CARNATION

CASH COUNTING SINCE 2004

3- Pocket Mixed Denomination Currency Counter
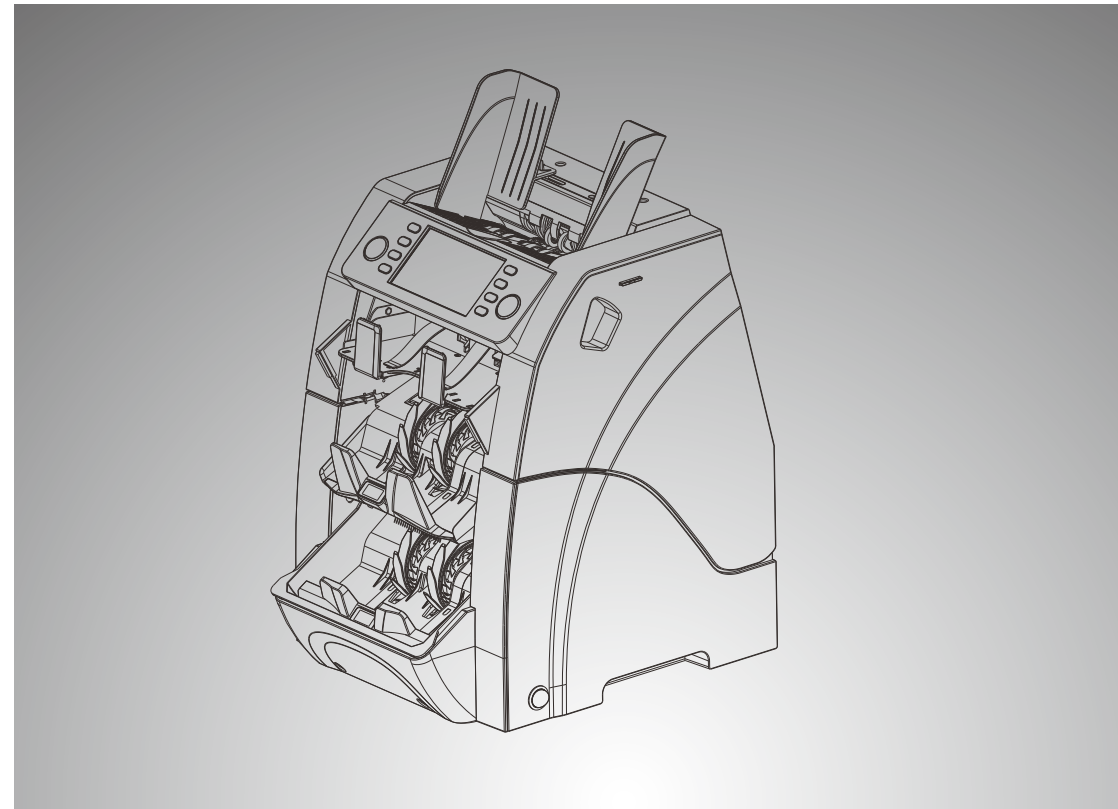
CARNATION

Preface

Thank you for choosing our banknote sorter! This automatic bill sorter is intuitive to use and features a crystal-clear LCD display. It also boasts reporting and printing functions, auto-adjustable technology, and easy software upgrades via the USB port.

Before first use, please read this manual carefully to ensure you fully understand how to safely operate, and to avoid damage to the machine. Keep the manual in a safe place for reference and future use.

Purpose

The purpose of the banknote sorter is twofold:

- To count and sort banknotes of various denominations and currencies.

- To detect counterfeit banknotes.

Content

1 Introduction

## 1.1 Important Notes and Safety Instructions

- The machine is exclusively for indoor use, do not use it outdoors.
- Do not disassemble the device. If there are any problems with operations, please contact the Technical Support Dept of our company or our service agent.
- Do not expose device to liquids, extreme humidity or moisture.
- Avoid operating machine in environments with strong magnetic and electromagnetic fields. For example, keep the device away from magnets, and electrical appliances.
- Use the supplied power cord at a properly grounded outlet.
- When the machine is running, do not arbitrarily disconnect the power cord or switch the machine off.

1.2 Figures Used

The figures in this manual are for illustrative purpose only.

1.3 Unpacking

Please check whether the appearance of the machine is in good condition and whether all of the accessories are present. Inside the package there should be the following.
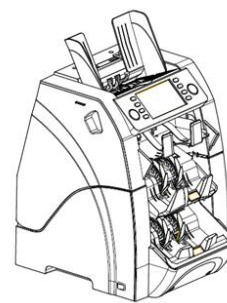
Banknote sorter   User manual   Power cord
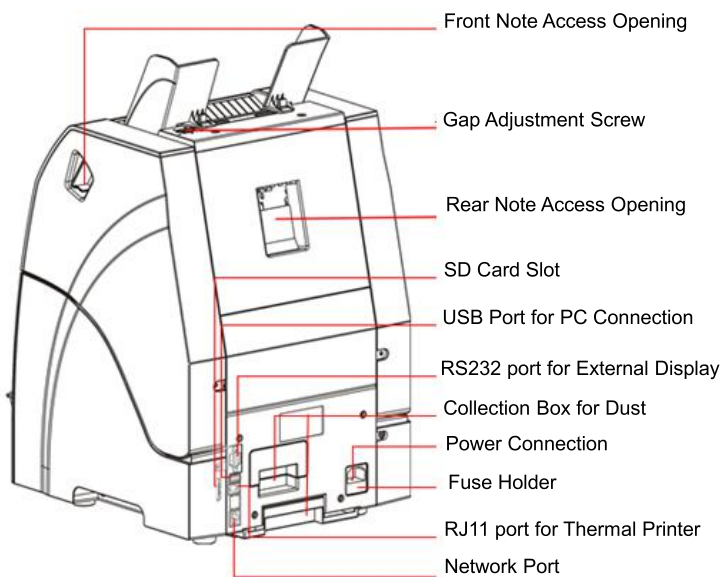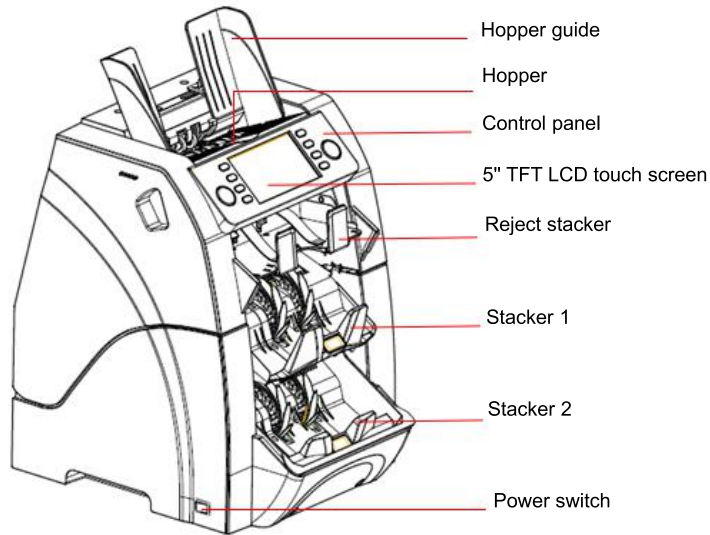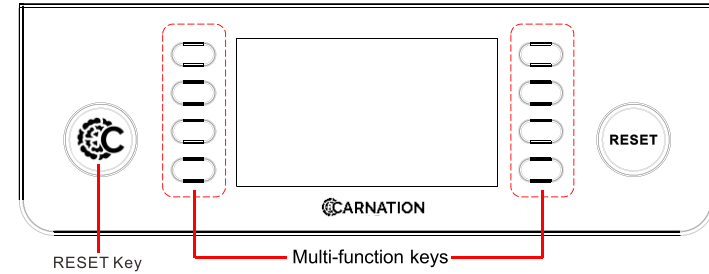
Cleaning brush   Fuse   USB cable (optional)

2 Model Overview

2.1 At a Glance

- Hopper guide
- Hopper
- Control panel
- 5" TFT LCD touch screen
- Reject stacker
- Stacker 1
- Stacker 2
- Power switch

- Front Note Access Opening
- Gap Adjustment Screw
- Rear Note Access Opening
- SD Card Slot
- USB Port for PC Connection
- RS232 port for External Display
- Collection Box for Dust
- Power Connection
- Fuse Holder
- RJ11 port for Thermal Printer
- Network Port

2.2 Control Panel Overview

RESET Key

Multi-function keys

Multi-function keys: Refers to different functions in different interfaces.

2.3 Display Overview

- ADD mode
- Batch function
- Function setting
- Serial number
- Currency selection
- Current currency
- Sensitivity level

- Operation mode
- Face/Orient mode
- Fitness sorting
- Rejected number
- Counting information
- Network and SD card icon
- Current time
- Stacker batch value

Stacker1 Reverse Side 100 PCS 10000
Stacker2 Front Side 100 PCS 10000
TOTAL 200 PCS 20000

SN: OFF | ATM: 7 | Bat1: 100 | 2018-09-28 | Rej: 0
EUR | Circ: 5 | Bat2: 100 | 09:04 | SD

Add | Batch | Function | CUR | Mode | Face | Fitness | Report

3 Operation

Before operating the machine please install the hopper guides.

3.1 Switch on/off

How to switch on device:

1. Connect the power cable to the machine and the power outlet.
2. Press the Power Switch button on the left side of the machine.
3. After a short boot-up and self-test, the machine enters the main menu.

How to switch off device:

Press the power switch button to turn the machine off.

3.2 How to Handle and Place Banknotes

To count banknotes smoothly, please follow the following guidelines:

1. Avoid counting wet, excessively dirty, or spoiled notes.
2. Check for foreign matters mixed with the notes, i.e.: paper clips, rubber bands, dust, etc. which will jam the note path or even damage the sensors.
3. Remove folds or curls from the notes before placing them in the hopper.
4. Align all the corners and edges of the notes, as unevenness could cause errors.
5. Put the notes in the center of the hopper and adjust the left and right hopper guides to a suitable position according to the size of the notes.

3.3 Selecting a Currency

Press the "CUR" button until the desired currency appears.

3.4 Operation Mode

When the "Mode" button is pressed, the operation mode is activated. Press "Mode" to switch among modes until the desired mode appears.

Mix → Single → Version → Count

- **Mix Mode**

In this mode, the machine counts all notes of the same currency, and banknotes are firstly sent to stacker 2. Once stacker 2 is full or reaches the batch number you set, then notes from the hopper will be sent to stacker 1.

After finishing the counting, the total value and the total number of genuine notes are shown on the LCD display. If there are any, the number of rejected notes will also show.

- **Single Mode**

Banknotes are sorted by denomination. In the default configuration, banknotes with the denomination of the first detected genuine note are firstly sent to stacker 2. Once stacker 2 is full or reaches the batch number you set, then notes from the hopper will be sent to stacker 1.

All other denominations and suspicious banknotes are sent to the reject stacker.

- **Version Mode**

Banknotes are sorted by version. In the default configuration, banknotes with the version of the first detected genuine note are firstly sent to stacker 2. Once stacker 2 is full or reaches the batch number you set, then notes from the hopper will be sent to stacker 1.

All other versions and suspicious banknotes are sent to the reject stacker.

- **Count Mode**

In this mode, the machine counts every kind of banknotes or papers. The counterfeit detection capability is off.

Note:
1. When display shows "Stacker Batch Full", please remove the notes from stacker.
2. For further configurations, please see chapter "4.1 Stacker Configuration."

3.5 Banknote Face Sorting

When the "Face" key is pressed, the Face/Orientation sorting mode is activated.

- **Face Up/Down Sorting Mode**

In the default configuration, the face-up banknotes of the genuine notes are sent to stacker 2 and the face-down ones are sent to stacker 1. All other denominations and suspicious banknotes are sent to the reject stacker.

Face up (front side):   Face down (reverse side):

- **Orientation Sorting Mode**

In the default configuration, the upright banknotes of the genuine notes are sent to stacker 2 and the upside-down ones are sent to stacker 1. All other denominations and suspicious banknotes are sent to the reject stacker.
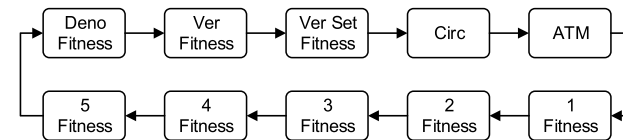
Orientation Upright: Orientation Upside-Down:

3.6 Fitness Sorting

When the "Fitness" button is pressed, the fitness sorting mode is activated. Press "Fitness" to switch among fitness sorting modes until the desired mode appears.

- **Denomination Sorting Mode**

Select "Deno Fitness" to enter denomination sorting mode. In the default configuration, banknotes with the denomination of the first detected genuine notes are sent to stacker 2, and banknotes with the denomination of the second detected genuine notes are sent to stacker 1.

All following denominations and suspicious banknotes are sent to the reject stacker.

- **Version Sorting Mode**

Select "Ver Fitness" to enter version sorting mode. In the default configuration, banknotes with the version of the first detected genuine notes are sent to stacker 2, and banknotes with the second version of the same denomination genuine notes are sent to

stacker 1.

All following denominations, versions and suspicious banknotes are sent to the reject stacker.

● **Version Set Sorting Mode**

Select "Ver Set Fitness" to enter version set sorting mode. In the default configuration, banknotes with the version set of the first detected genuine notes are sent to stacker 2, and banknotes with the second version set of the same denomination genuine notes are sent to stacker 1.

All following denominations, version sets and suspicious banknotes are sent to the reject stacker.

Note: The version set sorting mode is only aimed at RMB version set. For other currencies, the version sorting mode and version set sorting mode have the same function.

● **Circulation Note Sorting Mode**

Select "Circ" to enter circulation note sorting mode. In the default configuration, banknotes suitable for circulation are sent to stacker 2. Unfit banknotes, like soiled, stained, graffiti, torn, repaired, crumpled, limp, folded, corner folded, holed, and de-inked notes, will be sent to stacker 1. Suspicious notes are sent to the reject stacker.

● **ATM Note Sorting Mode**

Select "ATM" to enter ATM note sorting mode. In the default configuration, banknotes suitable for ATM are sent to stacker 2.

Unfit banknotes, like soiled, stained, graffiti, torn, repaired, crumpled, limp, folded, corner folded, holed, and de-inked notes, will be sent to stacker 1. Suspicious notes are sent to the reject stacker.

Note: The fitness sensitivity of circulation/ATM note sorting mode can be adjusted. The higher the sensitivity level, the tighter the sorting (Please see "4.2 Sensitivity Adjustment" for more details).

3.7 Batch Counting

How to count a preset number of banknotes or a preset amount for each stacker.

1. Press [Batch] - the window to the left will appear.
2. You can now preset a batch value for each stacker.
3. Input the desired quantity by using the numerical keypad.
4. Press "OK" to confirm the batch value and to go back to the main menu.
5. The preset batch value is shown in the bottom line of the display (i.e.:100).

Note: By Pressing **Batch** more than once, you can switch among batch values 100, 50, 20, 10 and 5.

How to perform the batch counting
● Select the desired banknote batch value for each stacker.
● When counting, the machine stops once the counted banknotes reach the preset batch quantity (The largest batch value can be set to 999).

How to cancel the batch counting
● Values can be reset to zero by pressing the "CE" key.
● Press "OK" to confirm and to return to the main menu.
● The preset batch value is now canceled.

3.8 ADD Mode
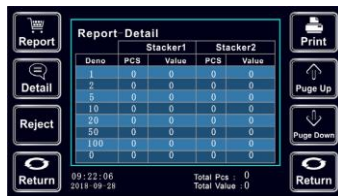
In ADD mode, all counting results are summarized.

Press [Add] - the accumulation counting is activated.

3.9 Counting Information

1. Counting list
1. When banknote processing is done, press to see the counting list.
2. The detailed counting result is shown with all information available: value, quantity, subtotal and total of accepted notes.

2. Detailed information
1. Press to see the detailed counting information.
2. All information available is shown: denomination, serial number and position of banknotes.
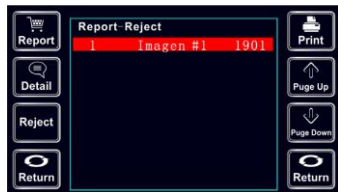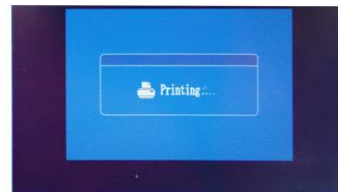

3. Reject Reasons
Press to view the reject reason.

3.10 Printing Function

How to print the counting result as a receipt using an external printer.

1. Connect one printer to the printer socket at the rear of the device.
2. When banknote processing is done, press and then press . The left window will show.

3. The receipt lists the currency code, transaction time, the quantity by denominations, the subtotals, and the total quantity and amount.

4 Setting Up

Press in the main menu. The machine enters the function setting menu.

4.1 Stacker Configuration

Press "Fitness Setting". You can customize the configuration of the stackers.

● Both stacker 1 and stacker 2 are configured to be "First"
Only banknotes of the first detected denomination can be sorted out and sent to stacker 1 firstly.

● One stacker is configured to be "First" and another to be "Second".
For example, in denomination sorting mode, banknotes with denomination of the first detected genuine are sent to the stacker you configure to be "First"; banknotes with deviating denomination of the second detected genuine note are sent to another stacker.

Note: Stacker 1 and stacker 2 can't be configured to be "Second" simultaneously.
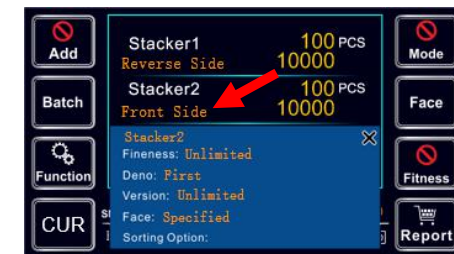
In the main interface, you can click the text to view the current settings of the stacker.
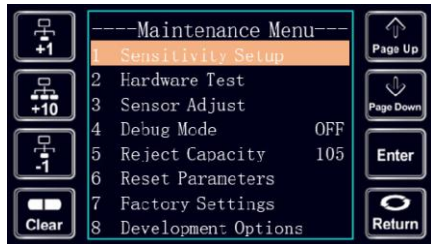
4.2 Sensitivity Adjustment
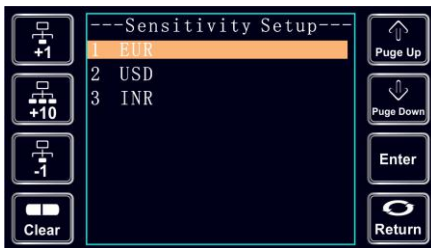
1. Press "Maintenance", a password inputting window will appear.

2. Press [+1] once, and then press [Enter] to access maintenance menu.

```
              Input Password
              |*****
```

3. Here you can see "Sensitivity Setup" item is highlighted; press [Enter] to confirm.

```
----Maintenance Menu----
1  Sensitivity Setup
2  Hardware Test
3  Sensor Adjust
4  Debug Mode           OFF
5  Reject Capacity       105
6  Reset Parameters
7  Factory Settings
8  Development Options
```

3. Use [Puge Up] and [Puge Down] to highlight the desired currency and confirm with [Enter].
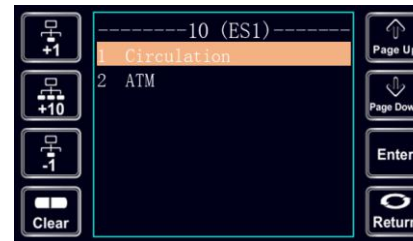
```
---Sensitivity Setup---
1  EUR
2  USD
3  INR
```

4. Press [Puge Down] to highlight "Sensitive Fitness" item and confirm with [Enter].

```
----------EUR----------
Sensitive  Check
Sensitive  Fitness
```

5. Highlight the desired item and confirm with [Enter].

```
---Sensitive Fitness---
1   5  (ES1)
2   5  (ES2)
3  10  (ES1)
4  10  (ES2)
5  20  (ES1)
6  20  (ES2)
7  50  (ES1)
8  50  (ES2)
```

6. Highlight the desired item and confirm with [Enter].

```
--------10  (ES1)--------
1  Circulation
2  ATM
```
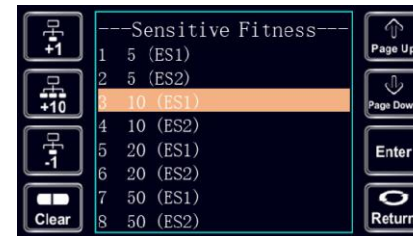
7. Highlight the desired item, press [+1] and [+10] to increase sensitivity by 1 or 10, and [-1] to reduce by 1. The higher the sensitivity level, the tighter the sorting.

```
------Circulation------
1  Soil              70
2  Stain            243
3  StainSize        215
4  Graffiti           0
5  Hole             240
6  Tears            240
7  Fold             215
8  Tape Width       150
```
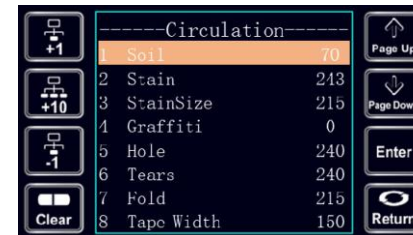
8. After adjustment, press [Enter] to save the settings.

4.3 Counting Speed Setting
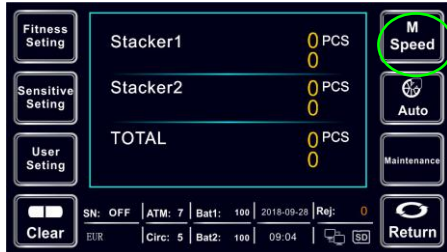
Press "Speed" more than once, and a different counting speed will be shown in turn.

L: 800 notes/ min

M:1000 notes/min

H:1200 notes/min

4.4 Automatic and Manual Counting Starting Mode

How to switch between Automatic and Manual Counting Starting Mode.

Press to switch between Manual and Automatic Counting Starting Mode.

- With "Auto" activated, the machine starts counting as soon as banknotes are detected in the hopper.
- With "Manual" activated, the machine starts counting when the RESET button on the control panel is pressed.

To save the changes, press RESET.

4.5 User Setting

Press and the machine enters the user setting menu.
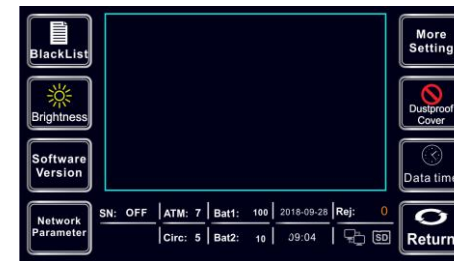
4.5.1 Blacklist

Press "Blacklist." The following window appears.

Press "New", and you can add the blacklist by using the touch keypad.

Press "Enter" to save.

To delete, Press "Delete."

4.5.2 Brightness

To change the brightness of the screen, press "Brightness" more than once.

4.5.3 Software Version

Press "Software Version." You can check all information of the machine about software, hardware, etc.

4.5.4 Network Setting

Press "Network Parameter", a new window appears.
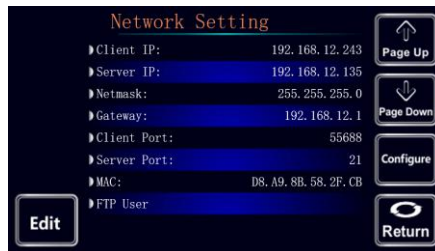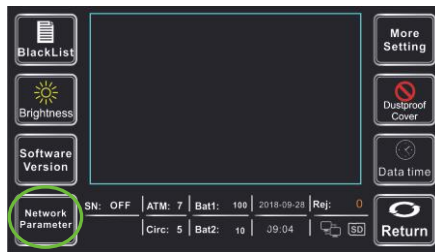
Here the network parameters may be modified. Use the arrow key to navigate to the desired entry, then press "Edit" button to edit the parameter.
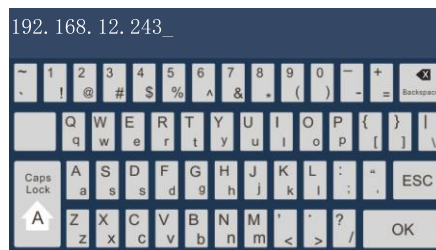
Note:
  1. Do not modify MAC address.
  2. "FTP User" is not in use.

4.5.5 Dustproof Cover Setting
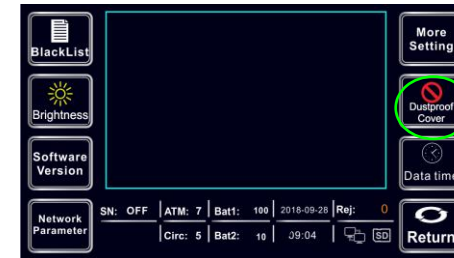
Press [Dustproof Cover]. The dustproof cover is set to active mode.
With Cover activated, the dust shutter is open, thus greatly reducing heavy dust & noise from high speed counting.

4.5.6 Setting the Date and Time

Values can be changed by pressing the signs "∧" and "∨." Then press "Enter" to save and to go back to the previous menu.

4.5.7 About More Settings

The function is not available.

5 Maintenance

5.1 Note Path Access

How to access the front note path
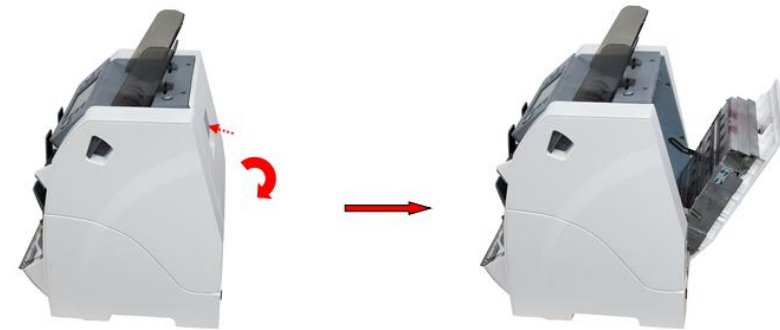
5.2 Cleaning of the Sensors

Dirty banknotes and accumulating dust over time lays down deposits of dirt on the sensors of the machine. This pollution may lead to increased errors and non-recognition of real banknotes.

Therefore, periodically clean the sensors of the machine. Turn off the machine and unplug the power cable while cleaning the machine.

To open the machine, press the button on the back of the note access opening to get access to the sensor bars. Use a soft brush and cloth to remove the dust from the sensors, as well as from the feed rollers. To clean the counterfeit sensors, we recommend the additional use of a non-flammable compressed air spray, so that dirt and dust can be removed even in inaccessible places.
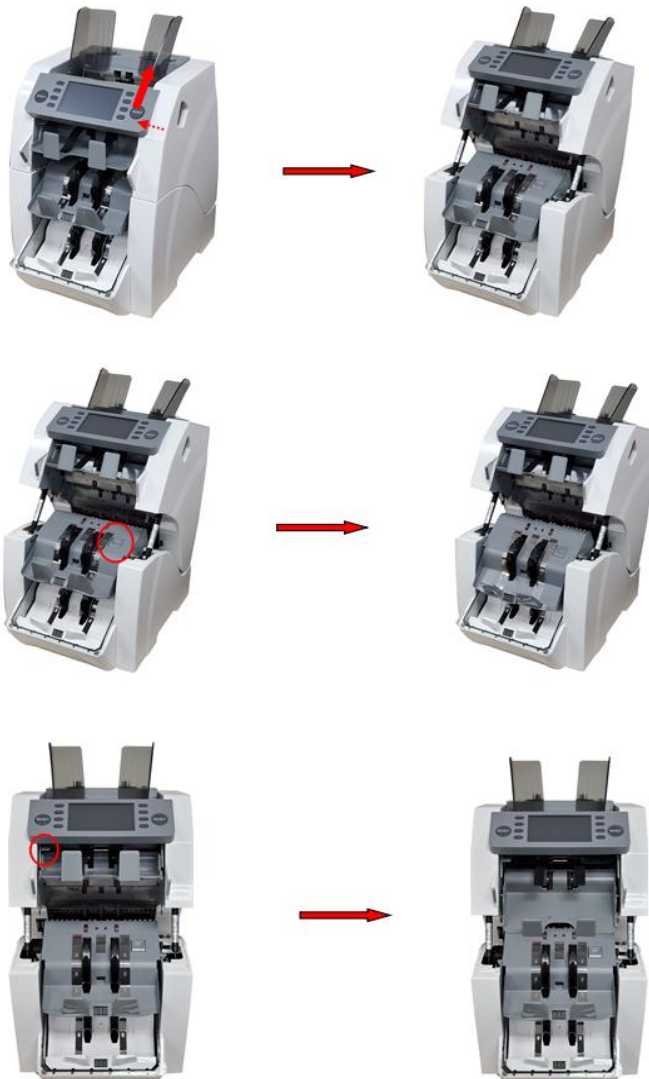
Close the machine after cleaning and plug in the power cable. The device is now ready for counting.

5.3 Exchange of Fuse

1. Disconnect the main power cable before opening the cover, otherwise you **might risk an electric shock.**
2. To exchange the fuse, please remove the cover first. Replace the cover properly after exchanging the fuse.
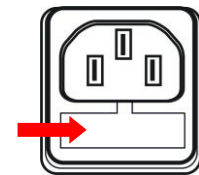
🔔 For continued protection against risk of fire, replace only with same type and rating of fuse.

5.4 How to Adjust the Feeding Gap

The position of the adjusting screw on the top cover has already been set to optimal position at the factory. If banknote feeding is not smooth or banknote counting is inaccurate, it may be necessary to adjust the adjusting screw to optimize the banknote transport.

The adjustment is clockwise for decreasing the gap between the resistance wheel and the banknote twiddling wheel gear, and counter-clockwise for increasing the gap.

To test, insert a banknote and hold tight. If you feel the pull, the machine is working properly.

Increase the gap   Decrease the gap

5.5 Software Update

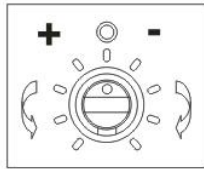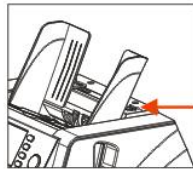Central banks are constantly updating their banknotes to incorporate the latest security features and make it even harder for counterfeiters to succeed. Our currency management team ensures your device keeps pace with these changes.

For more information about software updates and update instructions, please contact your dealer.

6 Technical Specifications

Counting speed:	1,200 notes/min
Sorting speed:	800 notes/min
Hopper Capacity:	1000 notes
Stacker Capacity:	200 notes*2
Reject Pocket Capacity	100 notes
Power supply:	100-240VAC, 50/60Hz
Power consumption:	≤160W
Temperature:	32°F~104°F/ 0℃~40℃
Humidity:	40~90%
Interface:	RS232, RJ-11, USB, SD, LAN
Dimensions:	15.35"(L)*12.20"(W)*20.47"(H) / 390(L)*310(W)*520(H)mm
Weight:	54.23lb / 24.6kg

✧ **Specifications are subject to change without further notice.**

Appendix 1 Error Message

1. General error code

Error message	Solutions
JAM! CODE=## Please remove the banknote Press RESET Key To Continue	Open the upper and lower note path, remove the banknote, then press RESET.
SYSTEM INFO CODE=## Please remove the banknote Press RESET Key To Continue	
TOP Cover Open！	Close the front note path.
Rejector open	Close the rejector stacker.
Stacker 2 open	Close the stacker 2.
Back Cover Open！	Close the rear note path.

2. Self-test error message

Error message	Solutions
Feeding Fault	Remove the banknote, clean the feeding sensor.
Receiving Fault	Remove the banknote, clean the receiving sensor.
Rejector Faults	Remove the banknote, clean the rejector sensor.
UV Faults	Remove the banknote, clean the UV sensor.
FL Fault	Adjust top cover to right position so as to avoid strong light source.
Left#1 Counting Fault	1.Remove the banknote, clean the Counting IR sensor. 2.If the problem persists, please perform the Counting IR sensors calibration.
Right#1 Counting Fault	
Left#2 Counting Fault	
Right#2 Counting Fault	
Left CIS IR Fault	Remove the banknote, clean the IR tube.
Right CIS IR Fault	
Rotate#1 Speed Fault	Remove the banknote, clean the Rotate#1 speed sensor.
Rotate#2 Speed Fault	Remove the banknote, clean the Rotate#2 speed sensor.
CIS#1 Fault Up_CIS#1 Fault Down_CIS#1 Fault	Remove the banknote, clean the CIS sensor.
AD Fault	Power off. Restart the machine.
Brake Fault	Please check if the brake is normal. If not, replace the brake.
MG#1 Fault MG#2 Fault MG#3 Fault	Re-plug the left magnetic board

MG#4 Fault MG#5 Fault	Re-plug the MRS magnetic board
MG#6 Fault MG#7 Fault MG#8 Fault	Re-plug the right magnetic board
MID-MG Fault	Re-plug the middle magnetic board
MID-MT Fault	
IR B3	Clean the B3 IR sensor, close the rear note path and restart machine.
IR B4	Clean the B4 IR sensor, close the rear note path and restart machine.
C1 IR Fault	Clean the C1 IR sensor, close the front note path and restart machine.
C2 IR Fault	Clean the C2 IR sensor, close the front note path and restart machine.
D1 IR Fault	Clean the D1 IR sensor, close the front note path and restart machine.
D2 IR Fault	Clean the D2 IR sensor, close the front note path and restart machine.
Left BackIR Fault	Remove the banknote from the back drawer and/or remove dust from Left Back IR sensor.
Right BackIR Fault	Remove the banknote from the back drawer and/or remove dust from Right Back IR sensor.
Please Clean Left Counting Sensor!	Remove the banknote from the machine and/or remove dust from IR sensor.
Please Clean Right Counting Sensor!	Remove the banknote from the machine and/or remove dust from IR sensor.
Diverter #1 Fault Diverter #2 Fault Diverter #3 Fault Diverter #4 Fault	Please adjust the Diverter position or replace it.
Dust-Proof Cover Fault	Please check the Dust-Proof Cover position.
THICK #1 Fault ... THICK #12 Fault	Remove banknotes and clean the thick sensor.

3. Detective error message

Error message	Solutions
UV-Error	1. Remove the banknotes. 2. If error persists, please do the UV calibration.
MG-Error	1. Clean the magnetic sensor. 2. Lower the sensitivity level.
MG1-Error	
IR-Error	1. Please do the Counting IR calibration. 2. Lower the sensitivity level.
Composed-Error	Remove the banknote.
Slant	The banknotes are not being fed right through the machine. Ensure the banknote are placed neatly and are inserted centered on the hopper. Use the hopper guides to center the banknote when counting a large stack of banknotes.
Double	If the errors occur frequently, adjust the adjusting screw at the top cover of the machine toward the clockwise direction for reducing the gap.
Chained#1	
Half	Remove the banknotes.
Width	
Length	
Image1	1. Please do the CIS calibration. 2. Scan the miscounting data for analysis.
Image2	
Image3	
Old Ver	Remove the banknotes.
Deno Diff	
Ver Diff	
Face Diff	
Orient Diff	
Soiling	
Stains	
Graffiti	
Deinked	
Tears	
Repairs	
Crumples	
Limpness	
Fold	
Corner Folds	
Holes	