

# *Newton 3*

## **USER MANUAL**



**KISAN**  
AMERICA, INC.

## **Thank you for purchasing KISAN product, NEWTON3.**

- Read this operation manual thoroughly before using the product.
- Follow this operation manual to ensure the safe and proper use of the product and to prevent any physical/material damage.
- The contents of this manual could be changed without notice.
- The actual product may differ from the contents of this manual.
- Any part of our product shall not be reproduced for commercial purpose without our permission.

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# When inserting banknotes

Do not insert banknotes severely damaged, wet or mixed with alien substances.  
Make sure that no other foreign substances enter the product including your hands and hair, when inserting and counting banknotes.  
Straighten the folds or corners of banknotes before insertion.  
Banknotes should be properly arranged and put on the hopper as shown below.



## To use the product safely

DO NOT place the product near heat sources such as a stove or a heater.

DO NOT try to disassemble or repair the product by yourself.  
Such attempts may cause accidents.

DO NOT place heavy objects or liquid containers, such as a beverage can, on the product.

DO NOT apply excessive force to the product.

DO NOT try to open or operate the product by force.

Make sure to apply proper grounding, using the plug.  
Short-circuit may cause electric shock.

Make sure to shut its power off before putting your hands inside the product  
for such purposes as replacing a fuse or checking the components.

DO NOT unplug the product holding its electric cord.  
Such action may cause electric shock or fire.

## To maximize the durability of the product

DO NOT expose the product to the direct rays of the sun for a long period.

DO NOT place the product in a dusty space make sure that the product stays free of dusts or foreign substances , also do not place the product on an unstable or shaky place.

Keep and use the product under the optimal conditions as follows

- Temperature : 10 ~ 35 °C( For use ) / - 10 ~ 45°C( For storage )
- Humidity : 20 ~ 90 % RH

DO NOT press the LCD screen or control keys with sharp objects such as a pen or a pin.  
For the safekeeping of a long period, lay its cover over the product.

# Daily Checkup

Remember to shut off the power and unplug the product during the checkup.

DO NOT use chemicals when removing dust from the product.

The use of chemicals may cause discoloration and deterioration.

Under long-term use, such foreign substances as dust may stick to the sensor, causing errors.

To prevent this, use a brush to remove any foreign substances from the sensor.



# Front Part

**Hopper** is an area where the banknotes to be placed

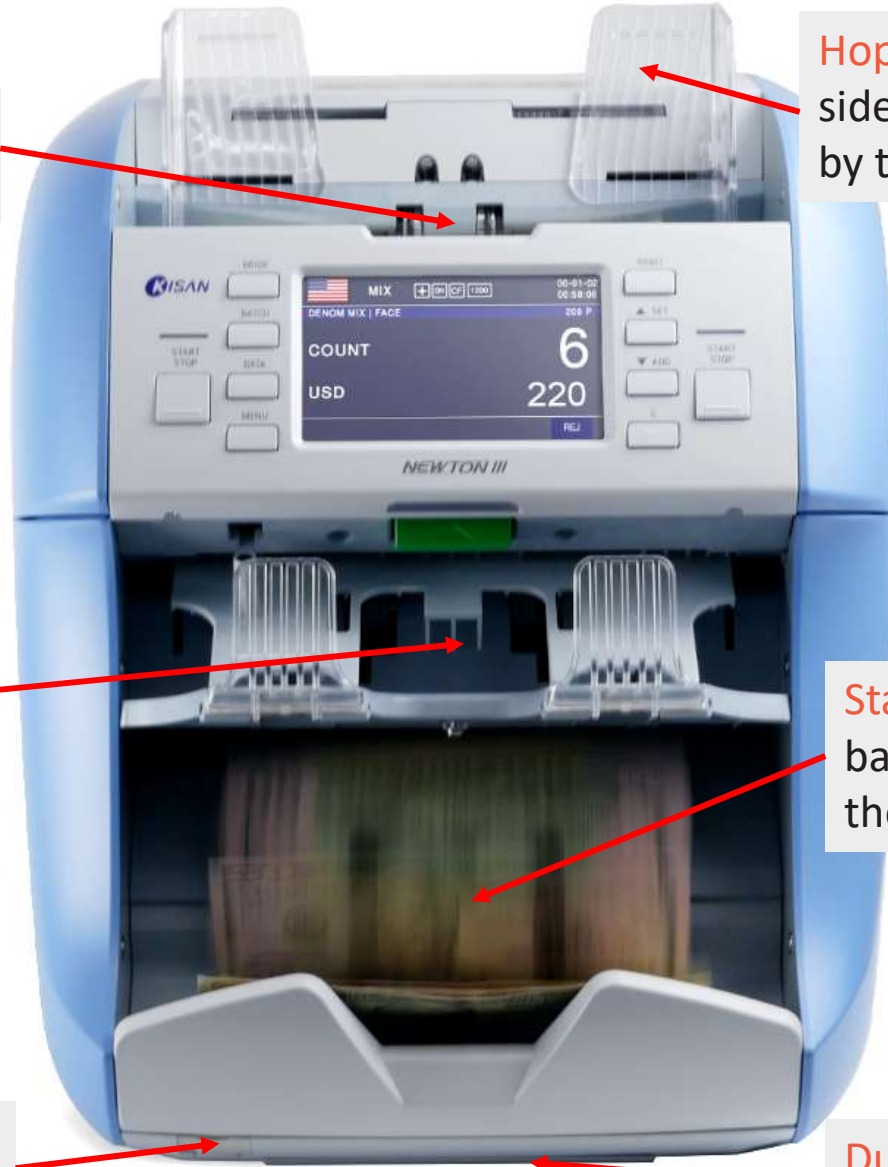
**Hopper guide** moves from side to side and adjustable by the size of banknotes

**Reject stacker** is an area where the rejected banknotes are taken out

**Stacker** is an area where banknotes are taken out upon the operational completion

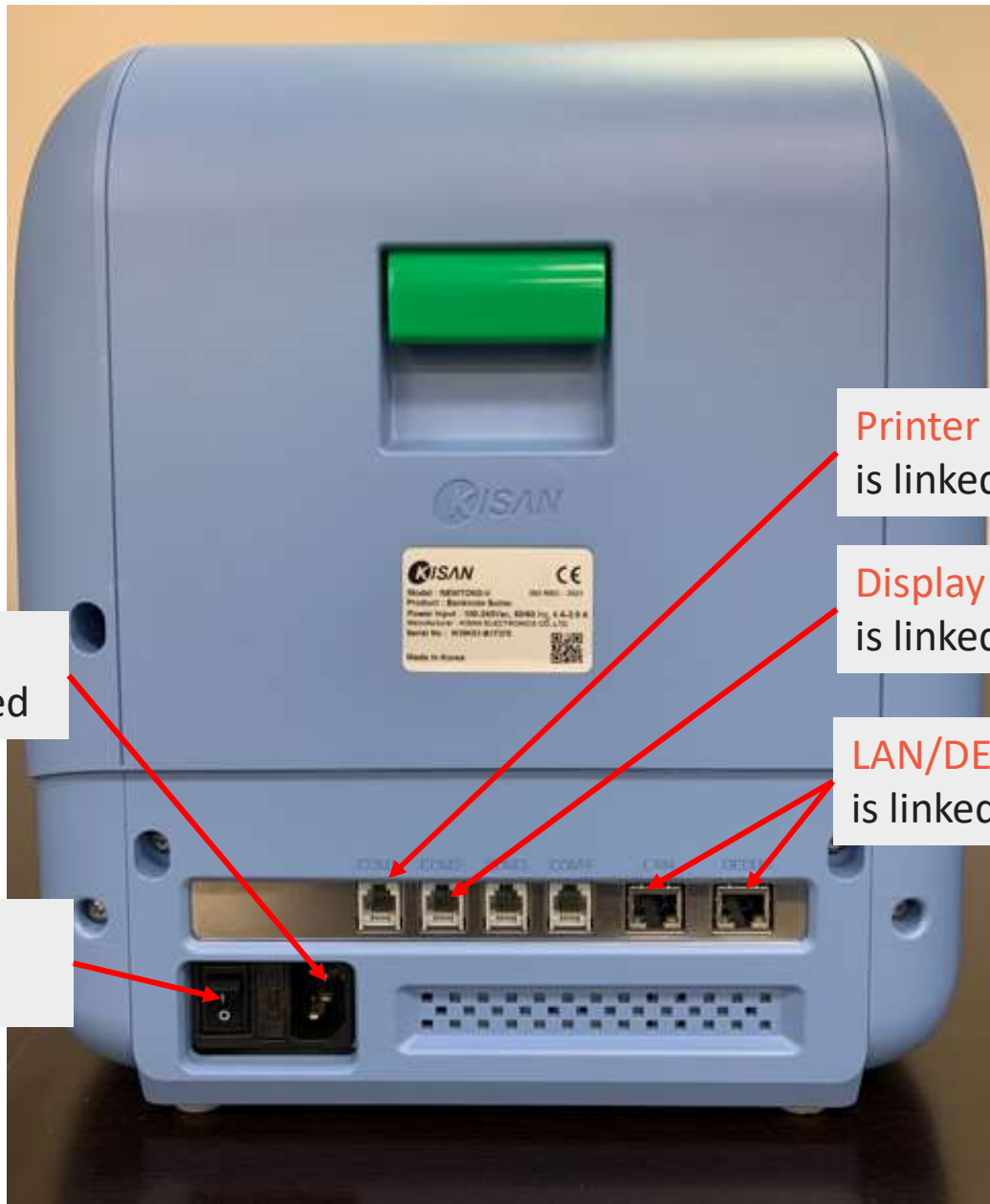
**USB host port** is linked to the A-type USB

**Dust pocket** removes dusts collected during the operation





# Rear Part



Power connector  
110-220V power inputted

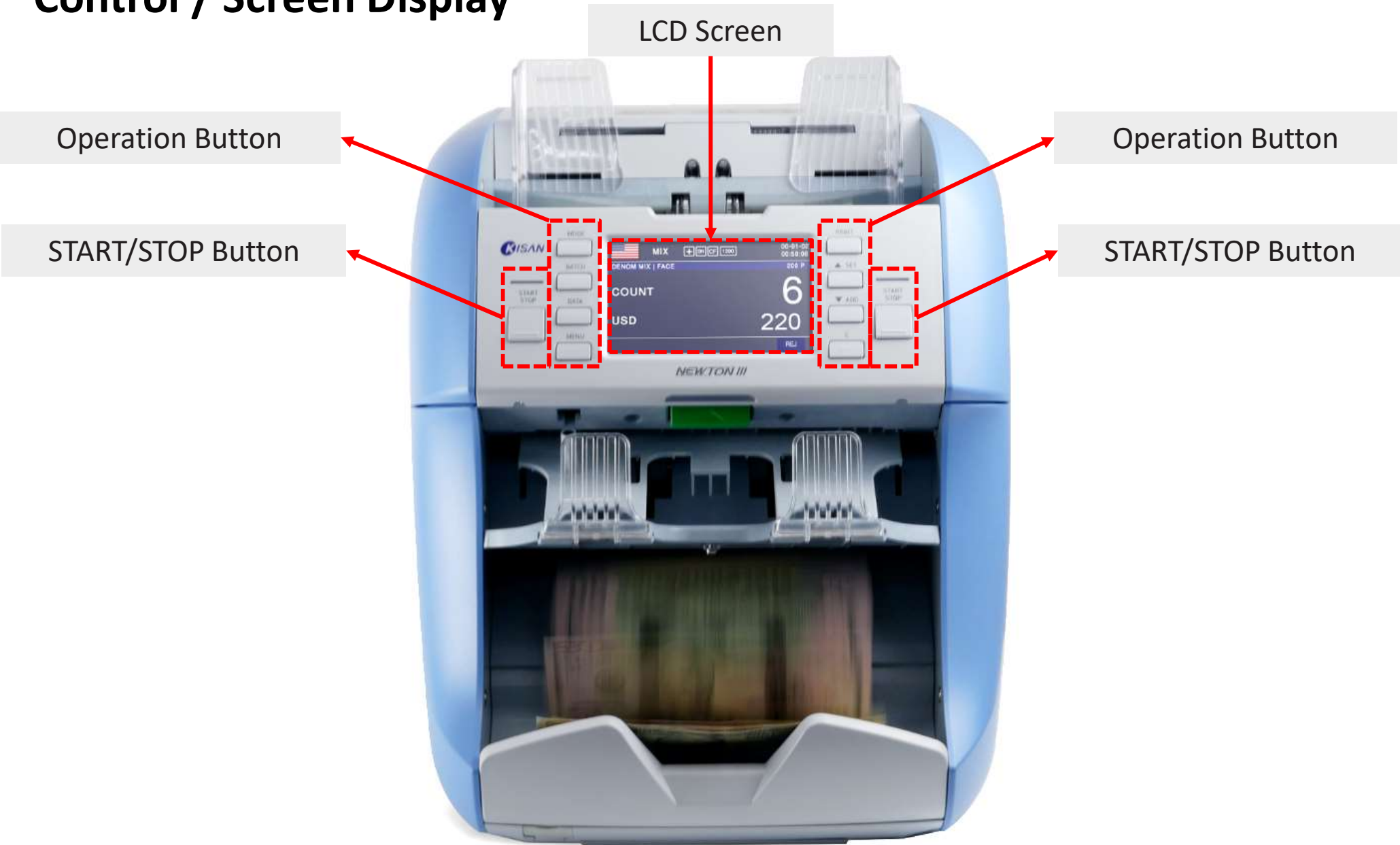
Power switch  
turns the power on/off

Printer Port : COM1  
is linked to the printer

Display port : COM2  
is linked to the external display

LAN/DEBUG port  
is linked to Ethernet

# Control / Screen Display



A Newton3 can be operated by two users with two different settings and parameters.

# Specifications

**Mode : Mix/Auto , Count , Face/Orient , Denom , Serial No , etc**

**Speed : 1000 ~ 1200 notes/min - Value Counting , Serial Number Detecting  
1000 ~ 1500 notes/min – Free Counting**

**Capacity : 600 notes – Hopper / 200 notes – Stacker / 100 notes - Reject pocket**

**OS : Linux**

**Display : 4.3" TFT Color Touch Screen LCD**

**Port : USB, LAN, Serial port**

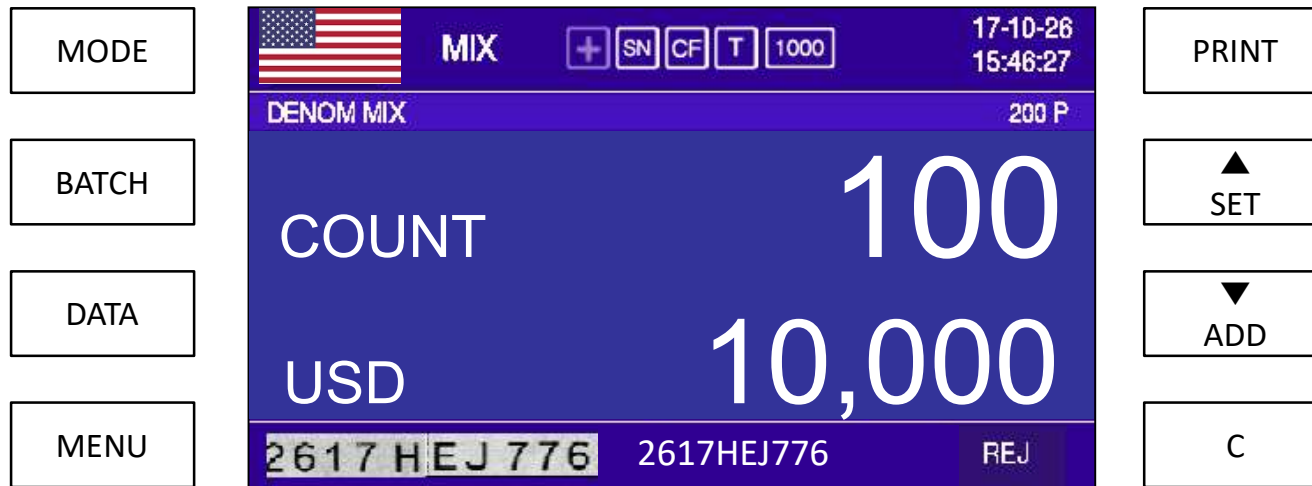
**Sensor : CIS / MR / UV / IR / Ultrasonic**

**Dimension : 12.2" x 13.4" x 13.4" (W x D x H)**

**Weight : 26.5 lbs.**

**Power Supply : 100~240V AC , 50/60Hz**

# Operation of Function



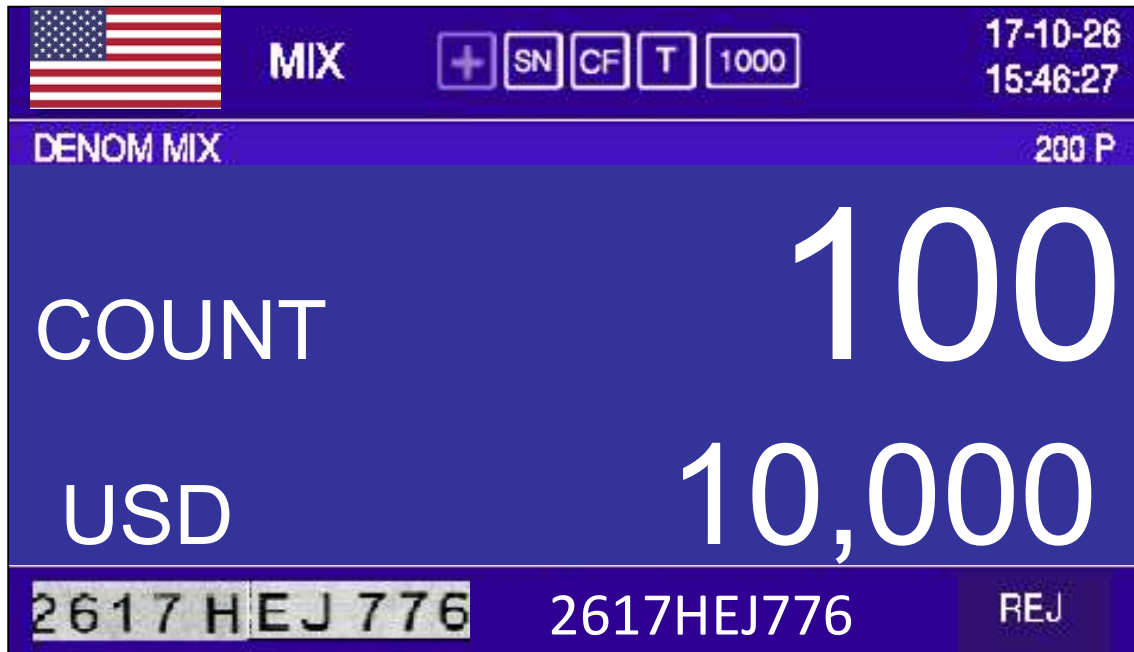
When the machine is powered on, the screen will be displayed as above.  
( The settings in the screen may differ from actual one. )




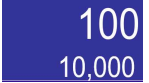
Touch the icon on the screen or press the button on the side of each icon to select a menu.

Do not use sharp objects such as a pen for touching the icons on the screen.

# Main Menu

| Button     | Short Press                                      | Long Press                              |
|------------|--|---|
| MODE       | Switching Mode (Auto->Mix->Denom->Free)          | Switching to the mode settings screen   |
| BATCH      | Switching batch value(10->20->50->100->150->200) | Switching to batch value setting screen |
| DATA       | Count Result/Total/History , SerialNumber        | Switching to the Check-Log screen       |
| MENU       | Counting Speed change                            | Switching to the SETUP screen           |
| PRINT      | Counting Print                                   |   |
| ▲SET       | Changing denomination at DENOM mode              |   |
| ▼ADD       | Changing ADD mode or not                         |   |
| C          | Count clear /Cencel                              |   |
| START/STOP | Counting Start/Stop/Jam path clear               |   |



| ICON  | Screen Touch                               |
|---|--|
|   | Switching the country currency             |
|  | Switching to Time Setup Screen             |
|  | Switching to Reject Reason Screen          |
|  | Switching to detail counting result Screen |

# Display the Detail Counting Result

: If you want to see more detail breakdown , Touch the screen after counting .

| MODE                        | <table border="1"> <thead> <tr> <th colspan="3">Count Result - Detail (KRW)</th> <th>Detail</th> </tr> <tr> <th>Denom</th> <th>Count</th> <th>Amount</th> <th></th> </tr> </thead> <tbody> <tr> <td>1,000</td> <td>54</td> <td>54,000</td> <td></td> </tr> <tr> <td>5,000</td> <td>43</td> <td>215,000</td> <td>Banknote</td> </tr> <tr> <td>10,000</td> <td>56</td> <td>560,000</td> <td></td> </tr> <tr> <td>50,000</td> <td>47</td> <td>2,350,000</td> <td></td> </tr> <tr> <td>Total</td> <td>200</td> <td>3,179,000</td> <td>Serial No.</td> </tr> </tbody> </table> | Count Result - Detail (KRW) |            |          | Detail | Denom | Count | Amount |  | 1,000 | 54 | 54,000 |  | 5,000 | 43 | 215,000 | Banknote | 10,000 | 56 | 560,000 |  | 50,000 | 47 | 2,350,000 |  | Total | 200 | 3,179,000 | Serial No. | PRINT |
|-----------------------------|---|-----------------------------|------------|----------|--------|-------|-------|--------|--|-------|----|--------|--|-------|----|---------|----------|--------|----|---------|--|--------|----|-----------|--|-------|-----|-----------|------------|-------|
| Count Result - Detail (KRW) |   |                             | Detail     |          |        |       |       |        |  |       |    |        |  |       |    |         |          |        |    |         |  |        |    |           |  |       |     |           |            |       |
| Denom                       |   | Count                       | Amount     |          |        |       |       |        |  |       |    |        |  |       |    |         |          |        |    |         |  |        |    |           |  |       |     |           |            |       |
| 1,000                       |   | 54                          | 54,000     |          |        |       |       |        |  |       |    |        |  |       |    |         |          |        |    |         |  |        |    |           |  |       |     |           |            |       |
| 5,000                       |   | 43                          | 215,000    | Banknote |        |       |       |        |  |       |    |        |  |       |    |         |          |        |    |         |  |        |    |           |  |       |     |           |            |       |
| 10,000                      | 56  | 560,000                     |            |          |        |       |       |        |  |       |    |        |  |       |    |         |          |        |    |         |  |        |    |           |  |       |     |           |            |       |
| 50,000                      | 47  | 2,350,000                   |            |          |        |       |       |        |  |       |    |        |  |       |    |         |          |        |    |         |  |        |    |           |  |       |     |           |            |       |
| Total                       | 200   | 3,179,000                   | Serial No. |          |        |       |       |        |  |       |    |        |  |       |    |         |          |        |    |         |  |        |    |           |  |       |     |           |            |       |
| BATCH                       |   | ▲<br>SET                    |            |          |        |       |       |        |  |       |    |        |  |       |    |         |          |        |    |         |  |        |    |           |  |       |     |           |            |       |
| DATA                        |   | ▼<br>ADD                    |            |          |        |       |       |        |  |       |    |        |  |       |    |         |          |        |    |         |  |        |    |           |  |       |     |           |            |       |
| MENU                        |   | C                           |            |          |        |       |       |        |  |       |    |        |  |       |    |         |          |        |    |         |  |        |    |           |  |       |     |           |            |       |

| Button     | Short Press                                    |
|------------|--|
| PRINT      | Print the counting information / Serial Number |
| ▲SET       | Display Off Old & New / PAGE UP                |
| ▼ADD       | Dsplay On Old & New / PAGE DOWN                |
| C          | Backward                                       |
| START/STOP | Switching to Main Screen                       |

| Screen     | Screen Touch                                     |
|------------|--|
| Detail     | Display the counting information by denomination |
| Banknote   | Display the information of denomination          |
| Serial No. | Display the serial Number                        |

# Mode Setting

: If you want to change the specific mode , Long Press the “MODE” button .



| Button     | Short Press                                   |
|------------|---|
| C          | Changing Cancel / backward                    |
| START/STOP | Apply the new mode / Switching to Main Screen |

| Screen               | Screen Touch  |
|----------------------|---|
| <b>Auto</b>          | Counts only one denomination initially counted  |
| <b>Mix</b>           | Shows total amount and number of banknotes when mixed denominations are counted together. |
| <b>Free</b>          | Counts the total number of banknote without recognition of denomination                   |
| <b>Add / CF / SN</b> | On/Off the Add/Counterfeit/Serial Number  |



# Batch Setting

: If you want to change the specific batch value , Long Press the “BATCH” button .

|       |  |          |
|-------|--|----------|
| MODE  |  | PRINT    |
| BATCH |  | ▲<br>SET |
| DATA  |  | ▼<br>ADD |
| MENU  |  | C        |

| Button     | Short Press                                   |
|------------|---|
| C          | Changing Cancel / backward                    |
| START/STOP | Apply the new mode / Switching to Main Screen |

| Screen         | Screen Touch              |
|----------------|---------------------------|
| All Number Key | Input the number of batch |

# Simple Trouble shooting guide1

**Trouble. When there is a lot of Pre-processing image error**

Solution 1. Remove dust on the CIS.

Solution 2. Check the GAP of insert module using Test-Note

Solution 3. Adjust the GAP for insert module.

(- direction or + direction , **P1.1 See picture below**)

Solution 4. Check the skew using Test-Note. & newton APL

Solution 5. Update the currency SW again using USB.



**Trouble. When there is a lot of denomination recognizing error(Reference F1.2)**

Solution 1. Remove dust on the CIS.

Solution 2. Check the image using Test-Note.

Solution 3. If the image is abnormal, Try CIS calibration

Solution 4. Update the currency SW again using USB.

## Simple Trouble shooting guide 2

**Trouble. When there is in case of a continuous " Check CIS " message**

Solution 1. Remove dust on the CIS.

Solution 2. Update the FPGA SW again using USB

Solution 3. Update the APL SW again using USB

Solution 4. Update the DSP SW again using USB

**Trouble. When alert window does not disappear after removal of JAM**

Solution 1. Try again open/close Main Cover & Back Cover

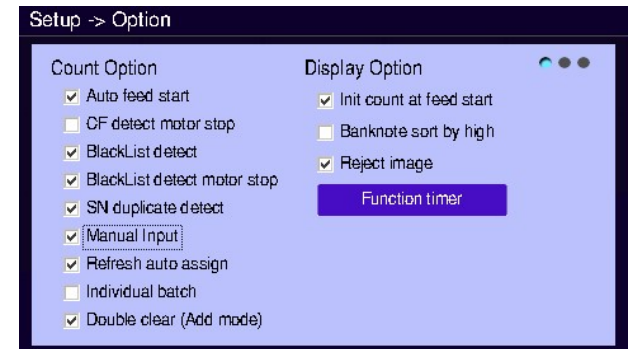
Solution 2. Update the Mecha SW again using USB

Solution 3. Replace the IR sensor PCB

# Simple Trouble shooting guide 3

## Check Reject Image

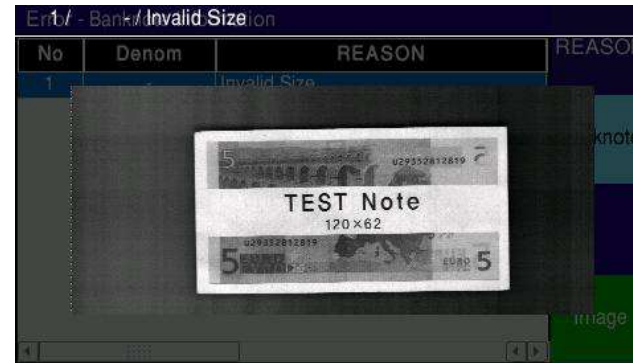
Setup -> Option -> 1st page -> Mark the Reject Image



When the error screen appears.



Screen touch "R" -> Banknote -> Image



# Reject Reason List

| Code | Reject Reason            |
|------|--------------------------|
| R-01 | Unfit (Unfit)            |
| R-02 | Unfit (Stain)            |
| R-03 | Unfit (Breakage)         |
| R-11 | Tape                     |
| R-12 | Double                   |
| R-1A | Miss Denom(CIS)          |
| R-1B | Miss Denom(Reflection)   |
| R-1C | Miss Denom(Transmission) |
| R-1D | No NN Patern             |
| R-1E | Other Paper Size         |

| Code | Reject Reason         |
|------|-----------------------|
| R-1F | No Same Patern        |
| R-20 | Reco Chain            |
| R-21 | Other Denom           |
| R-22 | Other Face/Orient     |
| R-23 | Over Pocket           |
| R-24 | Not Defined Denom     |
| R-25 | Insert Chain          |
| R-26 | Too Skewed MG         |
| R-50 | Recognition Double    |
| R-60 | No Serial Number Face |

# Reject Reason List

| Code | Reject Reason          |
|------|------------------------|
| R-C1 | Suspect IR             |
| R-C2 | Suspect UV_T           |
| R-C3 | Suspect IR, UV_T       |
| R-C4 | Suspect UV_R           |
| R-C5 | Suspect IR, UV_R       |
| R-C6 | Suspect UV_T, UV_R     |
| R-C8 | Suspect MG_D           |
| R-C9 | Suspect IR, MG_D       |
| R-CA | Suspect UV_T, MG_D     |
| R-CB | Suspect IR, UV_T, MG_D |

| Code | Reject Reason            |
|------|--------------------------|
| R-CC | Suspect UV_R, MG_D       |
| R-CD | Suspect IR, UV_R, MG_D   |
| R-CF | Suspect UV_R, UV_T, MG_D |
| R-D0 | Suspect MG_U             |
| R-D1 | Suspect IR, MG_U         |
| R-D2 | Suspect UV_T, MG_U       |
| R-D3 | Suspect IR, UV_T, MG_U   |
| R-D4 | Suspect UV_R, MG_U       |
| R-D5 | Suspect IR, UV_R, MG_U   |
| R-D6 | Suspect UV_R, UV_T, MG_U |

# Guide for Component

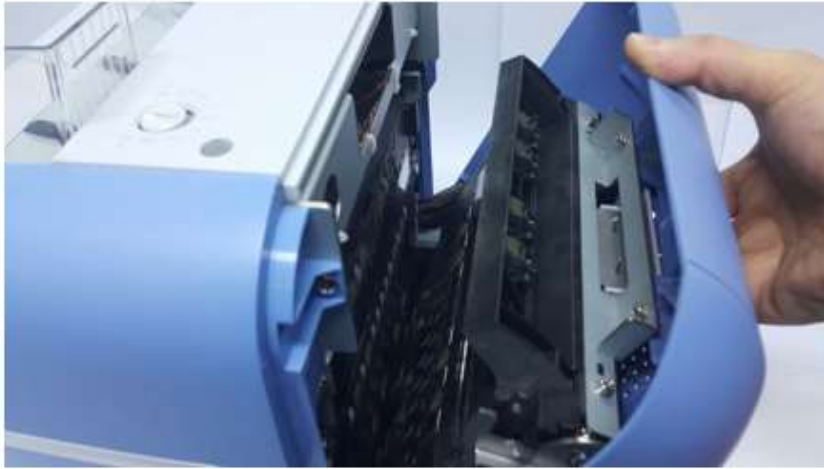
## 1. The Hopper sensor and rollers

Clean the hopper sensor and roller as shown in the photo below with a soft towel or a brush



## 2. Recognize Detector Sensor

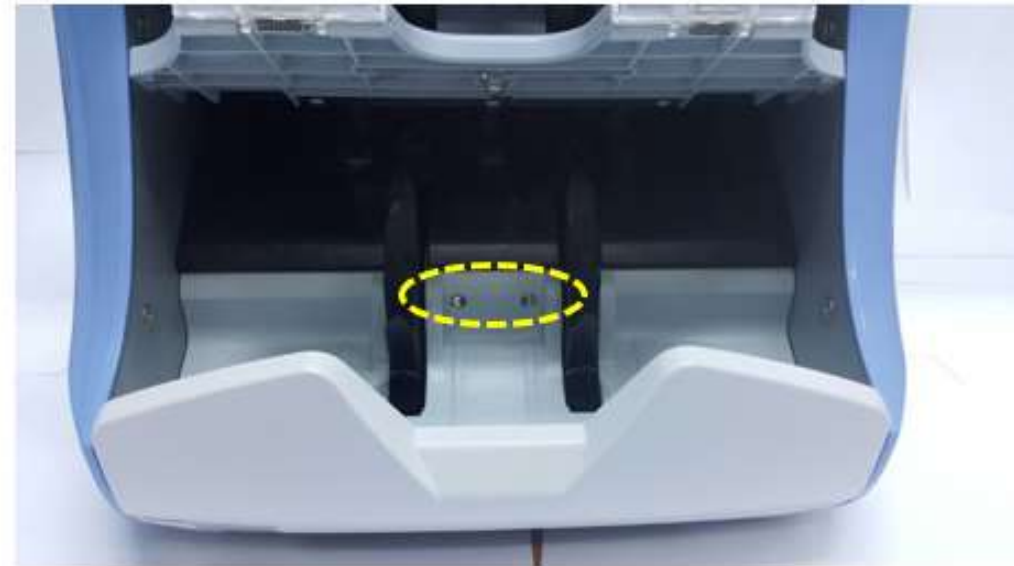
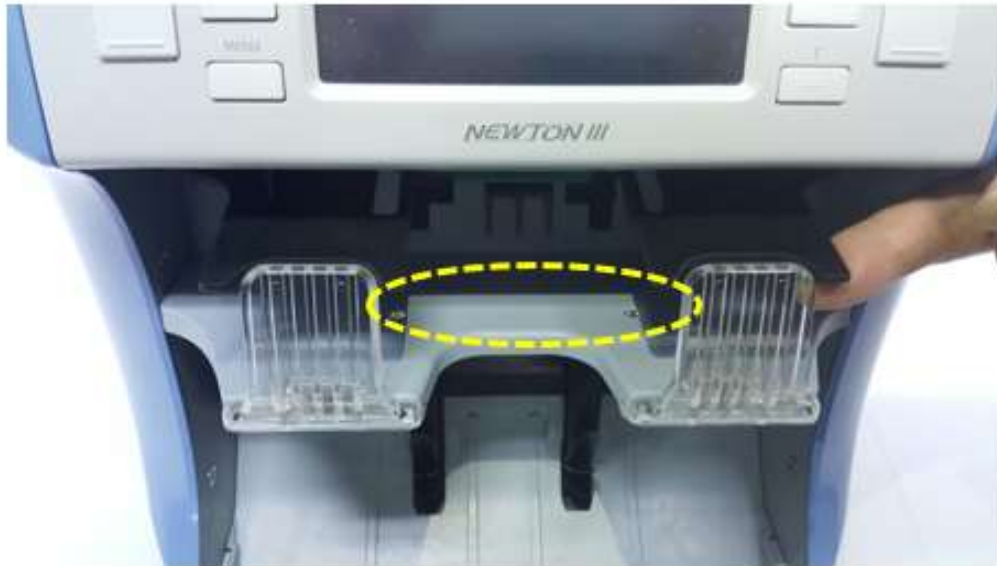
Open the cover by pulling the lever and clean the sensor as shown in the photo with a soft towel or a brush





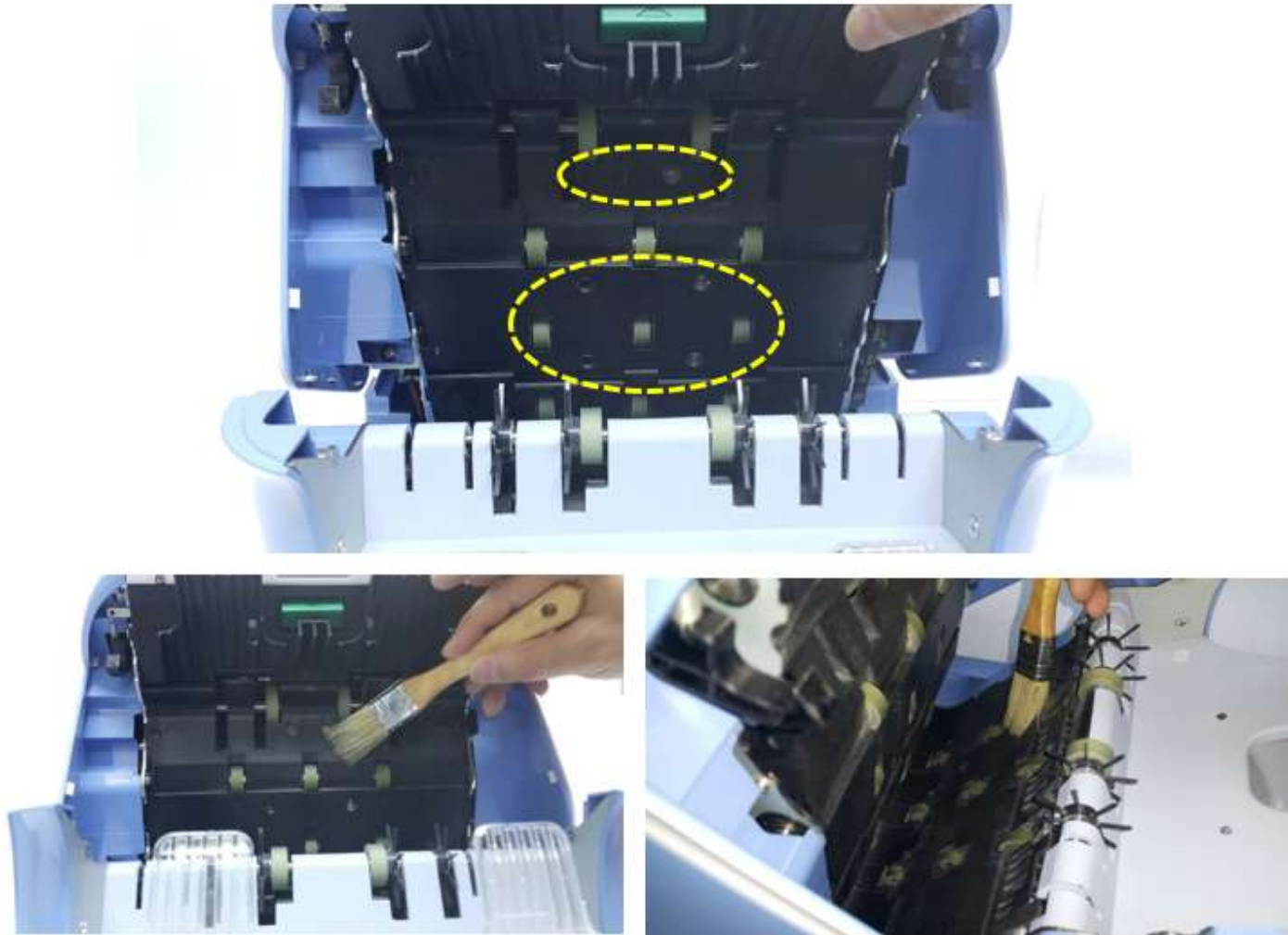
### 3. Stack and Reject Sensor

Clean the sensor as shown in the photo with a soft towel or a brush



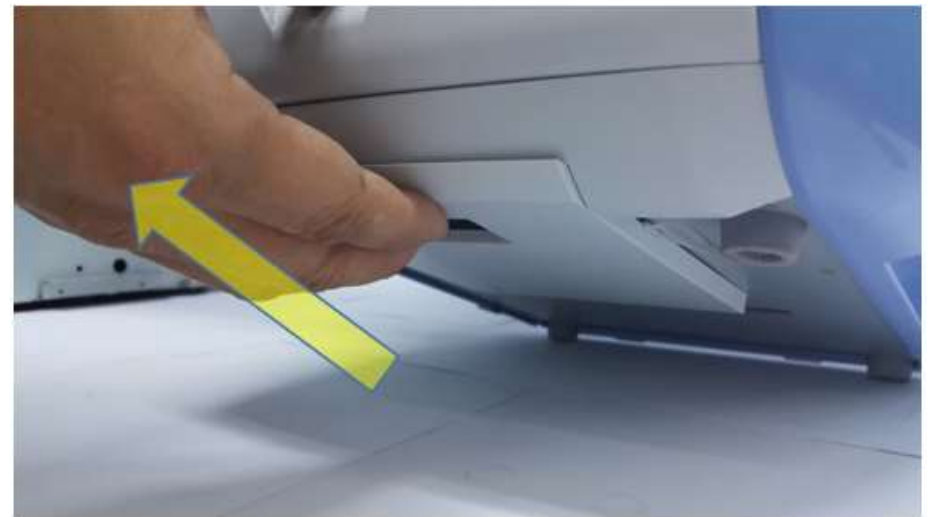
#### 4. The Reject count and separate sensor

Open the fore panel by pushing “Open Lever” and clean the sensor as shown in the photo with a soft towel or a brush



## 5. The dust pocket

Pull out a dust tray and clean



***KISAN will make continuous efforts to improve our products.***



***Thank you***