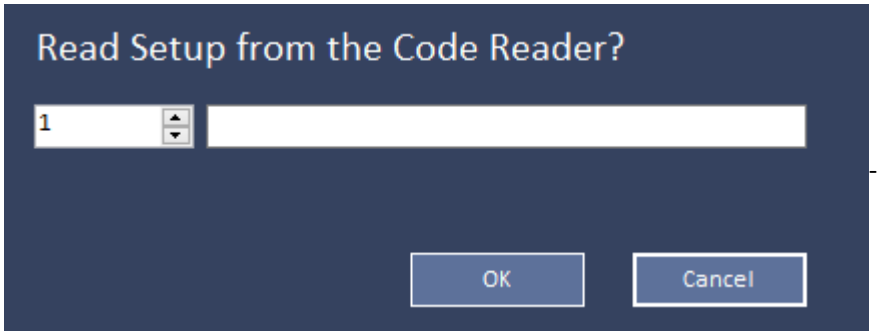
Specify the Setup number to be displayed on the Setup List.
The unchecked Setup number will be hidden on the Setup List.

② Setup List

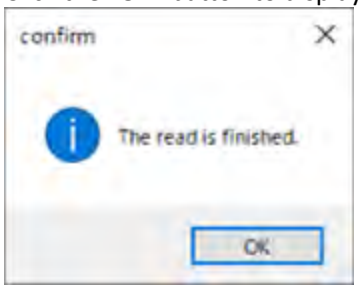
The Setup saved in the Code Reader are displayed here.
The unused Setup number items are blank.

③ Read Setup

The Setup with the specified number is read from the Code Reader and reflect it in the Code Reader.
*To Read the specified Setup, the Setup must be saved in the Code Reader in advance.

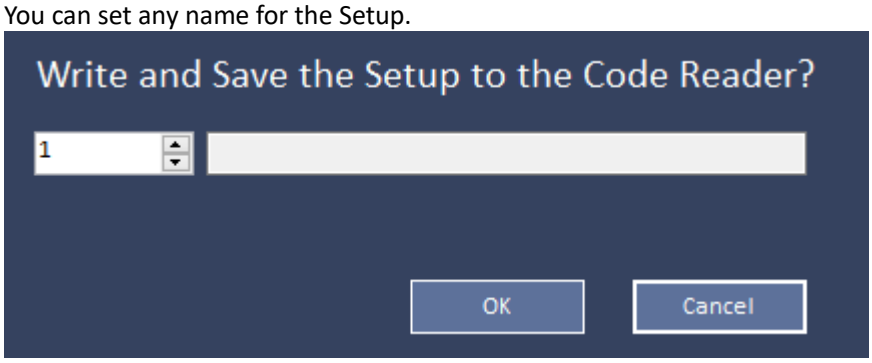


Click the “OK” button to display the confirmation window.

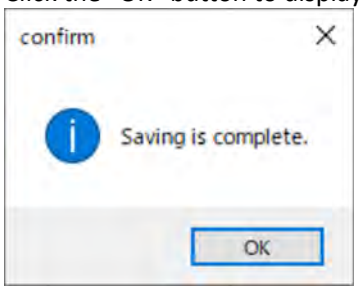


④ Write Setup

The Setup with the specified number is sent and saved to the Code Reader.
You can set any name for the Setup.

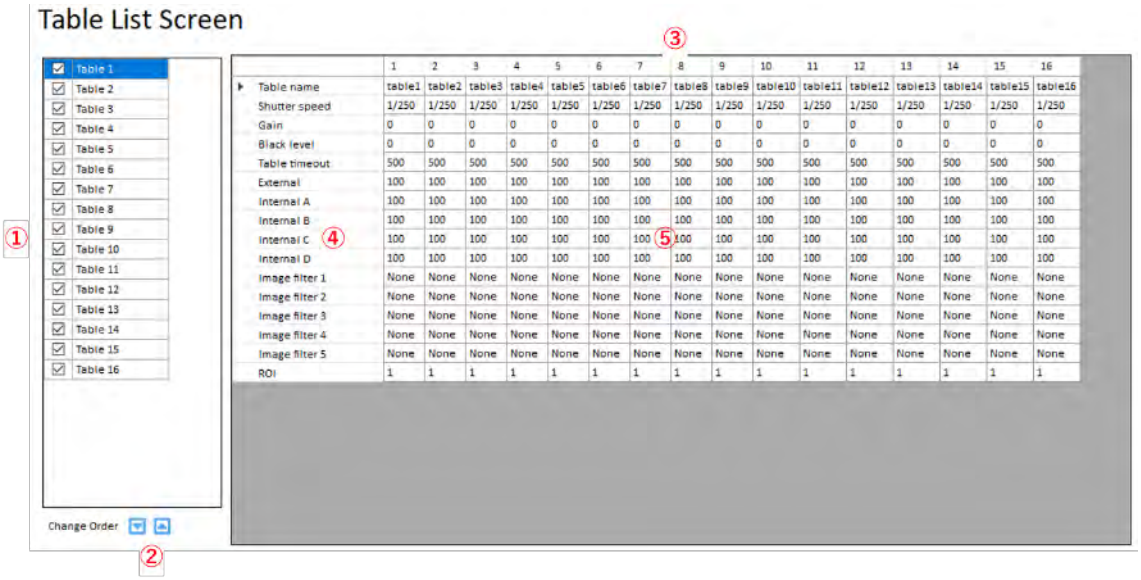


Click the “OK” button to display the confirmation window.



4.12. Table List Screen

The Table List Screen displays the Reading Parameters of each Tables. You can also copy the Table settings to another Table.



	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Table name	table1	table2	table3	table4	table5	table6	table7	table8	table9	table10	table11	table12	table13	table14	table15	table16
Shutter speed	1/250	1/250	1/250	1/250	1/250	1/250	1/250	1/250	1/250	1/250	1/250	1/250	1/250	1/250	1/250	1/250
Gain	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Black level	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Table timeout	500	500	500	500	500	500	500	500	500	500	500	500	500	500	500	500
External	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Internal A	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Internal B	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Internal C	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Internal D	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Image filter 1	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None
Image filter 2	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None
Image filter 3	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None
Image filter 4	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None
Image filter 5	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None
ROI	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

① Table Number Display List

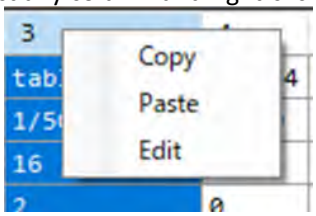
Specify the Table number to be displayed on the “Table List”.
The unchecked Table number will be hidden on the “Table List”.

② Display Order Change

Click the button to change the display order of the Table selected in “Table Number Display List”.
The replaced Table is also reflected in the “Table List”.
*Even if the order is changed the order of the Tables saved in the reader is unchanged.

③ Table Number

The setting value for each Table number.
Select any column and right-click to display the context menu.



- Copy of Table
  If you want to copy the Table settings, click “Copy”.
  To paste, left-click and select the Table number you want to paste, right-click, and click “Paste”.
- Edit Table
  If you want to edit the Table settings, click Edit.
  Click “Edit” to move to “Table Settings Screen” for the selected Table number.
  For “Table Settings Screen”, refer to “4.8 Table/ROI Settings Screen Table Settings Tab”.
  *If the selected Table number is larger than “Number of Tables” in “Table Settings Screen”, “Number of Tables” will be changed automatically.

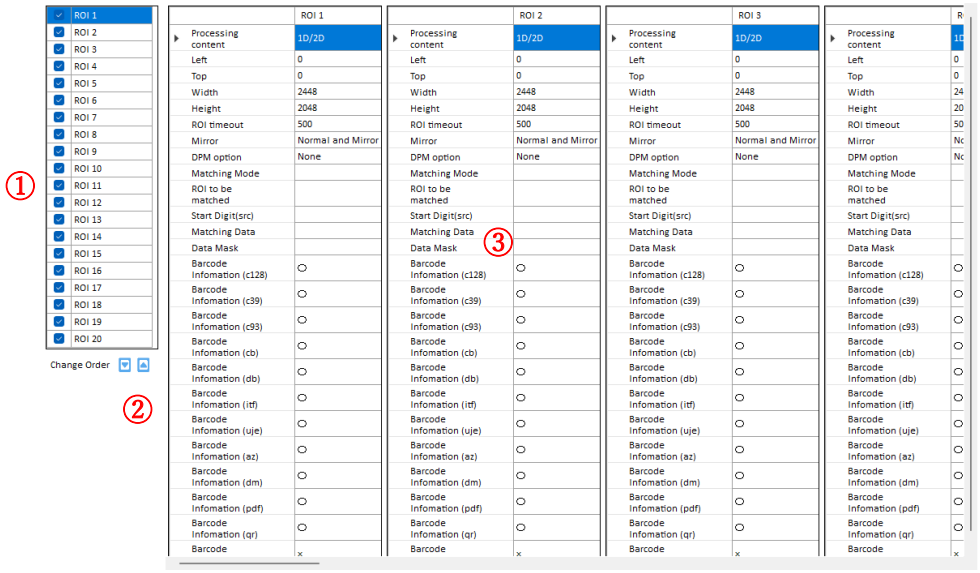
④ Reading Parameter of Table
Indicates the setting Item Name of the Reading Parameter of the Table.

⑤ Table List
The settings stored in each Table are displayed here.

4.13. ROI List Screen

The ROI Setting List displays the Reading Parameter of each ROI.

ROI List Screen



① ROI Number Display List

Specify the ROI number to be displayed on the “ROI List”.
The unchecked Table number will be hidden on the “ROI List”.

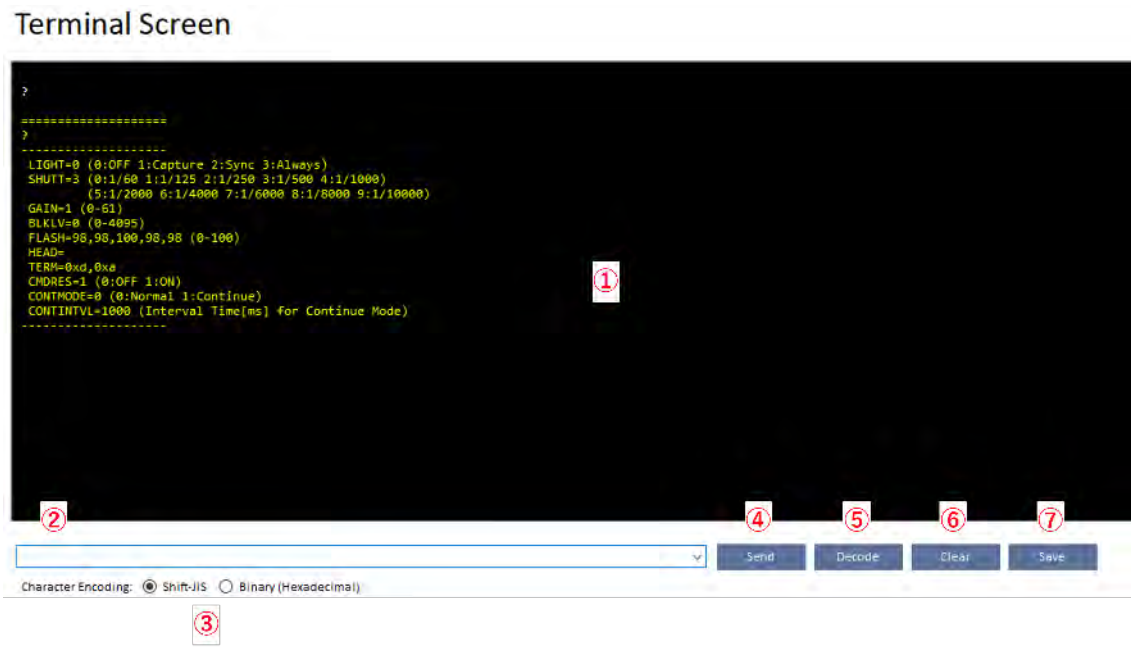
② Display Order Change

Click the button to change the display order of the ROIs selected in “ROI Number Display List”.
The replaced ROI is also reflected in the “ROI List”.
*Even if the order is changed the order of the ROIs stored in the Code Reader is not changed.

③ ROI List

The settings stored in each ROI are displayed here.

4.14. Terminal Screen



① Command Execution Display Area

This area displays the executed command and the execution result.

② Command Input Area

If you enter a command here and press the enter key or click the “Send”, the result of executing the command will be displayed in the “Command Execution Display Area”.
When you click the arrow to the right of this area, you can see and select the commands you send. (Max: 20 commands)

③ Character Encoding

You can switch the display character encoding of the command execution result.
If you change the settings, the characters changes from the next response.
*Even if you change the setting, the character encoding of the already displayed will not be changed.

④ Send

Send the command entered in the “Command Input Area” to the Code Reader.

⑤ Decode

Send a Soft Trigger to the Code Reader and the Code Reader reads the barcode.
You can also execute it by pressing the “F5” key.

⑥ Clear

Clear all the contents displayed in the “Command Execution Display Area”.

⑦ Save

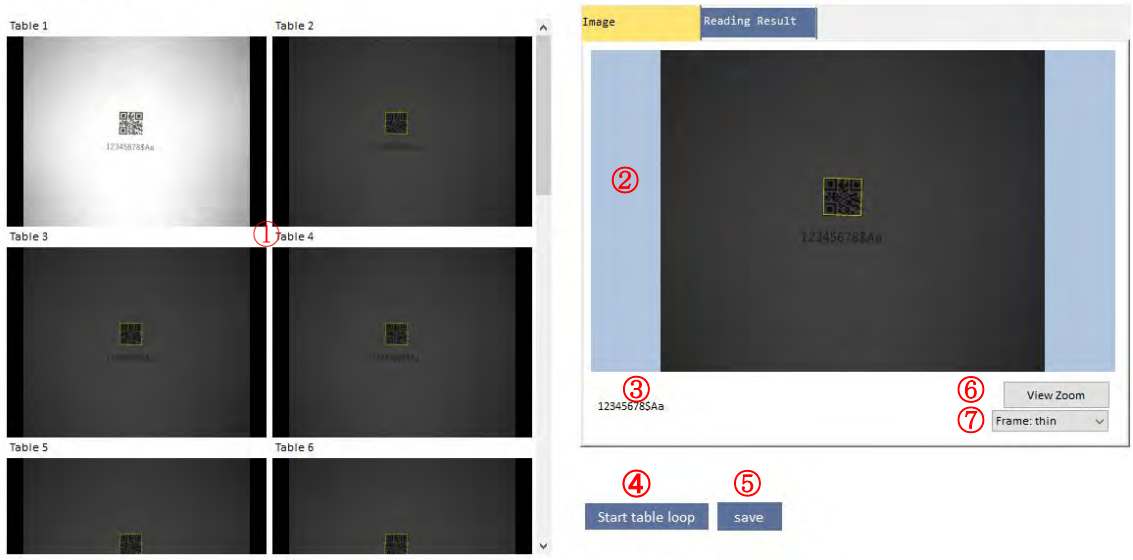
Save the contents displayed in the “Command Execution Display Area” as text.

You can also start ImageViewer by pressing the “F9” key on the Terminal Screen.
For details on ImageViewer, refer to “Image Viewer Window”.

4.15. Table Loop Screen

You can check the operation of each Table you set.

Table Loop Screen



① Each Table Image Display Area

The captured images are displayed in Table order for the Table used for reading.
(e.g., If the number of Tables used is 3, the images of Tables 1 to 3 are displayed)
Double-clicking this area while capturing is stopped will open the Image Viewer Window.
For more information on Image Viewer Window, refer to “4.17 Image Viewer Window”.

② Image/Read Result Tab

By clicking the tab, you can switch the display 2 tabs.

- Image Tab
  The image of the last read Table number is displayed.
  Double-clicking this area while capturing is stopped will open Image Viewer Window.
  For more information on Image Viewer Window, refer to “4.17 Image Viewer Window”.
- Read Result Tab
  The reading result is displayed.
  The displayed contents are same as “4.6 Image Display Area Reading Result Tab”.

③ Read Data

The latest reading result is displayed here.

④ Read

Reads all the Tables currently set.
While reading, “Read” button changes to “Stop”.
If you read to the last Table or click the “Stop”, the reading operation will stop.
*Click the “Read” button again to start reading from Table number 1.

⑤ Save

The save dialog is displayed and the three types of files are saved at once.
*In the following example, the file name is “xxxx”.

- Image (.bmp)
  All captured images are saved in serial numbers.
  File name: xxxx_IMG1.bmp, xxxx_IMG2.bmp,…

- Settings File (.sv)
  The FixedConfig7000 Reading Parameter is saved.
  File name: xxxx.sv
- Read data (.csv)
  The items displayed on the “Reading Result Tab” are saved.
  File name: xxxx.csv

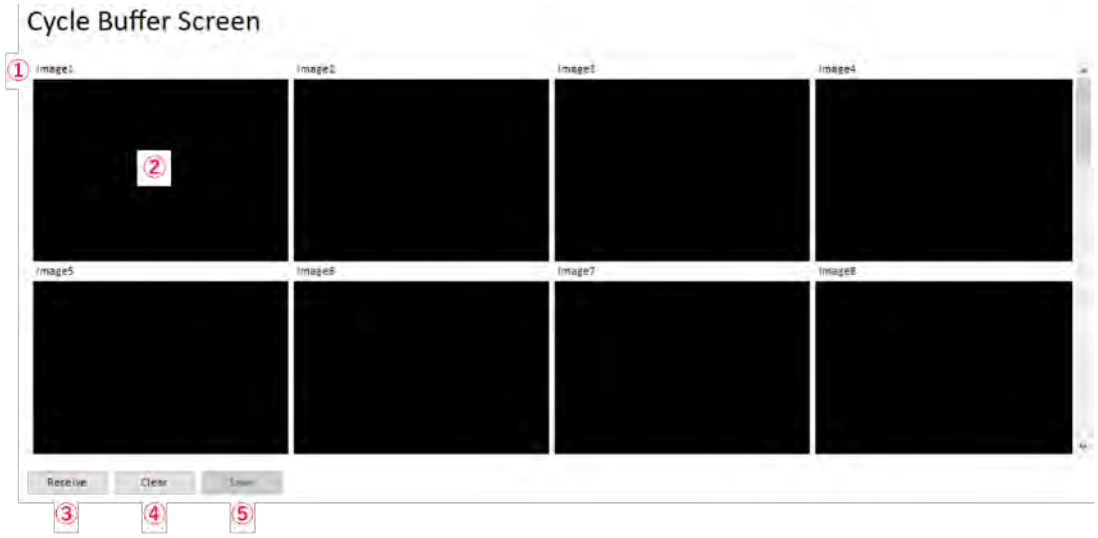
⑥ View Zoom

Click to zoom in on the image and rectangle centered on the currently set rectangle.
Clicking the button switches the display between “View Zoom” and “Overall View ”.
Zoomed-in view is canceled by clicking on the Overall View button.

⑦ Line thickness of the frame border

Draw a rectangle of the reading result with the following selected setting.
[Frame: None]
[Frame: Thin]
[Frame: Slightly Thick]
[Frame: Thick]
[Frame: Very Thick]

4.16. Cycle Buffer Screen



① Image Number

The number of the captured image is displayed.
If the barcode reading is passed, the background of the image number will be displayed in green.

If the barcode reading is decoded but failed, the background of the image number will be displayed in red.

② Image Display Area

The images of the captured buffer are displayed. (Maximum:32)
Double-clicking on this area will open the Image Viewer Window.
To change number of Cycle Buffer's images, refer to "Max Image" in "4.9 Reader Settings Screen Operation Settings Tab Reading Operation Tab".
For more information on Image Viewer Window, refer to "4.17 Image Viewer Window".

③ Receive

Receive the Images from the Code Reader.

④ Clear

Clear the images displayed in the "Image Display Area".

⑤ Save

Save the images displayed in the "Image Display Area".

4.17. Image Viewer Window

① Image Display Area

The captured image is displayed here.

② Scale

By operating the slider, you can change the display rate of the “Image Display Area”.

③ Return to 100%

Returns the display rate of the “Image Display Area” to 100% (original image size).

④ Save Image

Displays the Save dialog box and saves the captured image of the Code Reader in the folder you set.

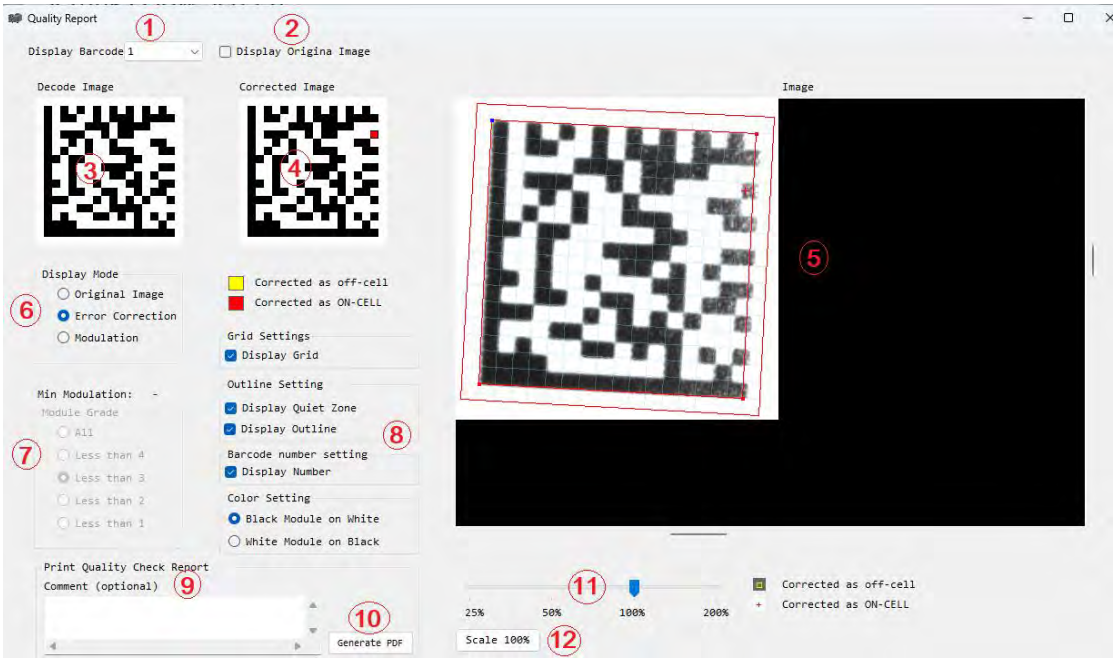
⑤ Always in front

When checked, the Image Viewer Window is displayed in front of the other screens.

4.18. Print Quality Check Report Window

On this screen, when the barcode is read, you can check the part where the errors were corrected, the part where the modulation values for each code word are the lowest and output the Print Quality Check Report.

This function is only for QRCode, MicroQR and DataMatrix.
To use this function, enable the Print Quality Check and read barcode it in advance.



① Display Barcode

You can switch the barcodes displayed in the “Image Display Area”.
If you read multiple barcodes, the number will be automatically assigned in the order read by the reader.

② Display Original Image

If you check this item, the original image will be displayed in the “Image Display Area”.
When the original image is displayed, various information is drawn on the image selected in “Display barcode number”.
If this item is unchecked, only the barcodes specified in “Display barcode number” will be displayed in the “Image Display Area”.

③ Decoded Image

The barcodes recognized by the Code Reader as it decoded are displayed here.

④ Corrected Image

The corrected barcode with error correction function is displayed here.

⑤ Image Display Area

The original image captured by the Code Reader or the image with the barcode cut out is displayed.

You can scale on the image by holding down Ctrl and turning the mouse wheel on the screen.
You can move the display position by dragging the left mouse button on the screen.
If you double-click on the screen, you can scale the image centering on the clicked point.

⑥ Display Mode

The information displayed in the “Corrected Image” and “Image Display Area” is changed.

- Original image
  Does not display Error Correction and Modulation.
- Error Correction
  The part where the error correction was performed is displayed.
  The cells that are “Corrected as OFF-CELL” and “Corrected as ON-CELL” are displayed.
- Modulation
  For each codewords, the lowest modulation values are displayed.
  When this item is selected, “Module Grade" can be set.

⑦ Module Grade

You can select the modulation grade to display.
*“Displayed Grades” 0 to 4 in the following table are Module Grades of “ISO / IEC 15415”.
It corresponds to Cell Modulation (CM) of “ISO / IEC TR 29158”.

Contents	Range	Displayed Grade
All	all	0,1,2,3,4
Less than 4	Modulation <0.5	0,1,2,3
Less than 3	Modulation <0.4	0,1,2
Less than 2	Modulation <0.3	0,1
Less than 1	Modulation <0.2	0

⑧ Various Display Settings

These items assist the display of “Corrected Image” and “Image Display Area”.

- Display Grid
  Switches the display of grid lines for barcode recognized by the decoder.
- Display Quiet Zone
  Switches the display of the quiet zone for the barcodes.
- Display Outline
  Switches the display of the barcode outline excluding the quiet zone .

- Display Number
  Switches the display of the number corresponding to the “Display Barcode” for the original image.
- Color Setting
  Switches the color of the Error Correction and the Modulation displayed in the “Corrected Image” and “Image Display Area”.
  *Depending on the background color of the barcode, visibility may deteriorate, so select the one that is easy to see.

⑨ Comment

It is an input field of the comment to be described in the Print Quality Check Report (PDF). Comments can be omitted.

⑩ Generate PDF

Click to generate the Print Quality Check Report (PDF) of the barcode selected in “Display Barcode”.
For more information, refer to “4.19 Print Quality Check Report (PDF)”.

⑪ Scale

By operating the slider, you can change the display rate of the “Image Display Area”.

⑫ Return to 100%

The display rate of the “Image Display Area” returns to 100% (original image size).

4.19. Print Quality Check Report (PDF)

For PDF generation, refer to “4.18 Print Quality Check Report Window”.

① Output Information

The Code Reader name, Firmware Version, Tool Version, and PDF output date are displayed.

② Original image

The image captured by the reader is displayed here.
*If the read barcode is large, it will be automatically reduced.

③ Corrected image

The barcode recognized by the Code Reader as it decoded are displayed here.
In addition, “Error Correction” or “Modulation” that selected is the “Print Quality Check Report Window” is displayed.
*If selected “Original Image”, displays Error Correction.
*If the read barcode is large, it will be automatically reduced.

④ Overall

The overall grade according to the specified verification method is displayed.

⑤Decode Data

The barcode data and the number of characters are displayed here.
*If the barcode data is long, it will be omitted with "..." notation.
*If a control character is included, the control character is displayed as "□".

⑥ Basic Information

Information about barcodes other than validation is displayed here.

Item Name	Explanation
Symbology	Barcode Type
Decode Time	Decoding Time
Pixels per Module (W × H)	Number of pixels of "1 cell / module"
Num of Modules (W × H)	Number of vertical and horizontal cells in the barcode
Barcode Size (W × H)	Vertical and horizontal size of the barcode
Normal or Mirrored	Normal barcode / mirror barcode

⑦ Verification Result

Information about validation is displayed here.

Item Name	Display range
Spec	Verification Type
Contrast	Contrast
Modulation	Modulation
Fixed Pattern Damage	Fixed Pattern Damage
Decode	Decode
Axial Non-uniformity	Axis Non-uniformity
Grid Non-uniformity	Grid Non-uniformity
Unused Error Correction	Unused Error Correction
Print Growth X * 1	Print Growth X
Print Growth Y * 1	Print Growth Y

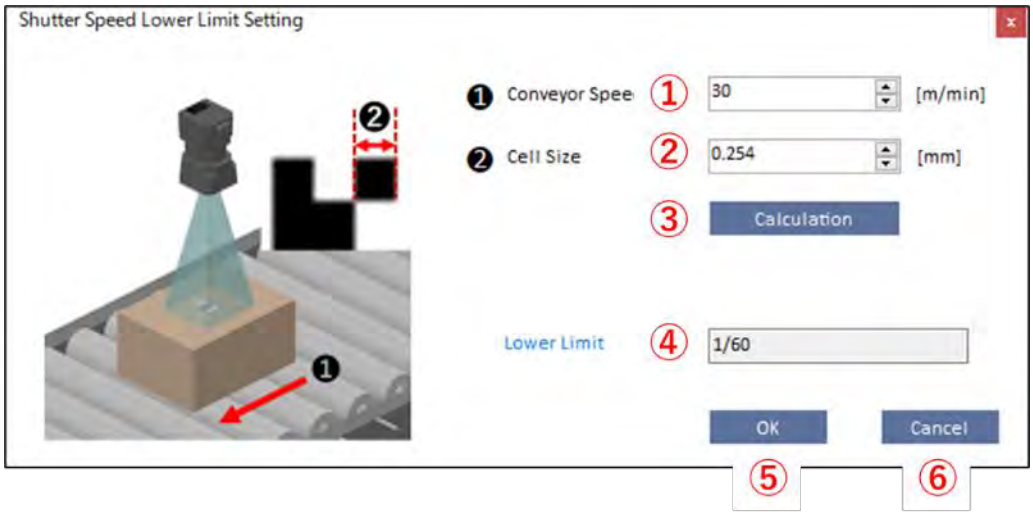
*1: Print Growth X, Print Growth Y are indicators of whether each cell expands or contracts vertically or horizontally.
0% is no expansion or contraction.

⑧ Comment

The information entered in the comment input field is displayed here.

4.20. Shutter Speed Lower Limit Setting Window

From the entered values, the lower limit of the shutter speed is automatically calculated.
The changed settings are retained until the end of FixedConfig7000.



① Conveyor Speed

Enter the conveyor speed.

② Cell Size

Enter the Cell Size.
The value entered on the Settings Flow Screen is automatically reflected.

③ Calculation

The lower limit of the shutter speed is automatically calculated from the “Conveyor Speed” and “Cell Size”.

④ Lower Limit

Display the lower limit of the shutter speed automatically calculated.

⑤ OK

Close the window and reflect the lower limit of the shutter speed.

⑥ Cancel

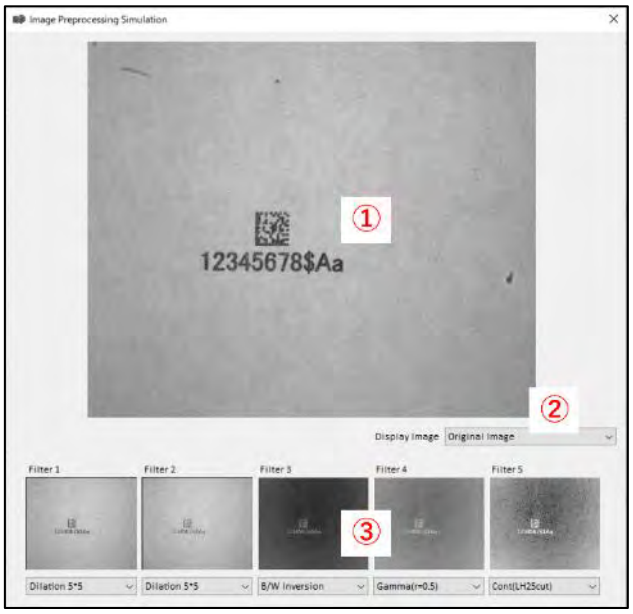
Close the window and discard the setting.

Image Preprocessing Simulation Window

You can check the result of applying various image processing to the captured image on the tool.
You can display the original image and processed images.
* This screen is for simulating the result of image processing, and the set values cannot be reflected on the Table on this screen.

The relationship between the original image and each filter is as follows.

Filter 1 = Apply filter to the original image
Filter 2 = Apply filter to Filter 1
Filter 3 = Apply filter to Filter 2
Filter 4 = Apply filter to Filter 3
Filter 5 = Apply filter to Filter 4



① Image Display Area

The image selected in “Display image” is displayed.

② Display image

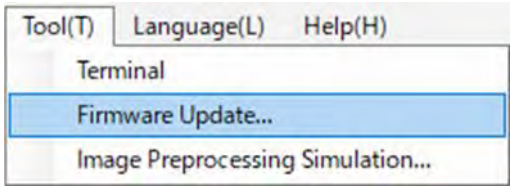
You can switch the display image of the original and filters 1 to 5.

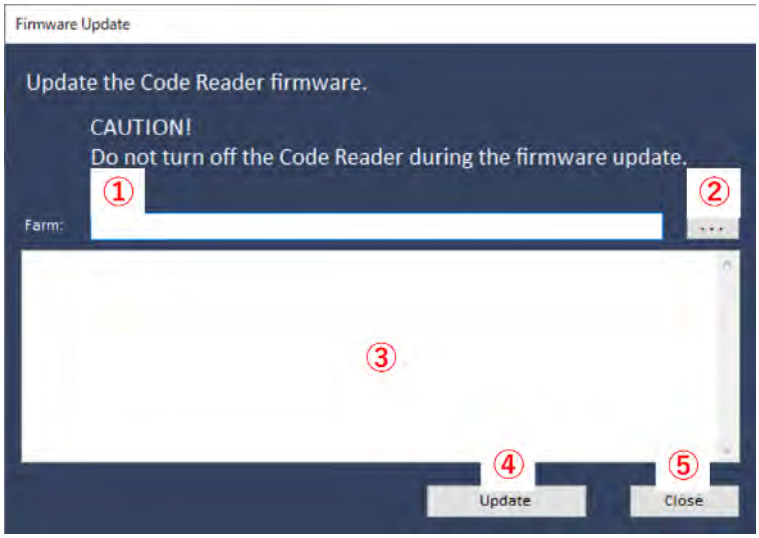
③ Filter Setting Area

Various image preprocessing can be set as filters 1 to 5.
The set image preprocessing is reflected in the thumbnail.
If you want to check the set filter on “Image Display Area”, select the image in “Display image”.

5. Firmware Update Window

You can update the firmware of the Code Reader using FixedConfig7000.
To open the Firmware Update Window, select “Firmware Update” from “Tool” in the Main Menu.





① Firmware File Path

Enter the path to the firmware file.

② Firmware file selection

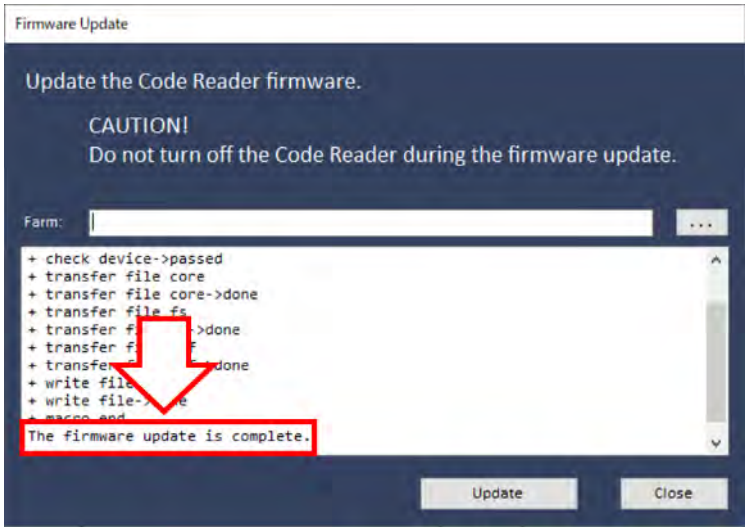
Click the button to display the file selection window.
When you select a file, the path will be displayed in the “Firmware File Path”.

③ Update Status

The status during the firmware update is displayed.

④ Update

Start the firmware update and the update status will display to the “Update Status”.
When the process is completed, the following message will be displayed.



When the update is completed normally, reboot the Code Reader according to the message.

⑤ Close

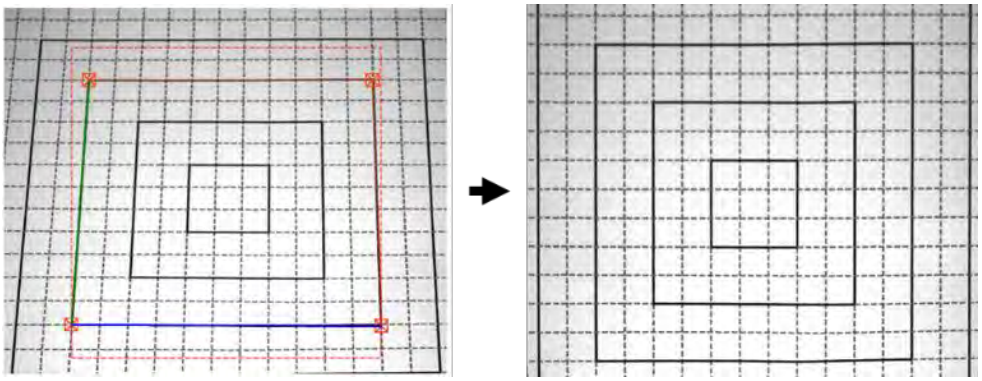
Close this window.

WARNING

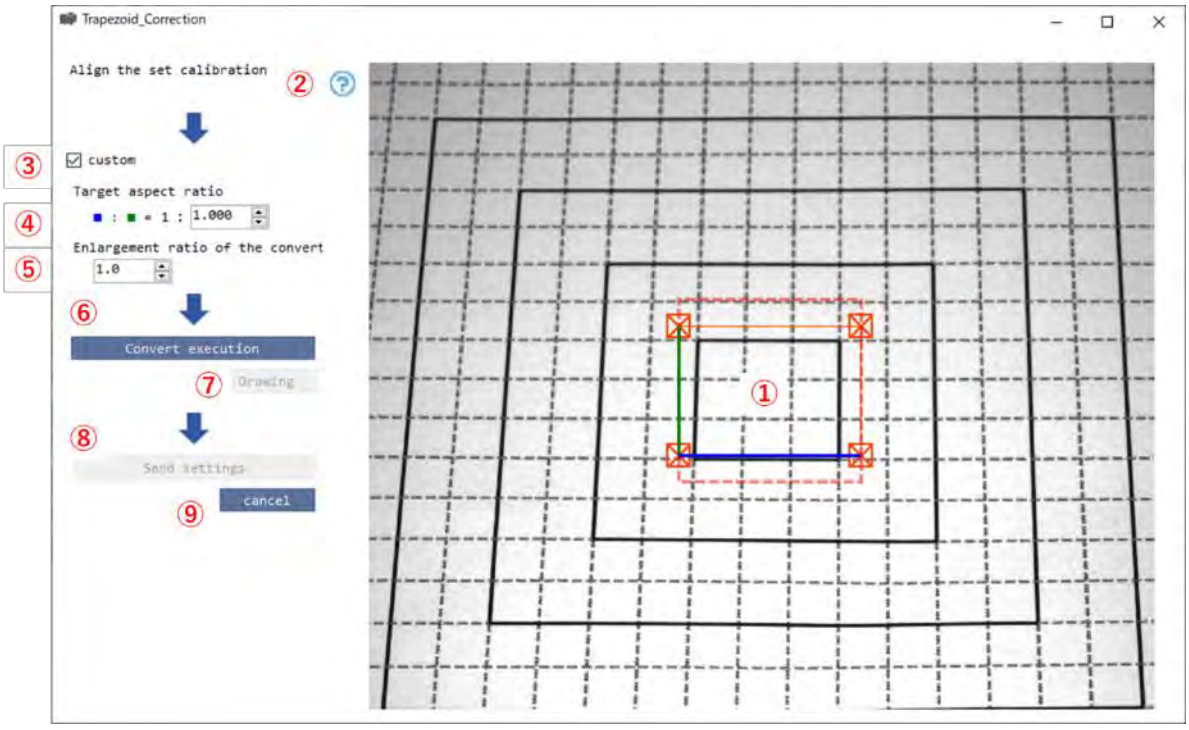
Never turn off the Cord Reader during a firmware update. The file system may become corrupted and may not boot.

6. Trapezoid Correction

The Trapezoid Correction is a function that corrects the distortion of the captured image by attaching the Code Reader at an angle.



To open this window, select the “Others” tab from the “Reader Settings Screen”.
Before opening the settings window, capture an image using the attached the Calibration Sheet.



① Rectangle for Correction

Move the mouse cursor over the four corners and drag it to move or scale the rectangle.

-Drag the four corners : Move the corner.
-Drag the four corners with Ctrl key : Move the 4 corners at the same time.
-Right click on the image : Shows/Hides corners.

② Help (Trapezoid Correction)

Mouse over to see help with Trapezoid Correction.

③ Custom

If check it, following items are displayed.
-Target Aspect Ratio
-Enlargement Ratio After Correction

④ Target Aspect Ratio

Set this when performing Trapezoid Correction using someone other than the Calibration Sheet.
Enter the ratio of the green line to the blue line of the “Rectangle for Correction”.

⑤ Enlargement Ratio After Correction

You can adjust the size of the converted rectangle by changing the value.
(Range : from 1.0 to 2.0)

⑥ Convert Execution

After adjusting the “Rectangle for Correction”, click it to execute Trapezoid Correction.

⑦ Reset

Click to return to the image before Trapezoid Correction.

⑧ Write Config

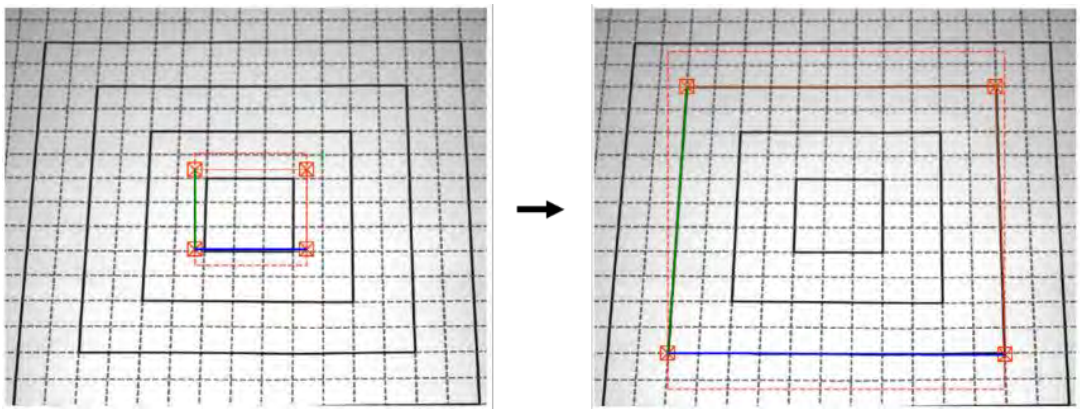
After operation “Convert Execution”, click this button to send the settings to the Code Reader.

⑨ Cancel

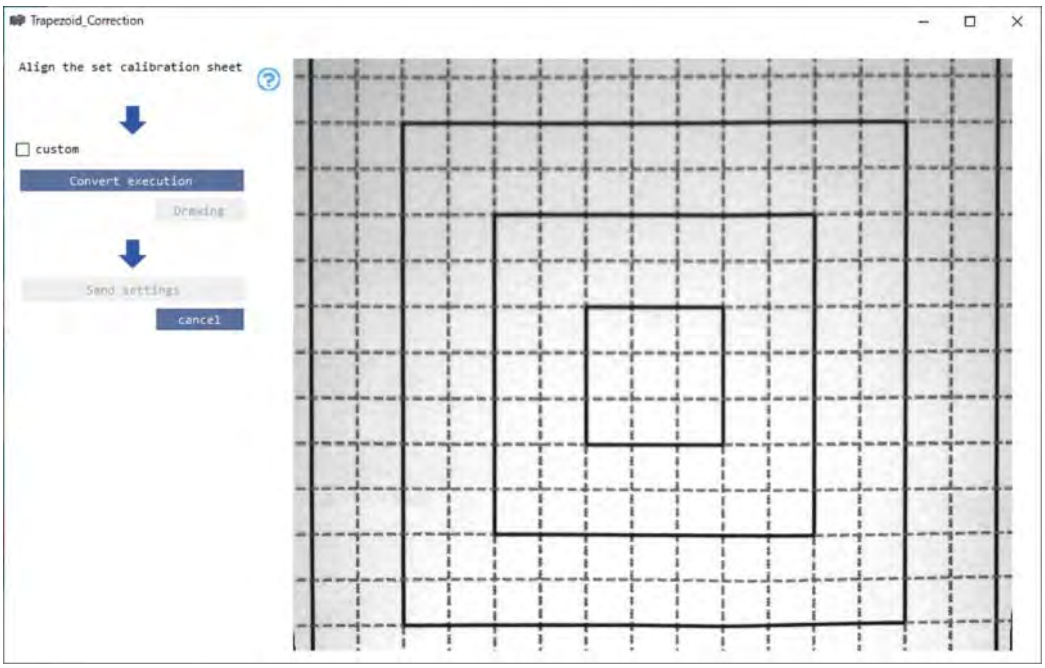
Cancel the operation and close the window.

■ Trapezoid Correction Procedure

1. Capture the image of the Calibration Sheet.
2. Open the Trapezoid Correction Window.
3. Move the four corners to align the vertices the largest grid line that clearly shows the four corners in the Calibration Sheet in the image.



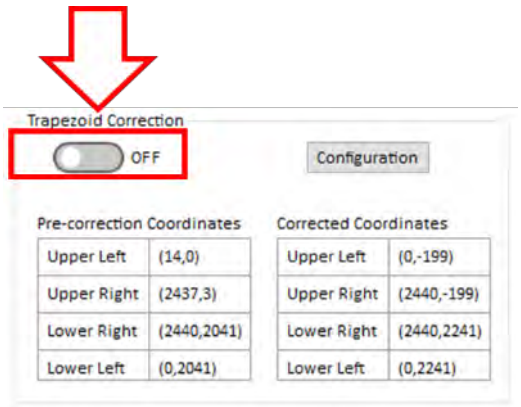
4. Click the “Convert Execution” to display the image after Trapezoid Correction.
   Check the image after Trapezoid Correction has been corrected for distortion.
   To edit the vertices again, click “Reset”.



5. Click the “Write Config” to send the settings to the Code Reader.

■ Enable/Disable Trapezoid Correction

To enable / disable Trapezoid Correction, switch the toggle switch of the Trapezoid Correction item on the “Other” tab.



CAUTION

If you change the Code Reader installation angle, etc., set the Trapezoid Correction setting again.
It may lead to distortion of the captured image.

Trapezoid correction settings are retained for each Setup.

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Rev A.