



Newland AIDC
Scanning Made Simple

EasySet 2.0

Scanner Setting Tool

**User
Guide**

Revision History

Version	Description	Date
V1.0.0	Initial release.	July 28, 2025
V1.01	Added reference image and template management features.	October 30, 2025
V1.0.2	Added quick selection and local parameter settings features.	May 20, 2026

Preface

This manual mainly introduces how to use EasySet 2.0 to configure the functionalities of scanners from Newland Auto-ID Tech. Co., Ltd., enabling users to efficiently set up their devices.

Please read through the manual carefully before using the product and operate it according to the manual. It is advised that you should keep this manual for future reference.

Documentation Download

Visit the official website <http://www.newlandaidc.com> to download user guides, application tools, and development resources.

Overview

This manual is applicable to EasySet 2.0.

All information in this manual is for reference only, and the actual product may differ. Newland Auto-ID Tech. Co., Ltd. reserves the right to modify or update any software or hardware to improve reliability, functionality, or design at any time without notice. The information contained herein is subject to change without prior notice.

Explanation of Icons

The icons used in this document are defined as follows.

Icons	Description
 Note	Note: Provides additional information or tips that help in understanding this manual.
 Caution	Caution: Alerts the user to important operations or potential risks that, if not avoided, could result in minor injury or equipment damage.
 Warning	Warning: Indicates a potentially hazardous situation that, if not avoided, could result in injury, equipment damage, or service interruption.
 Danger	Danger: Indicates an imminently hazardous situation that, if not avoided, will result in serious injury or death.

Contents

1 Getting Started	1
1.1 About the Easyset 2.0	1
1.2 Functions	1
1.3 System Requirements	2
1.4 Installation	3
2 Easyset Home	5
2.1 Main Menu	6
2.2 Device List	9
2.2.1 Device List	9
2.2.2 Device Group	10
2.3 Device Information	13
2.4 Quick Setup Toolbar	14
2.5 Update Firmware	15
2.6 Quick Selection	17
2.7 Local Parameter Settings	19
2.7.1 Basic Image Storage Settings	20
2.7.2 Storage Space Management	21
2.7.3 Network Device Parameters	22
2.7.4 Feature Switches and Command Settings	22
2.7.5 Model Training Settings	23
2.7.6 Additional Adaptation Settings	23
3 Quick Settings	24
3.1 Main Menu	25
3.2 Quick Setup Toolbar	27
3.3 Image Viewing Area	28
3.4 Decoding Settings	30
3.5 Scan Settings	30
3.6 Result Output	31
3.7 Quick Settings	33
3.7.1 Start Monitoring	33
3.7.2 Auto Focus	33
3.7.3 Start Learning	34
3.7.4 Start Test	35
3.8 Scenarios Profiles	36
4 Advanced Settings	38
4.1 Scan Settings	39
4.2 Communication Settings	40
4.3 Input/output	41
4.4 Data Formatting	42
4.5 Image Saving	43
4.6 System Settings	44
5 Visual Settings	45

5.1 Main Menu	46
5.2 Image Viewing Area	48
5.3 Result Output.....	49
5.4 Running Control.....	50
5.5 Workflow Manage	51
5.5.1 Create New Workflow	52
5.5.2 Edit Workflow	54
5.5.3 Output Configuration	56
6 Visual Tools Overview	57
7 Troubleshooting	58

1 Getting Started

1.1 About the Easyset 2.0

EasySet 2.0 is a desktop configuration tool designed for Newland scanners. It supports parameter configuration, performance optimization, and firmware upgrades for a wide range of scanners, including conventional commercial barcode scanners, industrial scanners, and next-generation vision-based scanners equipped with advanced functions like AI-based decoding, OCR, and IVD visual inspection.

1.2 Functions

Its main functions include:

- Automatically detects online scanners and retrieves their configuration parameters for viewing and modification.
- Supports importing and exporting scanner configuration profiles.
- Generates the setting barcodes, and prints or saves them as PDF or Word files.
- Supports capturing and saving images from the scanner.
- Enables device interaction through commands.
- Supports firmware upgrades for scanners.
- Supports vision solution editing features.
- Vision solutions operate in two modes: Run Mode (focused on result display) and Configuration Mode (focused on parameter settings).
- Offers a user interface in both Chinese and English.



Actual functions may vary by device model.

For detailed technical specifications, please refer to the device's datasheet.

1.3 System Requirements

To ensure EasySet 2.0 can be installed and run normally, the host PC should meet the following requirements.

Recommended configuration:

- Operating system: Windows 7/10 (32-bit or 64-bit)
- Memory: 8 GB or higher
- Display: 1366 × 768 resolution or higher

Minimum configuration:

- Operating system: Windows 7/10 (32-bit or 64-bit)
- Memory: 4 GB
- Display: 1366 × 768 resolution

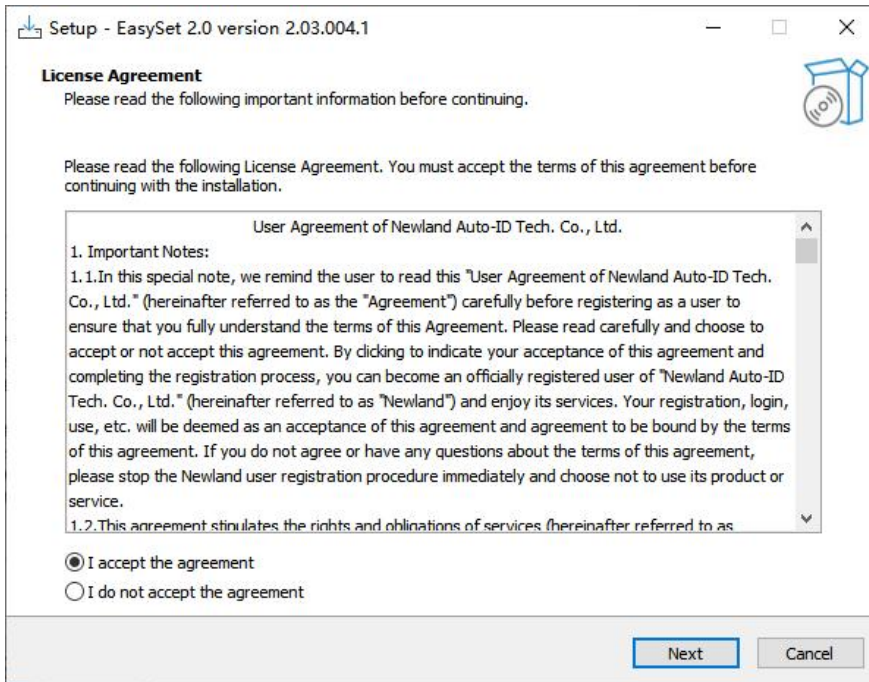


Some antivirus software may incorrectly flag EasySet as malware. To ensure smooth operation, we recommend adding EasySet to the antivirus whitelist or disabling the antivirus program while using the application.

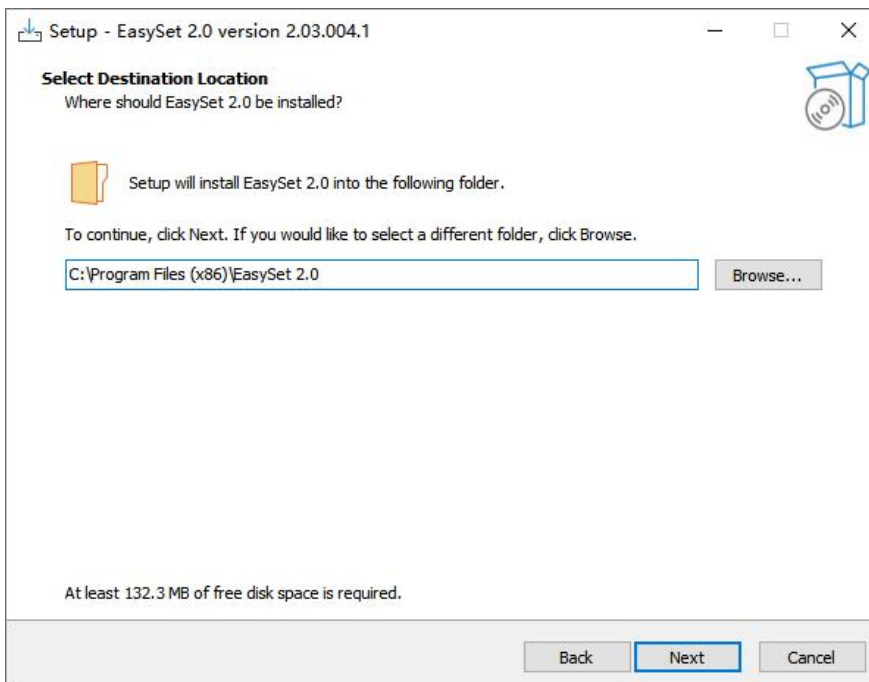
1.4 Installation

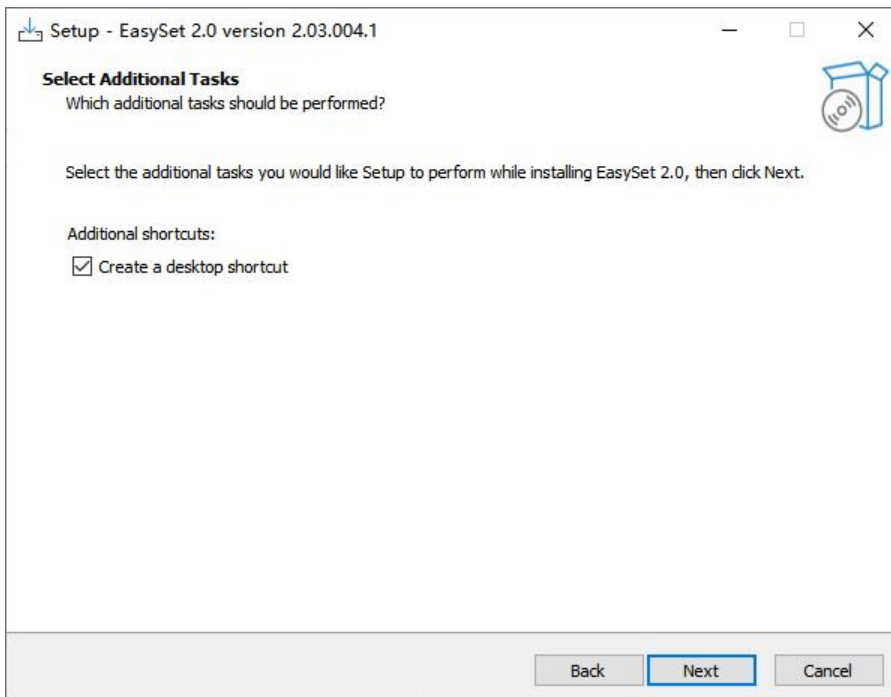
Below are the installation steps for EasySet 2.0:

1. Double-click the EasySet 2.0 installer to start setup. When the license agreement is displayed, read it carefully and select “I accept the agreement” to continue.



2. Set the installation path and select additional tasks as needed, then click “Next” to start installation.





3. When installation is complete, you can choose whether to launch EasySet 2.0 immediately.

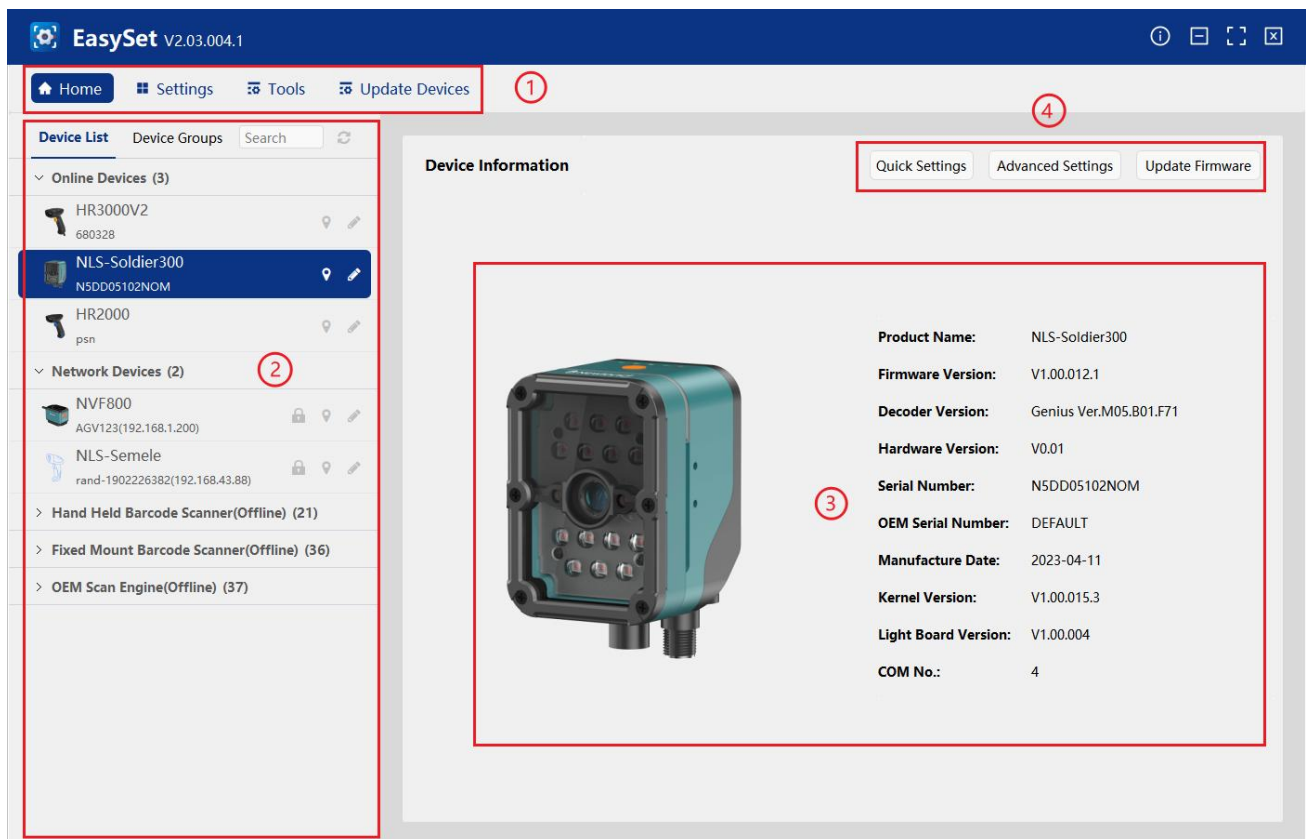


- **vcredist:** The Microsoft Visual C++ Redistributable package. Select “Install vcredist” to install the runtime components required for Visual C++.
- **ufcom:** The UFCOM driver package developed by Newland Auto-ID Tech Co., Ltd. Select “Install ufcom” to install the necessary driver components for UFCOM.

2 Easyset Home

When EasySet 2.0 is launched for the first time, the Home page is displayed by default. The EasySet Home page consists of four main sections:

- ① Main Menu
- ② Device List
- ③ Device Information
- ④ Quick Setup Toolbar



2.1 Main Menu

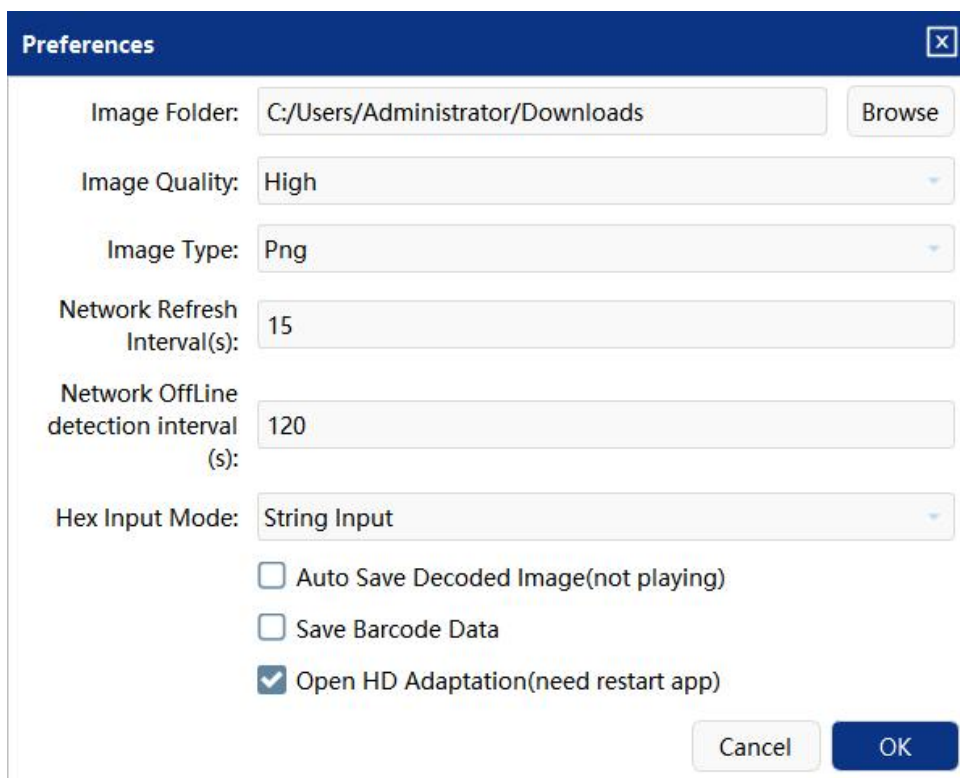
The Main Menu at the top of the Home page includes: Home, Settings, Tools, and Update Devices.



Home: Taps to quickly return to the Home screen.

Settings: This option includes operations such as Local Settings and FTP Settings.

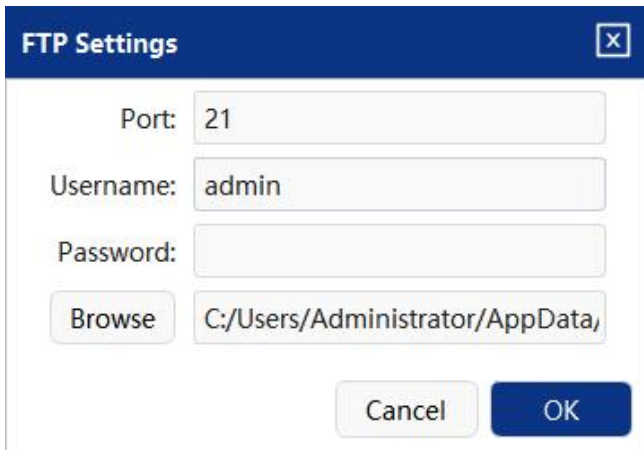
- Local Settings: Configure parameters such as the image save path/quality/type, and network refresh interval, as well as options for auto-saving decoded images and saving barcode data in the filename.

A 'Preferences' dialog box with a dark blue header bar containing the title 'Preferences' and a close button (X). The dialog has a white background and contains several settings:

- Image Folder:** A text field with 'C:/Users/Administrator/Downloads' and a 'Browse' button to its right.
- Image Quality:** A dropdown menu currently showing 'High'.
- Image Type:** A dropdown menu currently showing 'Png'.
- Network Refresh Interval(s):** A text field containing the number '15'.
- Network OffLine detection interval (s):** A text field containing the number '120'.
- Hex Input Mode:** A dropdown menu currently showing 'String Input'.
- Three checkboxes:
 - ☐ Auto Save Decoded Image(not playing)
 - ☐ Save Barcode Data
 - ☒ Open HD Adaptation(need restart app)

At the bottom right, there are two buttons: 'Cancel' and 'OK'.

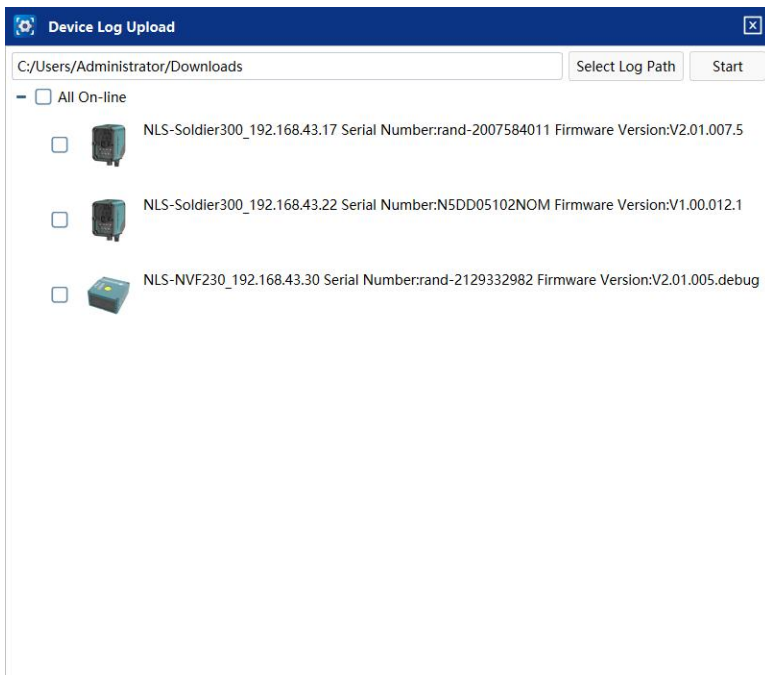
- FTP Settings: Configure the FTP port, username, password, and local save path.



The FTP Settings dialog box has a blue title bar with the text "FTP Settings" and a close button. It contains four input fields: "Port" with the value "21", "Username" with the value "admin", "Password" (empty), and a "Browse" button next to a text field containing "C:/Users/Administrator/AppData,". At the bottom are "Cancel" and "OK" buttons.

Tools: This option includes operations such as Device Log Upload and Command Mode.

- Device Log Upload: Select a scanner and specify log path, then click “Start” to upload and collect device logs.

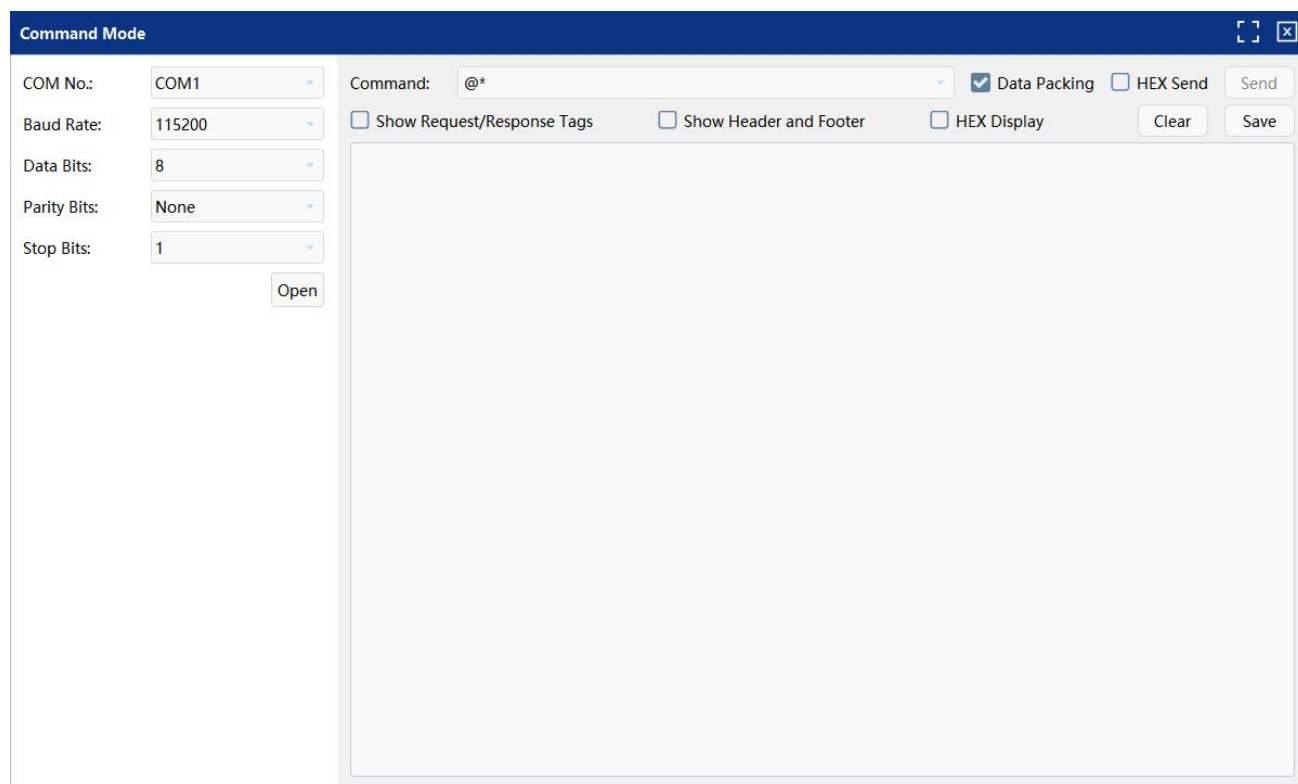


The Device Log Upload dialog box has a blue title bar with a gear icon, the text "Device Log Upload", and a close button. It features a path field showing "C:/Users/Administrator/Downloads", a "Select Log Path" button, and a "Start" button. Below is a section titled "All On-line" with a minus sign and a checkbox. It lists three devices, each with a checkbox, a device icon, and details: "NLS-Soldier300_192.168.43.17 Serial Number:rand-2007584011 Firmware Version:V2.01.007.5", "NLS-Soldier300_192.168.43.22 Serial Number:N5DD05102NOM Firmware Version:V1.00.012.1", and "NLS-NVF230_192.168.43.30 Serial Number:rand-2129332982 Firmware Version:V2.01.005.debug".



Regardless of how long the device has been running or how many logs have been stored, the size of the log uploaded by the device is always 512 MB. To enable the device to store more logs, most of the log content is non-printable characters, which must be decoded by developers before it can be read.

Command Mode: Select the port where the device is located (the device needs to be set to serial port, USB CDC or HID POS). After opening the serial port, you can interact with the device through commands.



If “Data Packing” is selected, the packet header and tail will be added according to the instruction structure and sent; if it is not selected, the original data will be sent.

If “HEX Send” is selected, the data will be sent as hexadecimal values; if not selected, the data will be sent as a string.



In the device settings interface, click “Tools” → “Command mode”, then enter the corresponding command to interact with the device.

Update Devices: Upgrade the firmware on one or multiple devices at a time

For detailed instructions, refer to [2.5 Firmware upgrade](#).

2.2 Device List

2.2.1 Device List

By default, the device list includes three sections:

- Online Devices: Display the devices directly connected to the PC.
- Network Devices: Display the devices in the same LAN as the PC.
- Offline Devices: Display the virtual devices that are not currently connected.

The screenshot displays the EasySet V2.03.004.1 software interface. The top navigation bar includes Home, Settings, Tools, and Update Devices. The left sidebar shows the Device List, which is divided into three sections: Online Devices (3), Network Devices (2), and Hand Held Barcode Scanner(Offline) (21). The 'NLS-Soldier300' device is selected in the Online Devices section. The main panel displays the Device Information for the selected device, including a 3D model of the device and a list of specifications.

Device Information	
Product Name:	NLS-Soldier300
Firmware Version:	V1.00.012.1
Decoder Version:	Genius Ver.M05.B01.F71
Hardware Version:	V0.01
Serial Number:	N5DD05102NOM
OEM Serial Number:	DEFAULT
Manufacture Date:	2023-04-11
Kernel Version:	V1.00.015.3
Light Board Version:	V1.00.004
COM No.:	4



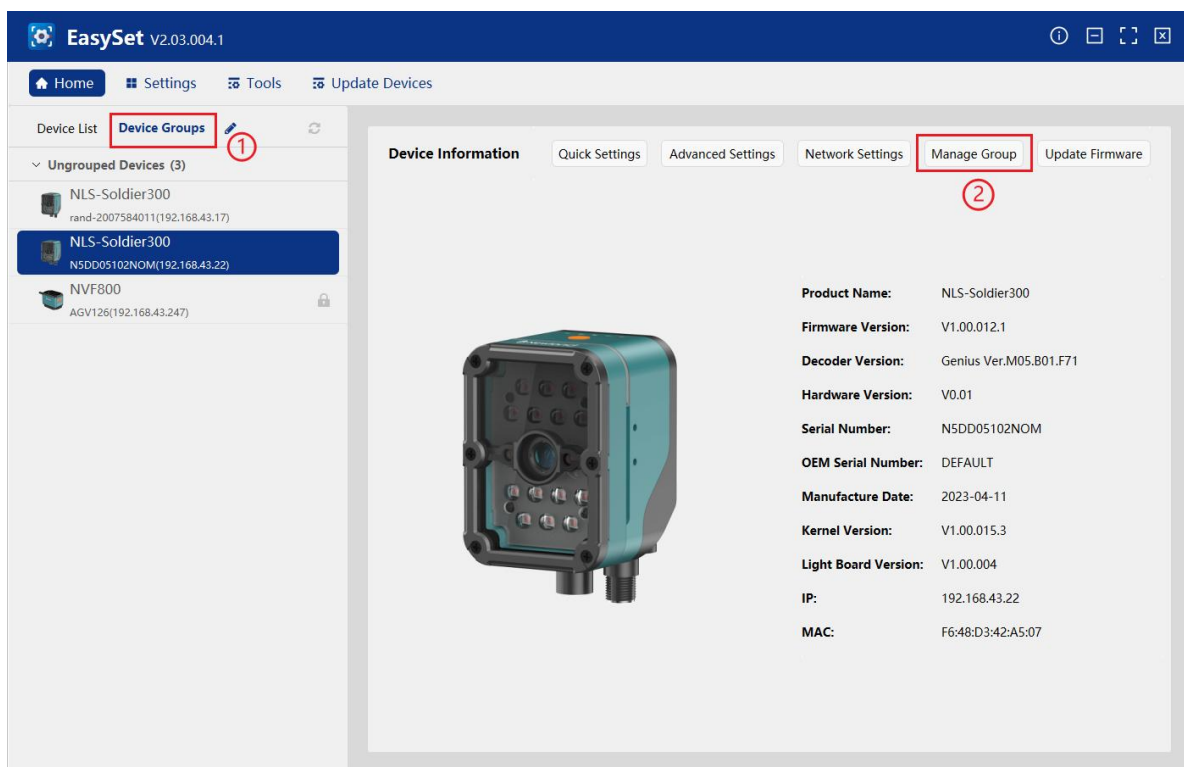
Single-click the device in the device list to view its appearance, device information, and general setup toolbar.

Double-click a device in the device list to open its management interface. For barcode devices, this will open the Quick Settings interface; for AI vision devices, it will open the Vision Settings interface.

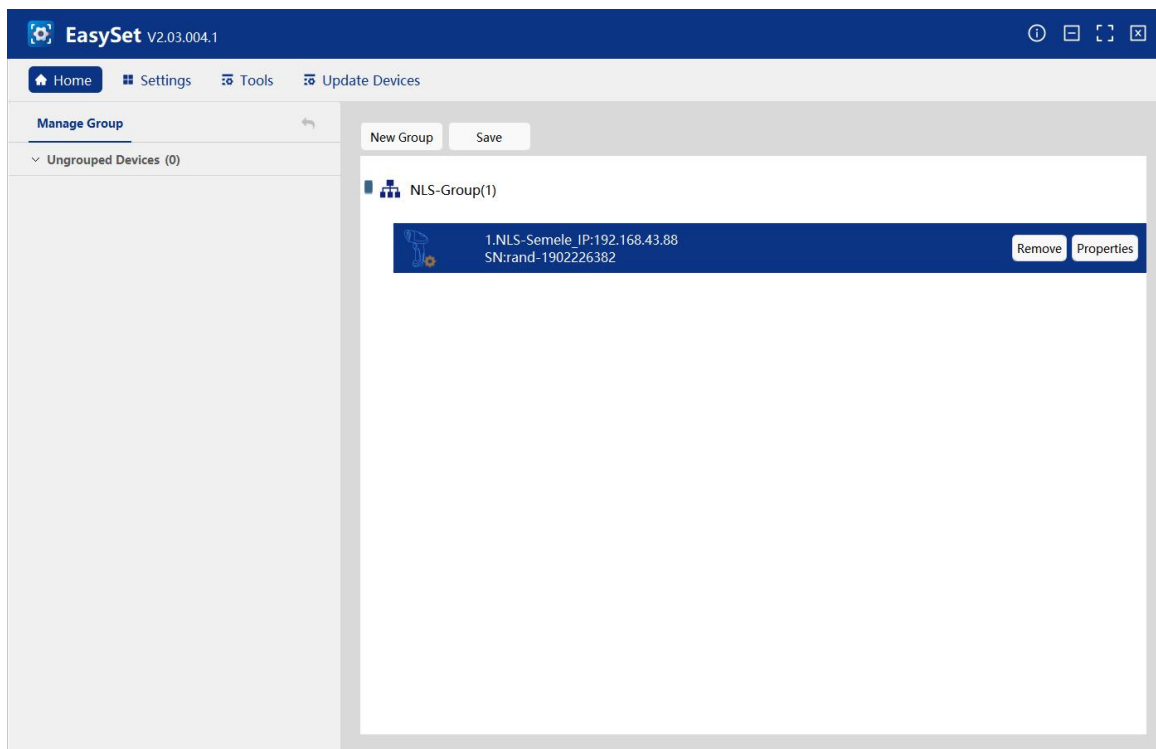
2.2.2 Device Group

Devices connected through Ethernet can create device groups to meet the multi-device combination barcode scanning in complex scenarios such as multiple fields of view, wider field of view, and multiple depths of field.

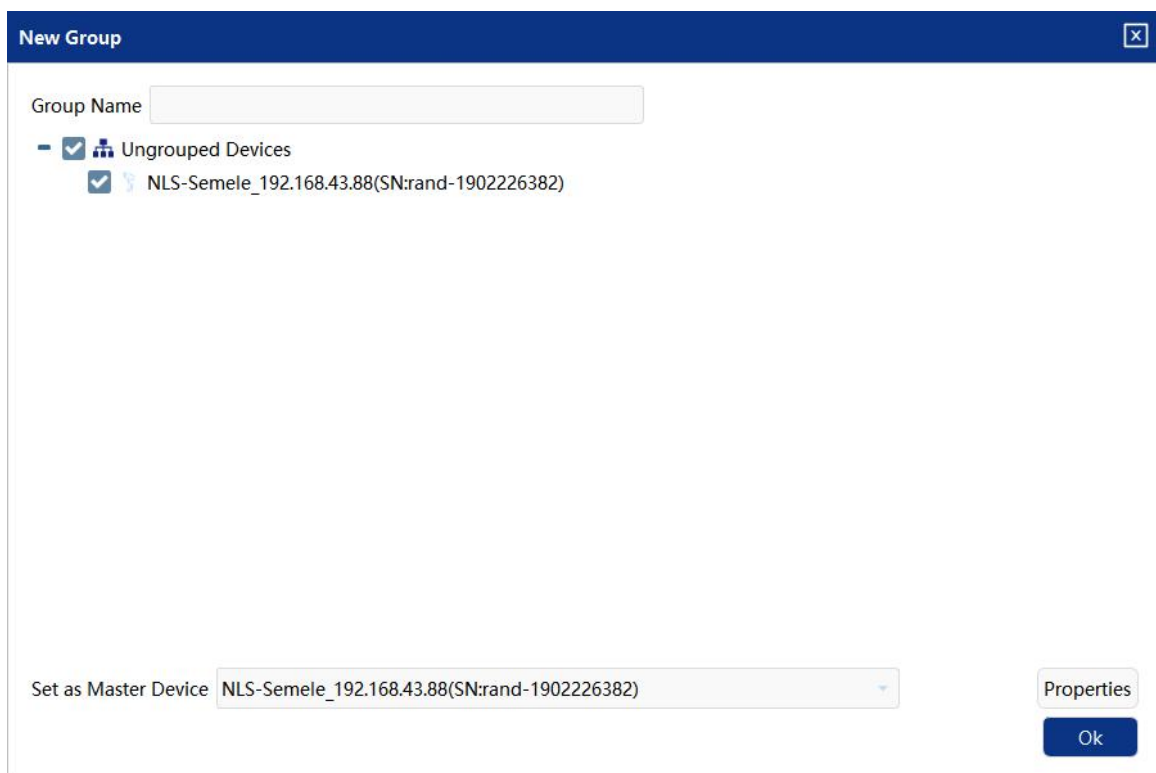
Click “Device Group” (as shown at ①) at the top of the device list, then either click “” on the right or click “Manage Group” (as shown at ②) in the “General Setup Toolbar” to enter the device group editing interface.



After successfully entering the device group editing interface, the following screen is displayed.

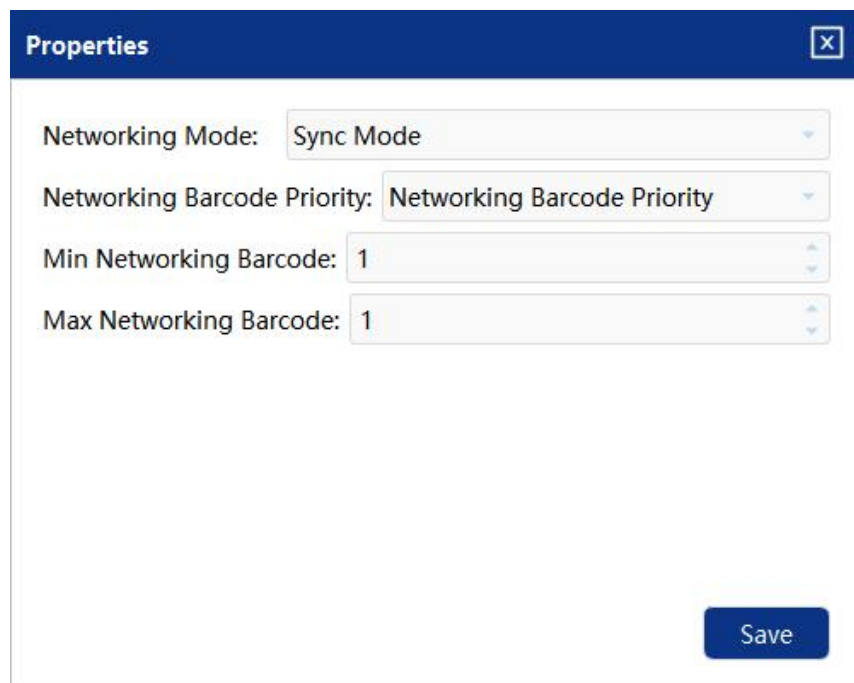


Click “New group” to open the group setup dialog as follows:



After entering the group name, selecting the devices to be grouped, and assigning a master device, click “OK” to complete the device grouping.

Click the “Properties” to enter the group properties editing interface as shown below:



The screenshot shows a 'Properties' dialog box with a blue header bar containing the title 'Properties' and a close button (X). The dialog contains four configuration fields: 'Networking Mode' is a dropdown menu set to 'Sync Mode'; 'Networking Barcode Priority' is a dropdown menu set to 'Networking Barcode Priority'; 'Min Networking Barcode' is a numeric input field set to '1'; and 'Max Networking Barcode' is a numeric input field set to '1'. Each field has a small up/down arrow on its right side. At the bottom right of the dialog is a blue 'Save' button.

Sync Mode: Multiple devices synchronously trigger barcode scanning at the same time. When the required number of scanned barcodes is satisfied, the barcodes will be aggregated to the master for output; it is suitable for the scenarios where the field of view of a single device is not enough and multiple devices are needed to expand the field of view.

Device Barcode Priority Mode: The master-slave devices in the group will send the barcodes to the master device only after meeting their own required number of multiple barcodes. The master device will output all the barcodes results in the group only after meeting its own required number of multiple barcodes. This mode is applicable to the applications where there are strict requirements on which device the barcode appears.

Networking Barcode Priority Mode: Every time the slave device decodes a barcode, the result will be sent to the master device immediately. After the master aggregates all incoming barcodes, as long as the total number of networking barcodes reaches the “networking barcode maximum value”, or reaches the “networking timeout time” and the number of networking barcodes is greater than or equal to the “networking barcode minimum value”, the barcode result will be outputted, otherwise the NG will be outputted.

The difference between the two is that the “Device Barcode Priority Mode” will first determine whether the device has captured the required number of barcodes, which is suitable for applications where each

device in the group must meet a specific number of barcodes requirement. The “Network Barcode Priority Mode” pursues output speed, and can send results directly without judging whether the number is satisfied.

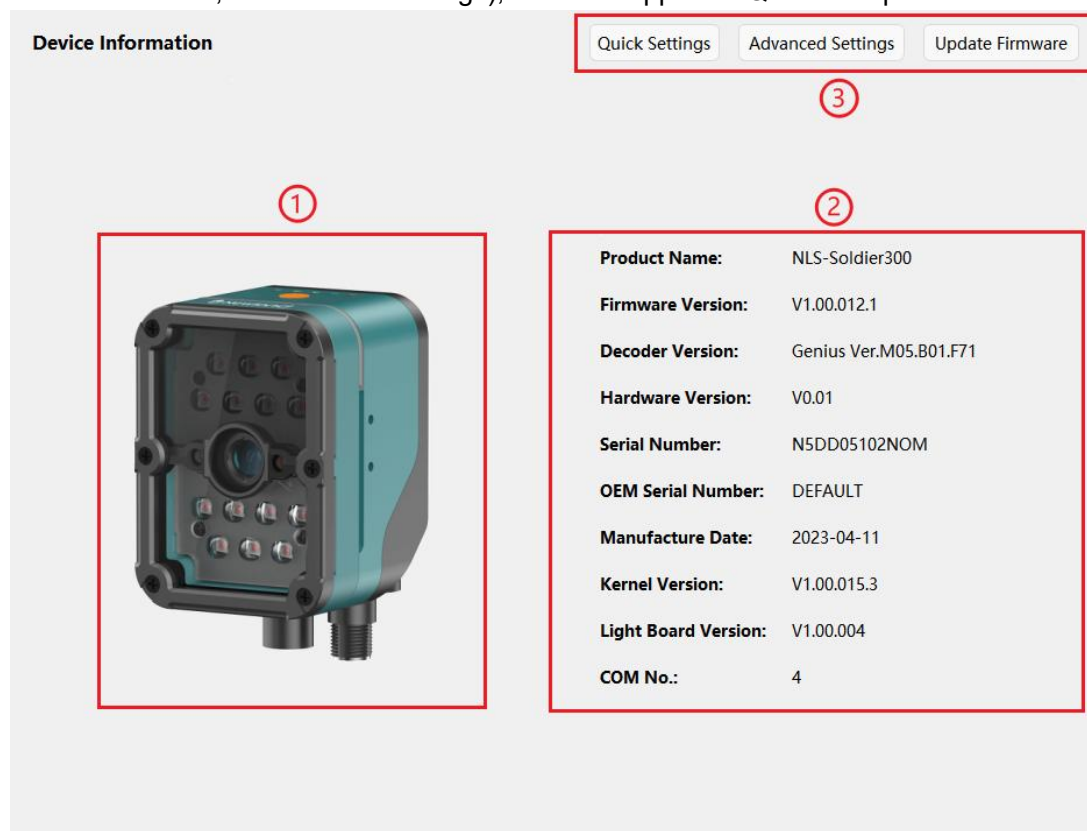
Direct transmission mode: The master device directly outputs the barcodes from the slave without any restrictions; this mode is suitable for scenarios where multiple production lines installed with multiple barcode scanners. In this mode, the master does not perform synchronous triggering, and triggers from one device in the network will not affect the operation of other devices.



The “Device Group” is only applicable to NVF and Soldier series scanners with Ethernet interfaces.

2.3 Device Information

“Device Information” displays the device appearance, detailed information (such as product name, firmware version, and network settings), and the supported Quick Setup Toolbar.



- ① Device Appearance: Displays the device appearance.
- ② Device Information: Shows the device’s system, firmware, and network information.
- ③ Quick Setup Toolbar: Displays the quick-access to the device’s supported tool buttons (hereinafter referred to as the Quick Setup Toolbar).

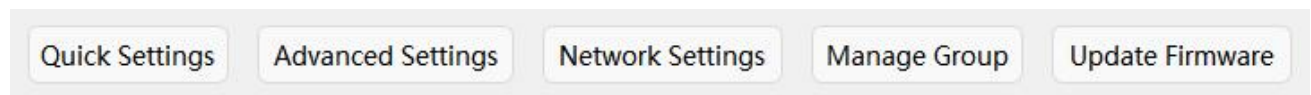
2.4 Quick Setup Toolbar

The Quick Setup Toolbar is located at the upper-left corner of the Device Information page (see: [2.3 Device Information](#)). It provides quick- access to commonly used functions, enabling efficient device management. The functions of each button are described below:

For AI vision scanners, the Quick Setup Toolbar is as shown below.



For barcode/industrial scanners, the Quick Setup Toolbar is as shown below.



The functions of each button on the Quick Setup Toolbar are listed in the table below:

No.	Name	Description
1	Vision Settings	Opens the Vision Settings page (for AI vision devices only)
2	Quick Settings	Opens the Quick Settings page (for barcode/industrial devices)
3	Advanced Settings	Opens the Advanced Settings page (for barcode/industrial devices)
4	Network Settings	Opens the Network Settings window (for network devices)
5	Manage Group	Opens the Group Editing page (for network devices)
6	Update Firmware	Opens the Firmware Upgrade dialog

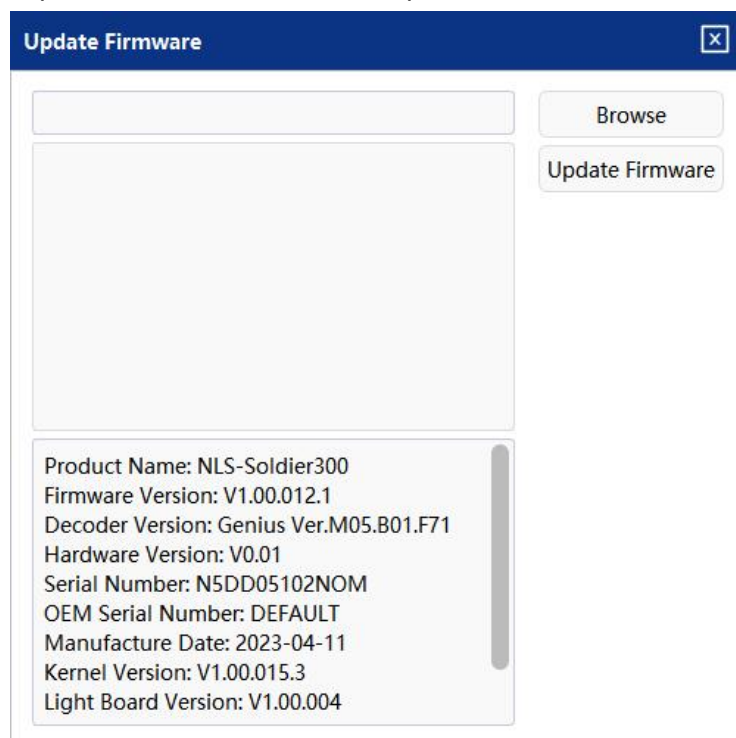


The general setup buttons may vary by device model.

2.5 Update Firmware

The Update Firmware function enables quick firmware upgrades for selected devices, supporting updates on a single device as well as multiple devices simultaneously.

To update the firmware for a single device, click “Update Firmware” on the Quick Setup Toolbar (See: [2.4 Quick Setup Toolbar](#)) to open the firmware upgrade dialog. Select the firmware file, and then click “Update Firmware” to start the update.



To update the firmware for multiple devices, click “Update Devices” on the Main Menu (See: [2.1 Main Menu](#)) to open the batch update dialogue. Select one or more devices and choose the corresponding firmware file, then click “Update” to quickly upgrade the firmware on all selected devices.

Update Devices

Browse



HR3000V2 COM:12
 Serial Number:680328 Firmware Version:2.01.011.B2.EN-dirty-untracked

☐

Update



NLS-Soldier300 COM:4
 Serial Number:N5DD05102NOM Firmware Version:V1.00.012.1

☐

Update



HR2000 COM:6
 Serial Number:psn Firmware Version:1.02.008.EN.B2

☐

Update

Update Firmware

☒ Match Device
 ☐ Select All

Refresh

When “Match Device” is selected, the software automatically matches devices with compatible firmware by comparing the device’s product name to the information in the firmware file. Updates are only applied to successfully matched devices.



Please download the firmware file to your local PC before upgrading.
 USB CDC or Ethernet is recommended for the firmware upgrade.

16

2.6 Quick Selection

Based on parameters such as device model, barcode type and density, mounting method, and distance, quickly complete feasibility assessment and field-of-view estimation, providing equipment selection and optimal installation recommendations for on-site deployment. The specific steps are as follows:

The screenshot displays the 'Quick Selection' application window. It is divided into three main sections: Step 1 (Basic Information), Step 2 (Position Information), and Step 3 (Selection Results). A 'Calculate' button is located between Step 2 and Step 3. To the right of the input fields is an 'Installation diagram' showing a 3D perspective of a Newland device mounted at a height 'H' above a ground plane. The device's field of view is represented by a red pyramid. The horizontal distance from the base of the device to the edge of the field of view is labeled 'N'. The vertical distance from the base of the device to the top of the field of view is labeled 'S'. The text 'Range[50,465]' is displayed in green within the field of view diagram.

Step1 Basic Information

Select Device: NLS-Soldier300W

Barcode Type: 1D

Barcode Size(mil): 10.00

Step2 Position Information

Installation mode: Specified mounting di

Installation Height(H)(mm): 300

Calculate

Step3 Selection Results

Is the Device Available: /

The Horizontal Field of View (mm): /

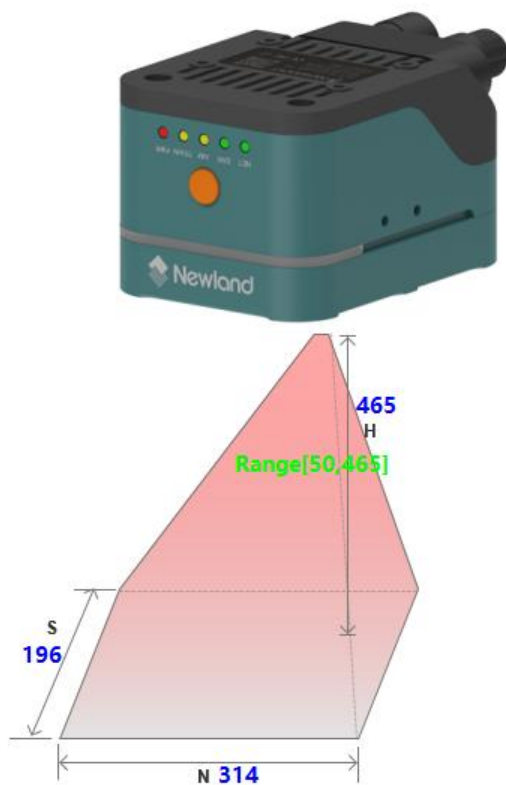
The Vertical Field of View (mm): /

Sequentially complete the selection of device type, barcode type, and density in [Step 1], and the settings for mounting method and height in [Step 2]. Then click the **Calculate** button to obtain the selection results (including whether the device is usable and the required number of devices) and installation recommendations in [Step 3], as shown below:

- Selection Results:

Step3 Selection Results	
Is the Device Available:	Yes
The Horizontal Field of View (mm):	314
The Vertical Field of View (mm):	196

- Installation Diagram:



Click the button in the barcode density option box to open the barcode density calculation auxiliary tool, as shown below:

Barcode Density

Select the Type of Barcode: Code 128 Number of Black Units in the Barcode: 0

Physical Length of Barcode(mm): 0.00 **Calculate**

Judgment of Coding System

The width ratio of the beginning to end of the barcode should meet 2:1:3 or 2:1:1 .(one is sufficient)

Figure Legends

Width Ratio: 2:1:3

Black Unit

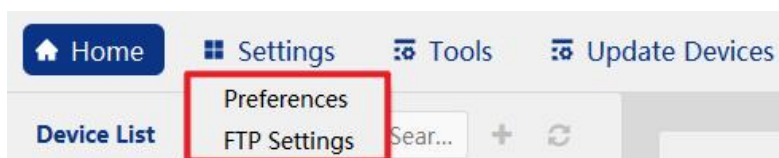
12345678

Barcode Density(mil) 0.000000

Follow the prompts and legend instructions on the tool interface, complete the relevant option settings, and click the [Calculate] button. The density value of the barcode will then be displayed at the bottom of the tool.

2.7 Local Parameter Settings

Local Parameter Settings is located in the [Menu Bar] → [Settings] menu. Click [Settings] to display all setting options (as shown in the figure below):



Select the [Preferences] option to open the settings window.

The screenshot shows a 'Preferences' window with a dark blue header bar containing a gear icon and a close button. The window is divided into three main sections, each with a blue header bar and a vertical scrollbar on the right.

- Basic Image Storage Settings:**
 - Image Folder: A text box containing 'strator/Downloads/EasySet2.0' and a 'Browse' button.
 - Image Quality: A dropdown menu set to 'High'.
 - Image Type: A dropdown menu set to 'Png'.
 - Image Remove Strategy: A dropdown menu set to 'By Date'.
 - Image Storage Validity Period: A dropdown menu set to '3 Days'.
 - Image Saving Count: A text box containing '5000'.
- Storage Space Management:**
 - Minimum Free Reserved Space: A dropdown menu set to '2GB'.
 - Image Storage Strategy: A dropdown menu set to 'Stop Saving New Images'.
- Network Device Parameters:**
 - This section is currently empty.

At the bottom right of the window are 'Cancel' and 'OK' buttons.

This window mainly includes the following configuration items: Basic Image Storage Settings, Storage Space Management, Network Device Parameters, Function Switches and Command Settings, Model Training Settings, and Adaptation Adaptation Settings. The specific functions are described below:

2.7.1 Basic Image Storage Settings

This function is used to configure the basic parameters for image storage. Users can flexibly manage the storage location, format, quality, and automatic cleanup rules of image files according to actual needs, to control the use of storage space.

Image Folder:	strator/Downloads/EasySet2.0	Browse
Image Quality:	High	
Image Type:	Png	
Image Remove Strategy:	By Date	
Image Storage Validity Period:	3 Days	
Image Saving Count:	5000	

- Image Folder: Specifies the save location for image files.
- Image Quality: Quality levels such as "High".
- Image Type: Formats such as PNG.
- Image Remove Strategy: Management methods such as deletion by time.
- Image Storage Validity Period: Sets the number of days to retain images (e.g., 3 days).
- Image Saving Count: Limits the maximum number of saved images (e.g., 5000).

2.7.2 Storage Space Management

This function is used to configure storage space management policies. By setting reserved space thresholds and response mechanisms, it automatically controls image saving behavior to prevent system anomalies caused by exhausted storage space.

Minimum Free Reserved Space:	2GB
Image Storage Strategy:	Stop Saving New Images

- Minimum Free Reserved Space: Sets the lower limit for remaining disk capacity (e.g., 2GB).
- Image Storage Strategy: The action to take when free space falls below the threshold (e.g., stop saving images).

2.7.3 Network Device Parameters

This function is used to configure status monitoring parameters for network devices. By adjusting the refresh and offline detection intervals, it controls the real-time performance of network device status monitoring.

Network Refresh Interval(s):	15
Network OffLine detection interval (s):	120

- Network Refresh Interval(s): Sets the regular refresh interval for device information or status (e.g., 15 seconds).
- Network Offline Detection Interval: Sets the interval for determining if a device is offline (e.g., 120 seconds).

2.7.4 Feature Switches and Command Settings

This function is used to configure parameters related to feature switches and commands. It supports adjusting the command input method and controlling the automatic saving of images during decoding, as well as whether to include barcode data.

Hex Input Mode:	String Input
Auto Save Decoded Image(not playing):	☐ Auto Save Decoded Image(not playing)
Save Barcode Data:	☐ Save Barcode Data

- Hex Input Mode: Sets the input form for commands (e.g., String Input).
- Auto Save Decoded Image (Not Playing): When enabled, automatically saves the corresponding image upon successful decoding.
- Save Barcode Data: When enabled, embeds barcode information into the saved image filename.

2.7.5 Model Training Settings

This function is used to configure parameters during model training. By specifying the URL, the tool can communicate with the model training service, facilitating subsequent task deployment or data exchange.

Cloud Training
URL:

- Cloud Training URL: Sets the cloud or backend service address for model training connection.

2.7.6 Additional Adaptation Settings

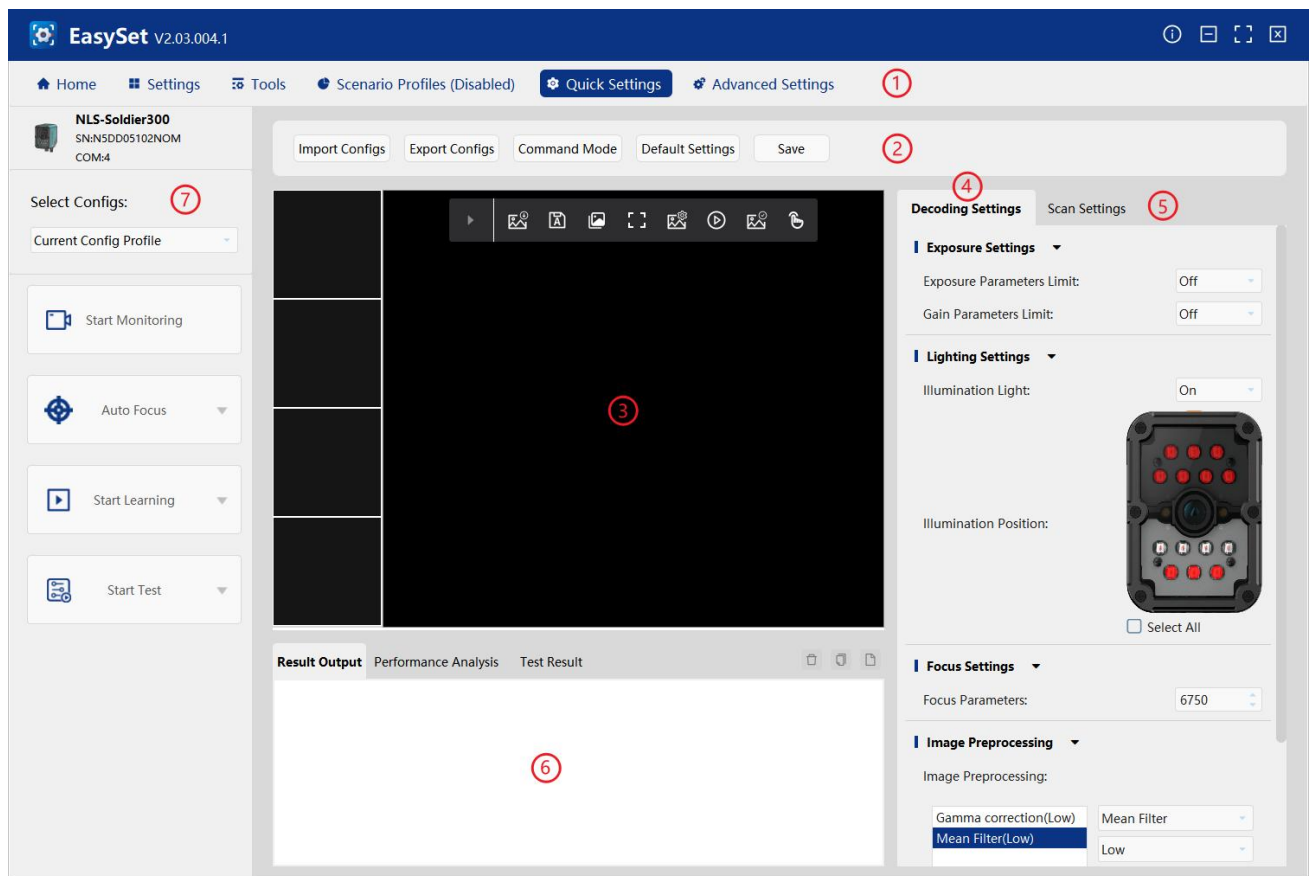
This function is used to adjust the display effect of this software on high-resolution screens (e.g., 2K, 4K monitors), preventing issues like overly small interface text and blurry icons, thereby improving the overall visual and operational experience.

Open HD
Adaptation(need
restart app): ☒ Open HD Adaptation(need restart app)

- Open HD Adaptation: Enable this function by checking the box, but the application needs to be restarted for it to take effect.

3 Quick Settings

To open the Quick Settings page, either double-click a barcode scanner or industrial device in the device list on the Home page, or click the “Quick Settings” button on the Device Information page. The Quick Settings include functions such as: Decoding Settings, Scan Settings, Image Viewing, Result Output, and Select Configurations as shown below.



- ① Main Menu
- ② Quick Setup Toolbar
- ③ Image Viewing Area
- ④ Decoding Settings
- ⑤ Scan Settings
- ⑥ Result Output/Performance Analysis/Test Results
- ⑦ Quick Settings

3.1 Main Menu

The Main Menu at the top of the Quick Setup page includes Home, Settings, Tools, Scenario Profiles (Disabled) / Scenario Profiles (Enabled), and Advanced Settings, as shown below.



Home: Taps to quickly return to the Home page.

Settings: Includes operations such as Local Settings and FTP Settings, same as “Settings” on the Home page.

Tools: Includes Setting Barcode and Compare Configuration.

- **Setting Barcode:** Generates setting barcodes based on selected parameters; the setting barcodes can be printed or saved as PDF or Word files.

Setting Barcode

Encoded Data

Generate Setting Code

Encoded Type

Data Matrix Square

Ratio

Display Text

Text On Top

Print Title

Print Note

Save as PDF

Save as Word

Print

- **Compare Configuration:** Compares current settings with factory defaults or an external XML file.

Compare Config

Factory Default vs Current Settings

XML vs Current Settings

☒ Show Matches

☐ Show non-matches

☐ Select All

Copy

	All	Command	Default	Current
1	☐	Decode Code 128(128ENA)	On	On
2	☐	Baud Rate(232BAD)	115200	115200
3	☐	RS-232 Data Bits(232DAT)	8 Data Bits	8 Data Bits
4	☐	RS-232 RTS/CTS Flow Control(232FLW)	No Flow Control	No Flow Control
5	☐	RS-232 Parity(232PAR)	None	None
6	☐	RS-232 Stop Bits(232STP)	1 Stop Bit	1 Stop Bit
7	☐	AIM ID Prefix(AIDENA)	Off	Off
8	☐	Multiple Code Reading Preference(ALLMEN)	Speed Priority	Speed Priority
9	☐	Multiple Code Separator Settings(ALLMES)		
10	☐	Filter Same Code in Single Image(ALLMRF)	Filter	Filter
11	☐	Symbology Type(ALLMSC)		
12	☐	Horizontal Direction(ALLMSH)	Left to Right	Left to Right
13	☐	Multi-Code Output(ALLMSO)	Random	Random
14	☐	Fixed Order Output Mode 2(ALLMSP)	Vertical, Horizontal, Symbology	Vertical, Horizontal, Symbology
15	☐	Vertical Direction(ALLMSV)	Top to Bottom	Top to Bottom

Select “Show Match” to display items that are identical in the comparison.

Select “Show Difference” to display items that are different in the comparison.

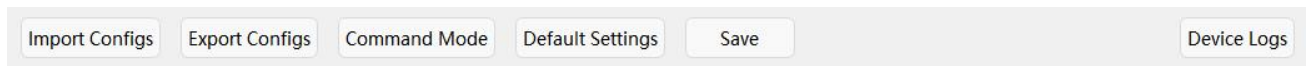
Click “Copy” to quickly copy the selected configuration items.

Scenario Profiles (Disabled)/ Scenario Profiles (Enabled): Click to enter the configuration library editing page, where you can modify its name, enable or disable the configuration library, and quickly copy it.

Advanced Settings: Click to enter the advanced settings page to configure additional advanced parameters of the device.

3.2 Quick Setup Toolbar

The Quick Setup Toolbar includes operations such as Import Configs, Export Configs, Command Mode, Default Settings, Save, and Device Logs as shown below:



Import Configs: Import configuration to the device.

Export Configs: Export the current configuration to the local PC.

Command Mode: Open the command interaction dialog.

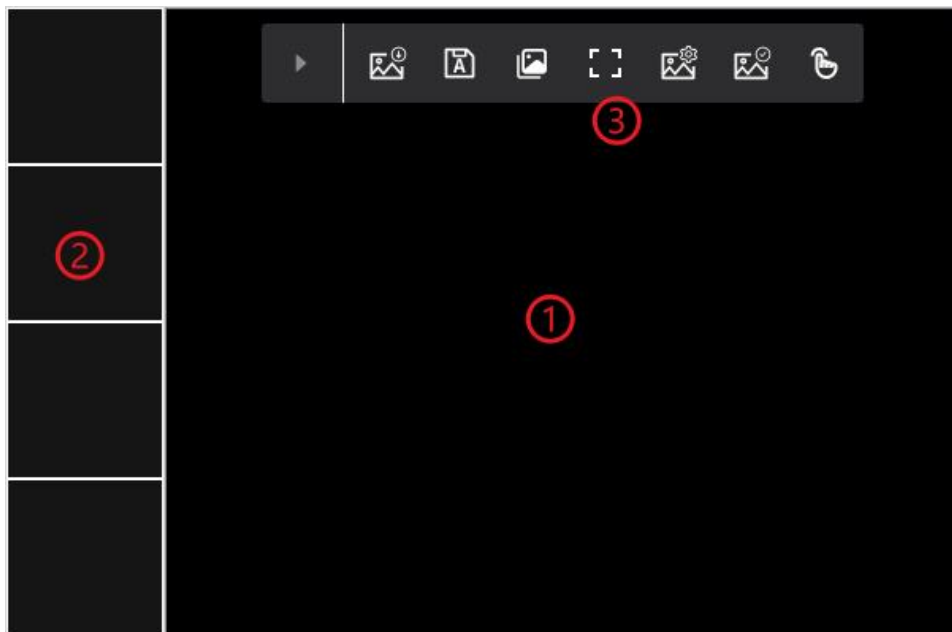
Default Settings: Set the default parameters.

Save: Save the current modifications to the device.

Device Logs: Query the device logs.

3.3 Image Viewing Area

The Image Viewing Area includes three sections: the image display area, the image list, and the image toolbar.



- ① Image Display Area: Displays images captured by the device. Scroll the mouse wheel to zoom the image in/out. Left-click and drag the image for viewing.
- ② Image List: Displays the previous captured images. Click any image to view it.
- ③ Image Toolbar: Provides tools for image configuration, including parameter adjustments, saving images, and toggling full-screen mode.



: Save Image



: Auto Save



: Toggle Image Display Mode (Original Size or Fit to Window)



: Full-Screen Display



: Open Image Settings Dialog



: Capture Device Image



: Simulate Device Trigger



Different devices may support different image tools.

3.4 Decoding Settings

Decoding Settings allows you to configure various decoding parameters such as: Exposure Settings, Lighting Settings, Focus Settings, and Image Preprocessing.

Decoding Settings | Scan Settings

Exposure Settings ▾

Exposure Parameters Limit: Off ▾

Gain Parameters Limit: Off ▾

Lighting Settings ▾

Illumination Light: On ▾

Illumination Position:

☐ Select All

Focus Settings ▾

Focus Parameters: 6750 ▾

Image Preprocessing ▾

Image Preprocessing:

Gamma correction(Low) Mean Filter ▾

Mean Filter(Low) Low ▾



Different devices may support different Decoding Settings;
For technical specifications of the device, please refer to its datasheet.

3.5 Scan Settings

Scan Settings allows you to configure various scanning parameters such as the Decode Center Area, Image Brightness, Multiple Code Settings, and other scanning parameters.

Decoding Settings
Scan Settings

Decode Center Area

Center Decode Area: Full area decode

Image Brightness

Image Brightness Limit: On

Custom Image Brightness: 100

Global Settings

1D Global Settings

1D Decode Complexity: Medium

1D Normal/Inverse: Both

1D Decoding Orientation: Any Direction

Multiple Code Settings

Min Total Decode Count: 1

Max Total Decode Count: 1

Multiple Code Reading Preference: Speed Priority

Filter Same Code in Single Image: Filter

Multi-Code Output: Random

Multiple Code Separator Settings: 

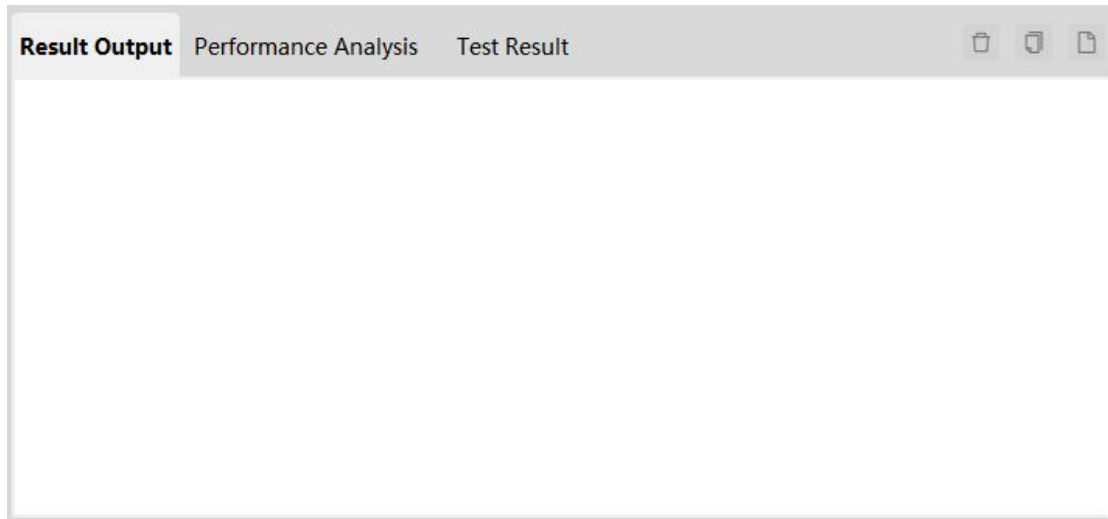


Different devices may support different Scan Settings;
For technical specifications of the device, please refer to its datasheet.

3.6 Result Output

- Result Output: Outputs real-time decoding results, including the configuration library used, barcode content, symbology, decoding time, barcode quality, and other related information.

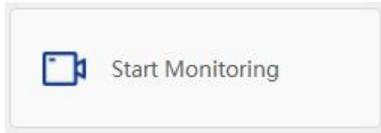
- Performance Analysis: Provides real-time overall test success rate, average decoding time, and a line graph of decoding success rate and decoding time.

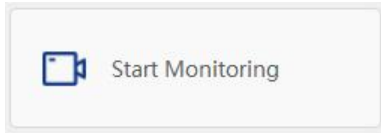


Different devices may have different Result Output; please refer to the specific device for details.

3.7 Quick Settings

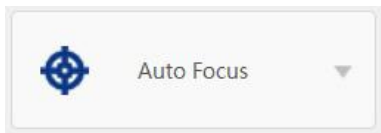
3.7.1 Start Monitoring

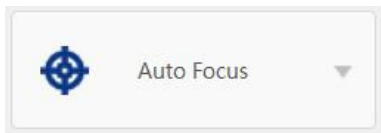


Click  to activate the device to continuously capture real-time images and read barcodes.

Click again to stop barcode reading.

3.7.2 Auto Focus

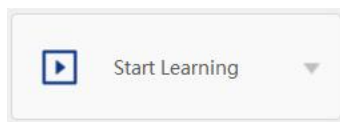


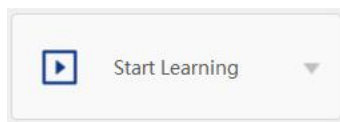
Click  to start auto focus.

Click  on the right side to set the focus form:

- Focus Auto: The scanner automatically determines the position of the scanned object according to environmental factors, and then completes the focus.
- Focus Point: The mouse pointer turns into a crosshair, select or click anywhere in the image to focus on that position.

3.7.3 Start Learning



Click  to start self-learning, click again to stop learning.

Click  on the right side to set the learning parameters:

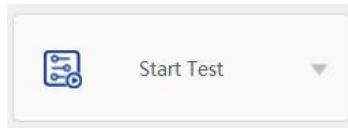
Auto Learning ✕

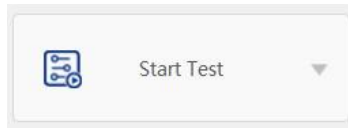
Auto Learning Mode:	In-depth
Barcode Behavior:	Static
Barcode Type:	All
Optimize Brightness:	Manual
Min Exposure Time (μs):	250
Max Exposure Time (μs):	250
Min Gain:	1
Max Gain:	16
Polling Lights:	☒
Preprocessing:	☐

Initialize Start

- Barcode Behavior: Select dynamic/static according to whether the barcode moves.
- Barcode Type: Select the barcode type of the equipment learning object according to the actual situation.
- Optimize Brightness: According to the actual situation, choose to automatically optimize the brightness during the self-learning process, or manually adjust the exposure time and gain.
- Polling Lights: Choose whether to turn on the internal lighting during the self-learning process according to the actual situation.
- Preprocessing: Choose whether to enable image preprocessing during the self-learning process according to the actual situation.

3.7.4 Start Test



Click  to start the test, click again to stop the test.

Click  on the right side to set the test parameters:

A dialog box titled 'Set Test Parameters' with a blue header bar containing a close button (X). The dialog has a white body with the following controls: a label 'Select Configs Profile:' followed by a dropdown menu showing 'Current Config Profile'; a label 'Trigger Interval (ms):' followed by a numeric input field showing '3000'; and a checkbox labeled 'Auto Trigger' which is currently unchecked. At the bottom right are two buttons: 'Cancel' and 'Ok'.

- **Select Configs Profile:** This option automatically matches the Configuration Library selected in self-learning, but user can select a different one manually.
- **Trigger Interval:** Set the time interval for automatically triggering the device to read the barcode.
- **Auto Trigger:** If selected, the trigger interval time setting will be ignored, and the barcode will be read quickly and continuously.

3.8 Scenarios Profiles

“Scenarios Profiles” provides multiple sets of specific exposure, gain and focus parameters for different types of barcodes on the production line and complex scenarios that need to switch between different parameter combinations. The barcode scanner can poll through these predefined parameter sets one by one until decoding is successful.

Name	1	2	3	4	5	6	7	8
Enable	☐ Off	☐ Off	☐ Off	☐ Off	☐ Off	☐ Off	☐ Off	☐ Off
Read 1D Barcode	Barcode Disabled	Barcode Disabled	Barcode Disabled	Barcode Disabled	Barcode Disabled	Barcode Disabled	Barcode Disabled	Barcode Disabled
Read 2D Barcode	Barcode Disabled	Barcode Disabled	Barcode Disabled	Barcode Disabled	Barcode Disabled	Barcode Disabled	Barcode Disabled	Barcode Disabled
Retry Count	1	1	1	1	1	1	1	1
Image Group Number	1	2	3	4	5	6	7	8
Image Task Number	1	1	1	1	1	1	1	1
Fixed Exposure Time (µs)	500	500	500	500	500	500	500	500
Fixed Gain	1	1	1	1	1	1	1	1
Illumination Position	255	255	255	14	255	255	255	255
Focus Parameters	6750	6750	6750	6750	6750	6750	6750	6750
Image Preprocessing	Original image	Original image	Original image	Original image	Original image	Original image	Original image	Original image

Click the “Copy” button to duplicate the configuration (e.g., from the current Advanced Settings or another group) to a different configuration group.

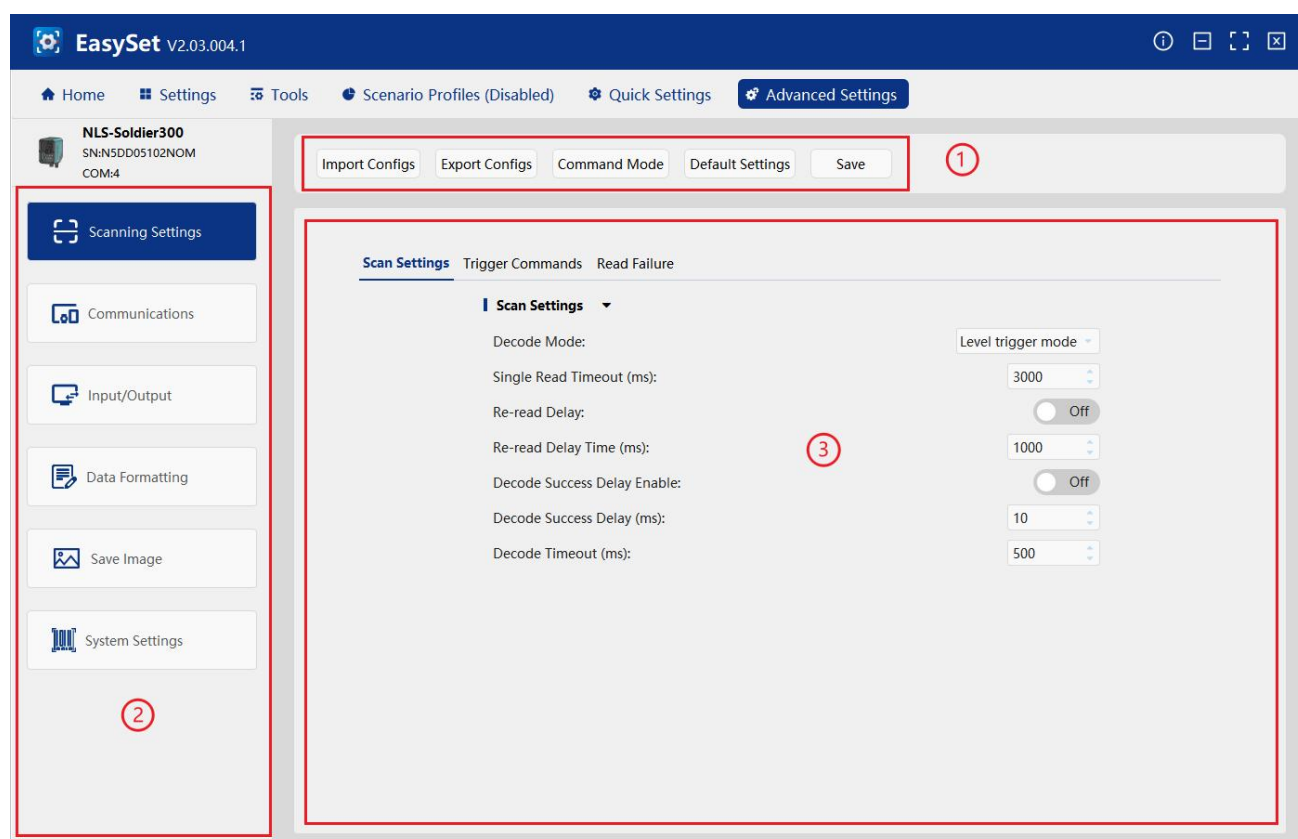


- **Enable:** Enable this configuration library. When using the Configuration Library to read barcodes, all enabled libraries can be polled in turn.
- **Retry Count:** Defines the number of read retry attempts allowed after a decoding failure with the current configuration library. If the barcode remains undecoded after all retries, the system advances to the next configuration library.
- **Image Group Number:** Add image group configuration. Groups with the same Image Group Number share identical image settings (e.g., exposure, gain, focus) but have different decoding settings (e.g., symbologies, image preprocessing).

- Image Task Number: Defines sub-task groups within an image group (an image group can be divided into multiple task groups). When one task successfully decodes, all other tasks in the same group are immediately terminated. The image group is considered complete only after all task groups have finished processing.
-

4 Advanced Settings

Click “Advanced Settings” on the device information of the home page to quickly enter the Advanced Settings interface. Advanced Settings supports various configurations such as Scan Settings, Communication Settings, Input/output Settings, Data Formatting, Image Saving, and System Settings as shown below.



① Quick Setup Toolbar: Includes settings such as Importing Configurations, Exporting Configurations, Command Mode, Default Settings, Save, and Device Logs. Please refer to [3.2 Quick Setup Toolbar](#) for details.

② Advanced Settings Groups: Includes Scan Settings, Communication Settings, Input/Output Settings, Data Formatting, Image Saving, and System Settings.

③ Advanced Settings Details.

4.1 Scan Settings

Configure scan parameters such as Trigger Commands, Image Flip, Read Failure, and ACK/NAK settings.

Scan Settings Trigger Commands Image Flip Read Failure Febraban Configs ACK/NAK Settings

Setting Code ▼
Setting Code Information: Don't send setting code info ▼

Scan Settings ▼
Decode Mode: Level trigger mode ▼
Smart Stand Mode: ☒ On
Single Read Timeout (ms): 3000
Re-read Delay: ☐ Off
Re-read Delay Time (ms): 1500
Decode Timeout (ms): 500
Decoding Preference: Normal ▼
Disable/Enable Decoding: Enable scanning ▼



Different devices support different scan settings;
For technical specifications of the device, please refer to its datasheet.

4.2 Communication Settings

Configure communication parameters such as Interface Type, RS-232 Settings, keyboard Settings.

Interface Type Output Channel Settings RS-232 Settings Keyboard Settings Wiegand Format MQTT

Interface Type ▾
Interface Type:
☐ Serial
☐ USB Keyboard
☐ HID POS
☐ IBM SurePOS(Table-Top)
☐ IBM SurePOS(Hand-Held)
☒ USB CDC COM
☐ Datalogic Magellan Aux-RS232

Cable Communication Adaptive ▾
USB and serial port adaptive: ☒ On
Bluetooth HID and USB keyboard adaptive: ☐ Off

Other Symbolologies ▾
Inter-Character Timeout (ms):



Different devices support different communication settings;
For technical specifications of the device, please refer to its datasheet.

4.3 Input/output

Configure input/output parameters such as Input, Output, IO Control Output, and IO serial trigger.

Input Output IO Controlled Output IO Serial Trigger GPIO Digital Output Electronic article surveillance(EAS)

Input ▾
Trigger Input Source: IO Input Trigger ▾
IO Control Decode Data Output: ☐ Off
Enable Input : ☐ Off
Trigger Signal Polarity: Low level trigger ▾
Trigger Signal Duration (ms):

Input Terminal 1 ▾
Function Definition: Disable ▾

Input Terminal 2 ▾
Function Definition: Disable ▾



Different devices support different input/output settings;
For technical specifications of the device, please refer to its datasheet.

4.4 Data Formatting

Configure data formatting parameters such as Data Format, LUA Scripts, Java Scripts, Driver's License Parsing, and Code ID.

[JavaScript](#) [LUA Script](#) **[Data Format](#)** [Prefix/Suffix](#) [Code ID](#) [Barcode Supplementary Info Settings](#) [Marking Quality Evaluation](#) [Driver's License Parsing](#)

Data Format

Data Format Profile:

Data Format off

Select Data Format:

Data Format 0

Data Format Mismatch Warning Beep:

On

Multiple Formats:

Off

Clear All Data Formats:

Clear

Default Data Format

Data Format Query

Query Factory Data Format

Data Formatter

Data Formatting Editor:

Settings

Data Formatting Editor:

Settings

A yellow icon of an open book with a lowercase 'i' inside, representing information or a help section.

Different devices support different data formatting settings;
For technical specifications of the device, please refer to its datasheet.

42

4.5 Image Saving

Configure image saving parameters such as Successful Read Image and Failed Read Image.

Image Saving

Image Saving ▼

Successful Read Image:

Don't Save ▼

Failed Read Image:

Don't Save ▼



Different devices support different image saving settings;

For technical specifications of the device, please refer to its datasheet.

4.6 System Settings

Configure system settings parameters such as Sound Settings, Hardware Settings, and Device Status.

Sound Settings Hardware Settings Scan Settings Device Logs Device Status Device Group Settings

Mute Mode ▾

Mute Mode: ☐ Off

Power-On Beep ▾

Power-On Beep: ☒ On

Decode Success Sound ▾

Decode Success Beep: ☒ On

Decode Success Beep Volume: Loud ▾ 20 ▴ ▾

Decode Success Beep Duration (ms): Medium ▾ 80 ▴ ▾

Decode Success Beep Frequency (Hz): Medium ▾ 2730 ▴ ▾

Decode Success Beep Count: 1 ▴ ▾

Decode Success Beep Interval: Short ▾

Decode Success Indication Timing: Prompt before sending data ▾

Decode Failure ▾

Decode Failure LED: ☐ Off

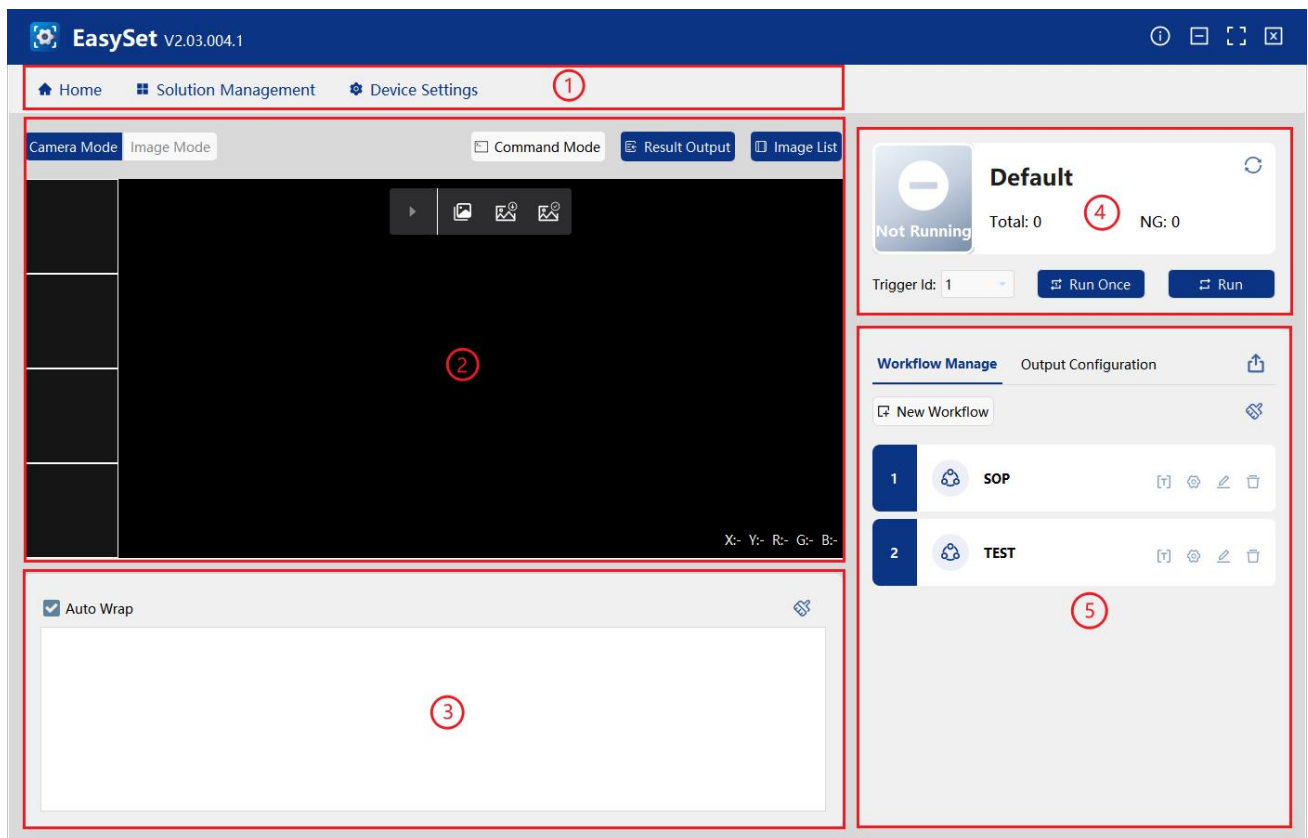


Different devices support different system settings;

For technical specifications of the device, please refer to its datasheet.

5 Visual Settings

To enter the Visual Settings interface, either double-click a visual device in the device list on the Home page or single-click “Visual Settings” button on the device information page. The Visual Settings support various operations, including Solution Management, Device Settings, Image Preview, Result Output, and Workflow Management as shown below.



- ① Main Menu
- ② Image Display Area
- ③ Result Output
- ④ Running Control
- ⑤ Workflow Management

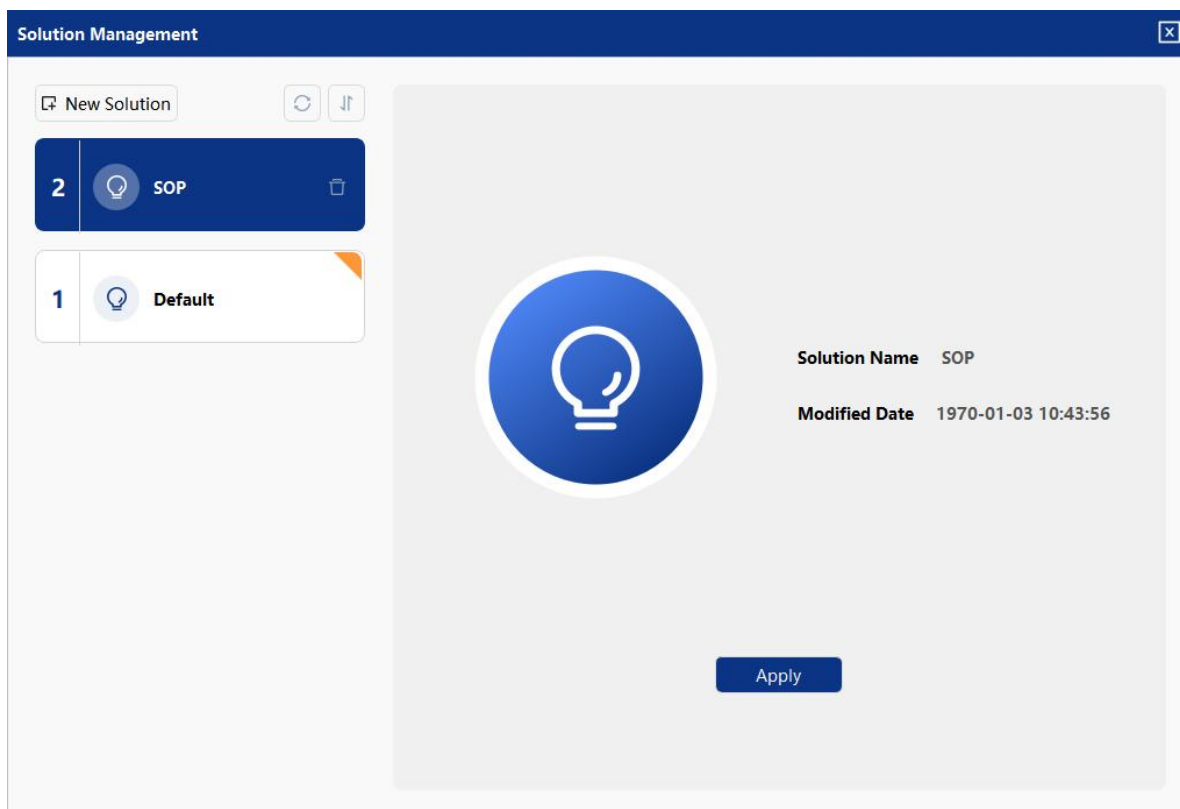
5.1 Main Menu

The Main Menu at the top of the Visual Settings page includes Home, Solution Management, and Device Settings as shown below:



Home: Quickly return to the home page.

Solution Management: Opens the Solution Management dialog to create, delete, and apply visual solutions.



Device Settings: Opens the Device Settings dialog to configure scanning, communication, and system parameters.

Device Settings

Scanning Settings

Communications

System Settings

Scan Settings

Trigger Commands

Read Failure

Febraban Configs

ACK/NAK Settings

Setting Code

Setting Code Information:Don't send setting code info

Scan Settings

Decode Mode:Level trigger mode

Smart Stand Mode:On

Single Read Timeout (ms):3000

Re-read Delay:Off

Re-read Delay Time (ms):1500

Re-read – Ignore Symbology:Off

Decode Success Delay Enable:Off

Decode Success Delay (ms):500

Decode Timeout (ms):500

Decoding Preference:Normal

Tip: Please stop running before saving

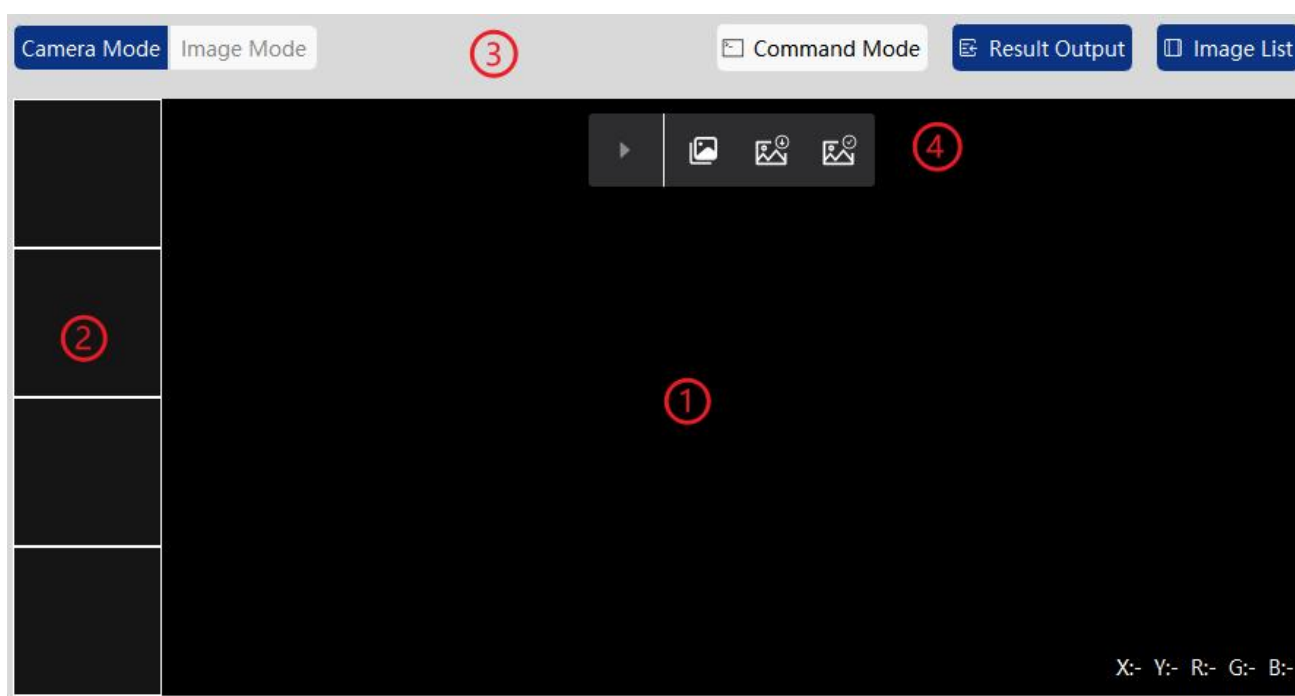
Cancel

Save

47

5.2 Image Viewing Area

The Image Viewing Area is primarily used to display solution result, captured images and reference images. It mainly includes the following sections: Image Display Area (as shown at ①), Image List (as shown at ②), Image Toolbar (as shown at ③), and Image Control Area (as shown at ④).



① Image Display Area: Displays images captured by the device. Scroll the mouse wheel to zoom the image in/out. Left-click and drag the image for viewing.

② Image List: Displays the previous captured images. Click any image to view it.

③ Image Toolbar: Provides tools for image settings. Allows switching between Camera/Image modes, opening the Command Interaction Dialog, and showing/hiding the Result Output Window.



Camera/Image Mode: Switches the input source to either the device's camera image or a user-imported image.

Command Mode: Opens the command interaction dialog.

Result Output: Hides or shows the result output area (See: [5.3 Result Output](#)).

Image List: Shows or hides the Image List (See: [5.2 Image Viewing Area, ②](#)).

④ Image Control Area: Contains controls for image zooming, capture, and saving, as shown below.



: Toggle between Original Size and Fit to Window.



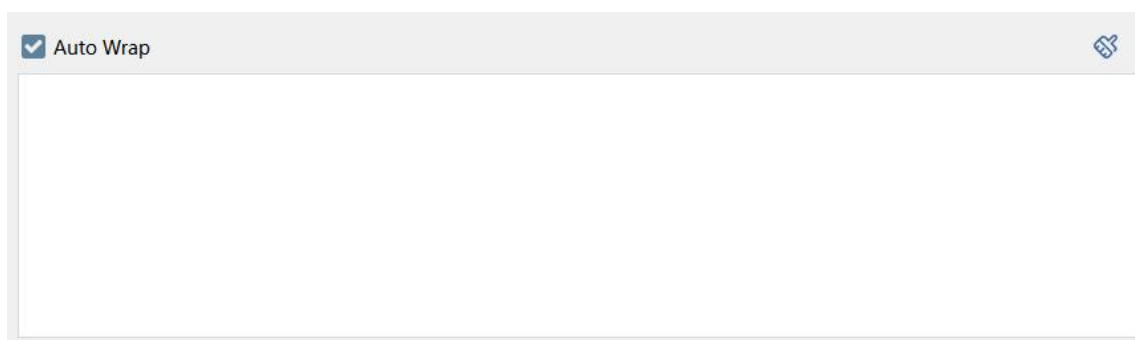
: Save the current image.



: Capture an image from the device.

5.3 Result Output

The Result Output Area is used to display the results of solution execution.



Auto Wrap: When enabled, the output text will wrap automatically.

5.4 Running Control

Running Control is used to display the results and statistics of the solution execution. It also provides controls to start and stop the execution.



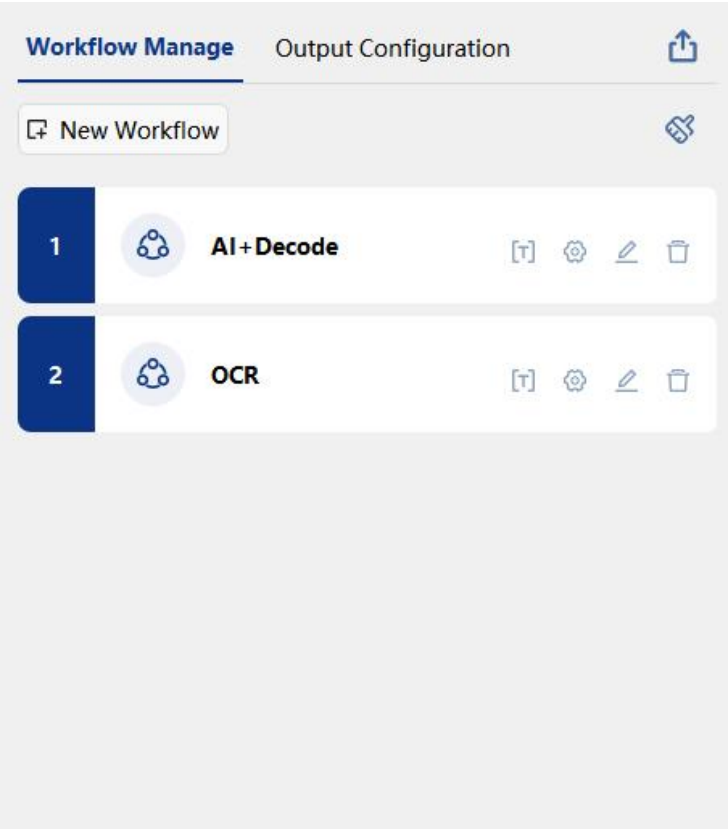
Trigger ID: Simulate input trigger ID.

Run Once: Execute the solution once.

Run/Stop: Start or stop the execution of the solution.

5.5 Workflow Manage

Displays the details of the current solution’s workflow, including a workflow list with names and trigger IDs. Users can also create, delete, modify, and export selected workflows.



Click to rename, configure, edit, or delete the current workflow.



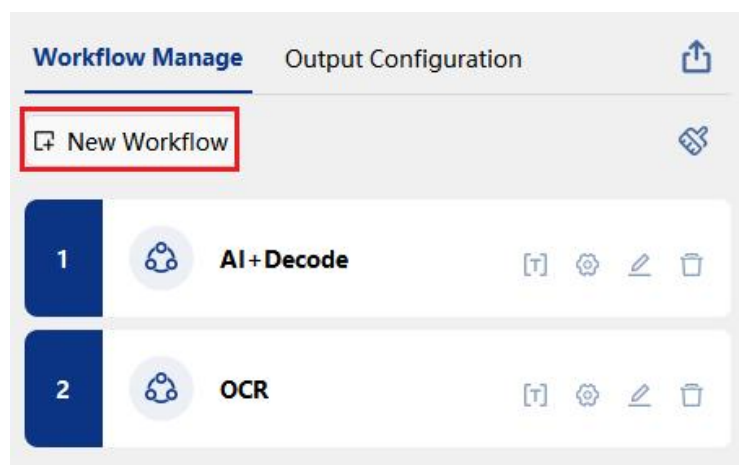
Click to clear all workflows.



Click to export workflow data to the local device.

5.5.1 Create New Workflow

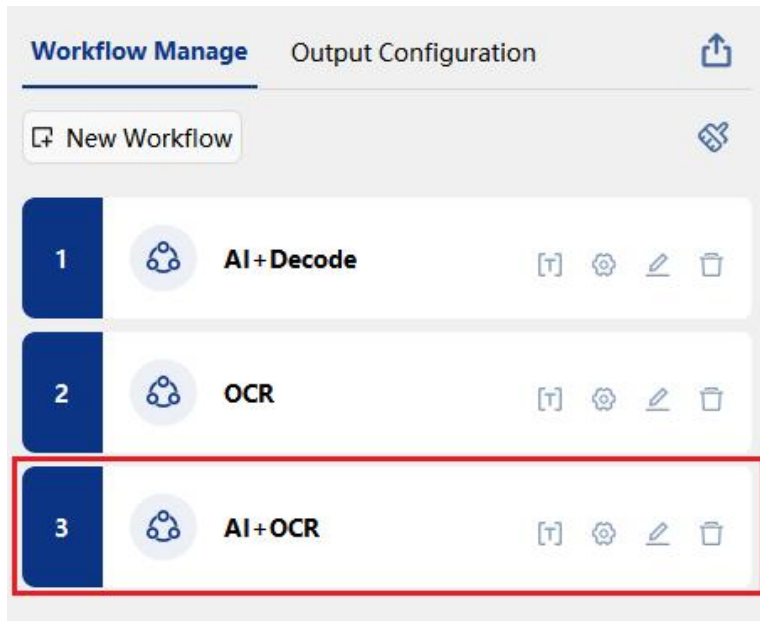
Click the “New Workflow” to open the New Workflow dialog.



Enter the workflow name and trigger value, then click “OK” to create the new workflow.

The screenshot shows the 'New Workflow' dialog box. It has a dark blue header with the title 'New Workflow' and a close button (X). The dialog contains two input fields: 'Workflow Name:' with the text 'AI+OCR' entered, and 'Trigger Value:' with the number '3' entered. At the bottom right, there are two buttons: 'Cancel' and 'OK'.

After the workflow is successfully created, it will appear in the workflow list. You can then rename, configure, edit, or delete the workflow as needed.



 : Rename Workflow

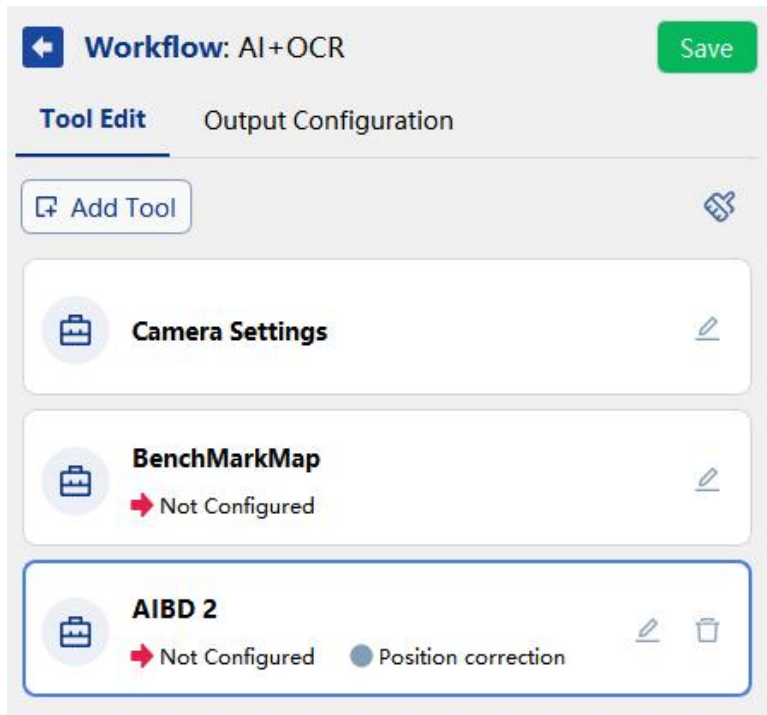
 : Configure Workflow

 : Edit Workflow

 : Delete Workflow

5.5.2 Edit Workflow

Click the  in the workflow list (See: [5.5.1 Creat New Workflow](#)) to open the Workflow Edit panel, where you can modify the current workflow's tools and output configuration, as shown below:



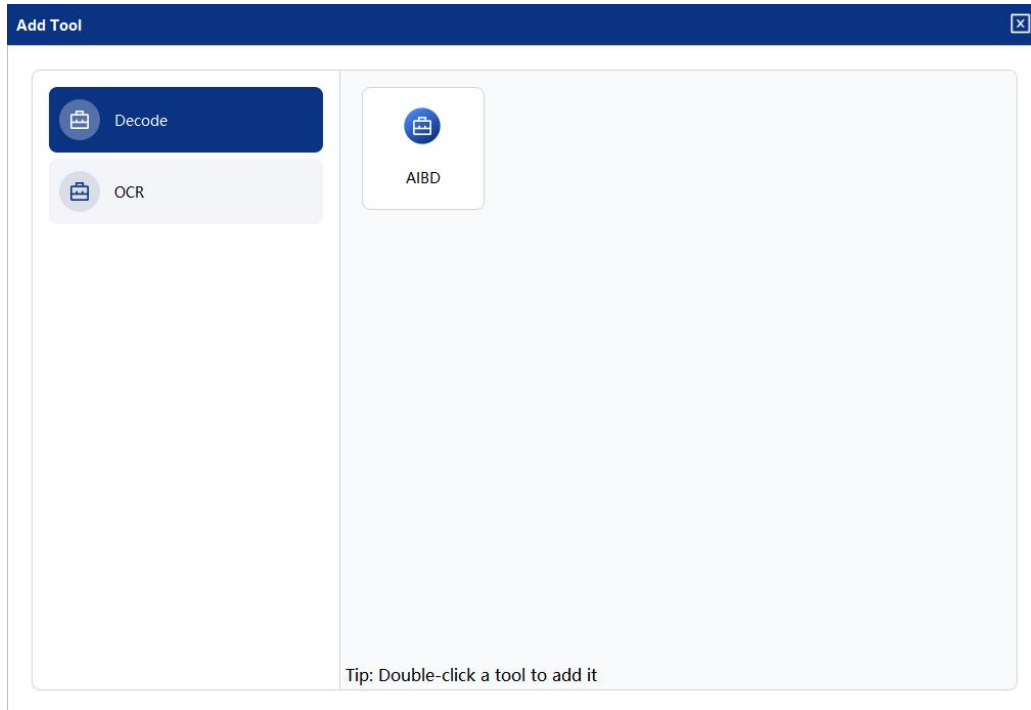
: Return to Workflow Manage page (See: [5.5 Workflow Manage](#))



: Clear All Tools (Except default tools such as camera settings, reference images)

Save: Save the workflow to the device.

Add Tool: Open the Add Tool dialog, as shown below:



Single-click a group on the left to display its contents;

Double-click a tool to add it.



Different devices support different tools;

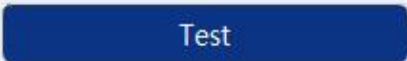
Click  to configure the tool settings. For functionality and parameter descriptions of each tool, please refer to [6 Visual Tools Overview](#).

5.5.3 Output Configuration

The screenshot shows the 'Output Configuration' settings for a workflow named 'AI+OCR'. At the top, there is a 'Workflow: AI+OCR' header with a back arrow and a 'Save' button. Below this, a 'Tool Edit' tab is visible, and the 'Output Configuration' tab is highlighted with a red box. The settings are organized into two main sections: 'Result Output' and 'Image Settings'. The 'Result Output' section has a toggle switch set to 'On'. The 'Image Settings' section includes 'Output Image' (set to 'None'), 'Output Format' (set to 'BMP'), and 'Enable Image Saving' (a toggle switch). Below these, the 'Output Settings' section includes 'NG Output' (a toggle switch) and 'NG Output Value' (a text input field with '4E 47' and a dropdown menu showing 'NG'). At the bottom, there are two buttons: 'Test Once' and 'Test'.

The “Output Settings” contains only “Result Output” setting. Click  to enable or disable this function.



To validate the output configuration, click  to perform a one-time test, or  to perform continuous tests.

6 Visual Tools Overview

For the technical specifications of visual tools, please refer to the [*Newland Visual Tools Configuration Guide*](#).

7 Troubleshooting

Problem	Possible Causes	Solution
No Device Found on Client	(1) Device is not powered on. (2) Network connection issue.	(1) Check the device's power connection to ensure it is powered on properly. (2) Check the network connection to ensure the cable is properly connected and the device is on the same network as the PC.
Black/dark image during preview	(1) Insufficient illumination. (2) Exposure and gain values are set too low.	(1) Increase the illumination brightness or use a brighter one. (2) Increase the exposure and gain values
Stuttering, low frame rate, or screen tearing during preview	The network speed is below 100 Mbps.	Ensure the network transmission speed is 100Mbps or higher.
No preview image	Trigger mode is enabled, but no trigger signal is provided.	Send a trigger signal to the device or disable trigger mode.

Newland AIDC

📍 No.1 Rujiang West Rd., Mawei, Fuzhou, Fujian 350015, China

☎ +86-591-83979500

✉ info@newlandaidc.com 🌐

www.newlandaidc.com

Asia Pacific

Add: 6 Raffles Quay #14-06 Singapore 048582

Tel: +86 591 83979500

Email: info@newlandaidc.com

Taiwan, China

Add: 7F-6, No. 268, Liancheng Rd.,

Jhonghe Dist. 235, New Taipei City,

Taiwan

Tel: +886 2 7731 5388

Japan

住所: 〒108-0075

東京都港区港南1丁目9-3 6

アレア品川ビル13階

電話: +84 03 4405 3222

Korea

Add: Biz. Center Best-one, Jang-eun Medical

Plaza 6F, Bojeong-dong 1261-4, Kihung-gu,

Yongin-City, Kyunggi-do, South Korea

Tel: +82 10 8990 4838

India

Add: Office no. 309-311, 3rd Floor, Tower B,

NOIDA ONE business park B 8, Block B,

Industrial Area, Sector 62, Noida, Uttar

Pradesh 201309

Tel: +91-120-3201449 /50 /51 /52

Indonesia

Add: Eightyeight@kasablanka Tower A 12th

Floor Unit A&H, Jl. Casablanca Raya Kav. 88,

Jakarta Selatan 12870

Tel: +62 21 3950 5400

Vietnam

Tel: +84 969712692

Malaysia

Tel: +60 122042628

Thailand

Tel: +66 971495745

Europe & Middle East & Africa

Add: Rolweg 25, 4104 AV Culemborg, The Netherlands

Tel: +31 (0) 345 87 00 33

Web: www.newland-id.com

Email: sales@newland-id.com

Tech Support: tech-support@newland-id.com

North America

Add: 46559 Fremont Blvd., Fremont, CA 94538, USA

Tel: +1 510 490 3888

Email: info@newlandaidc.com

Latin America

Tel: +1 239 598 0068

Email: info@newlandaidc.com

Chile

Tel: +56 9 9337 3177

Central America & Caribbean

Tel: +52 155 5432 9079

Brazil

Tel: +55 35 9767 6078

Colombia

Tel: +57 319 387 4484

Mexico

Tel: +(001) 323 443-2570



Newland AIDC
Scanning Made Simple

